



Energy, Poverty, and Gender

Major Activities and Actors in Energy, Poverty, and Gender

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Preface

This report gives an overview of the major institutional actors and their activities in energy, poverty, and gender. The report was prepared for the Energy, Poverty, and Gender (EnPoGen) project under the auspices of the World Bank/ASTAE (Asia Alternative Energy Unit). EnPoGen aims to increase the advantageous impact of ASTAE's alternative energy projects on poverty alleviation and gender equity. It does so through quantifying and qualifying the linkages between alternative energy projects, poverty alleviation, and gender equity.

Originally, the report was published in January 2000 as an appendix to Cecelski's briefing paper, "Enabling Equitable Access to Rural Electrification: Current Thinking on Energy, Poverty, and Gender."¹ However, given the recent burst of activities in the field of energy, poverty, and gender, and given that the EnPoGen project is to end December 2002, it was deemed necessary and timely to revise and update the information on the major actors and activities in this subject area. Given the amount of material, the appendix was upgraded to a full-fledged companion report to the paper.

This update and revision were done in joint collaboration between EnPoGen and ENERGIA, the International Network on Gender and Sustainable Energy. Some of the information about the actors and activities described in this document was extracted from their respective websites and from documents and newsletters. In cases where there was no website or other source of information available, material was requested from the actors directly. Suitable persons within the projects or organizations under consideration have reviewed all entries included in this document.

The report starts by describing a number of United Nations initiatives, followed by a description of nongovernmental initiatives. These are subdivided in three categories, namely gender and energy networks; regional and national nongovernmental organizations (NGOs) (subdivided by region); and international NGOs. Finally bilateral and other donors and a number of World Bank programs with an energy, poverty, and gender focus are described.

The report does not encompass all initiatives in this field. Especially in Africa, there are a number of national gender and energy networks that could not yet be included in this report because of the lack of information about these networks' activities. Also, not all national, regional, and international NGOs were mentioned that are undertaking

¹ E. Cecelski, *Enabling Equitable Access to Rural Electrification: Current Thinking and Major Activities in Energy, Poverty and Gender*, Briefing Paper prepared for a Brainstorming Meeting on Asia Alternative Energy Policy and Project Development Support: Emphasis on Poverty Alleviation and Women Asia Alternative Energy Unit (ASTAE), The World Bank, Washington, DC, January 26–27, 2000.

activities on energy, poverty, and gender. Some of these have already been reported on in *ENERGIA News*. Future reports hope to add these initiatives.²

It is hoped that this report will be used as a resource document, not only for further study, but also by the various stakeholders in energy, poverty, and gender (at the decisionmaking, policymaking, or implementing levels). Contact details and weblinks are inserted in the document to make direct communication links between interested parties possible.

This report will appear, along with other EnPoGen papers, on a CD-ROM that will be disseminated at the beginning of 2003. In September 2002 the report was posted on the Internet at the ENERGIA website

http://www.energia.org/resources/papers/major_actors-activities.html. It will be maintained and updated on a regular basis, as long as resources permit.

Most of all, the authors would like to sincerely thank all of the organizations and individuals who have provided and reviewed information for this report. They have been credited in the individual descriptions of the various programs, projects, and activities on energy, poverty, and gender.

² Information about activities not yet listed, or updates of those included in this report, should be submitted to Anja Panjwani <a.koerhuis@etcnl.nl>.



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Acronyms and Abbreviations

ACRE	Australian Corporative Research Center for Renewable Energy
ADESOL	Asociación para el Desarrollo de la Energía Solar (Association for the Development of Solar Energy, a Honduran NGO established by Enersol Associates)
AEPC	Alternative Energy Promotion Centre
AIWC	All India Women's Conference
ARECOP	Asia Regional Cookstove Program
ASTAE	Asia Alternative Energy Unit of the World Bank
CBO	Community-based organization
CEC	Commission of the European Community
CIDA	Canadian International Development Agency
CO	Community organization
CONAMA	Guatemala's National Environment Commission Environment
CRT/N	Centre for Rural Technology, Nepal
CSD-9	Ninth Session of Commission on Sustainable Development
DDC	District Development Committee
DEPI	Division of Environmental Policy Implementation
DFID	Department for International Development (U.K.)
DGIS	The Netherlands Directorate General for International Cooperation
EBSST	Electricity Basic Services Support Tariff, South Africa.
EC	European Commission
EDRC	Energy and Development Research Center
ELCI	Environment Liaison Centre International, Nairobi, Kenya
ENDA-TM	Environment and Development Action in the Third World
ENERGIA	International Network on Gender and Sustainable Energy
EnPoGen	Energy, Poverty, and Gender Project (World Bank)
ENSIGN	Financing Energy Services and Income-Generating Opportunities for the Poor
ESMAP	Energy Sector Management Assistance Programme (World Bank and United Nations)
GENES	Mesoamerican Gender in Sustainable Energy Network
GSPME	Gender Sensitive Participatory Monitoring and Evaluation
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit (German Agency for Technical Cooperation)
GTZ ProBEC	Programme for Biomass Energy Conservation in Southern Africa

HE	Household Energy
HEP	Household Energy Program
HEP NR	Project for Protection of Natural Resources
HIMAWANTI	Himalayan Grassroots Women’s Natural Resource Management Association
HKH	Hindu Kush–Himalayas
IC	Improved cookstove
ICIMOD	International Centre for Integrated Mountain Development
ICP	Improved cookstove program
INGO	International nongovernmental organization
IRC	International Water and Sanitation Centre
ICT	Information and communication technology
ITC	Intermediate Technology Consultants Ltd.
ITDG	Intermediate Technology Development Group
ITDG-EA	Intermediate Technology Development Group–Eastern Africa
LPG	Liquefied petroleum gas
MEPC	Minerals and Energy Policy Center, South Africa
MPA	Methodology for Participatory Assessment
NISP	Chinese National Improved Stove Program
NPBD	National Project on Biogas Development
NPIC	National Program on Improved Chulha
NREL	National Renewable Energy Laboratory
PLA	Participatory Learning and Action
PREDAS	Promotion of Alternative Domestic Energies in the Sahel
PREEICA	Central America Regional Electricity Project
ProBEC	Program for Biomass Energy Conservation in Southern Africa
PSL	Prokaushali Sangsad Limited
PV	Photovoltaics or photovoltaic
RCP-1	Regional Collaborative Program
REDP	Rural Energy Development Program
REDS	Rural Energy Development Section
REPSO	Renewable Energy Project Support Office
RET	Renewable Energy Technology
RPTES	Regional Program in the Traditional Energy Sector
SAGEN	Southern African Gender and Energy Network
SARPN	The Southern African Regional Poverty Network
SEED	Sustainable Energy, Environment and Development Project, South Africa
SEP	Shell Foundation Sustainable Energy Program
SEP	Sustainable Energy Program of the United Nations Development

	Program
SHS	Solar home system
Sida	The Swedish International Development Agency
SMME	Small, medium, and microenterprise (sector)
TDG	Technology and Development Group of University of Twente, Netherlands
UNCED	United Nations Conference on Environment and Development
UNDP	United National Development Programme
UNEP	United Nations Environment Programme
UNISE	UNDP Initiative for Sustainable Energy
VDC	Village development committee
WDD	Women Development Division
WEG	Women and Energy Group, South Africa
WEDS	Water and Energy Development Services
WISE	Women for Sustainable Energy, United States
WSSD	World Summit on Sustainable Development

1 United Nations

United Nations Development Program/Sustainable Energy Programme (UNDP/SEP)

URL: <http://www.undp.org/seed/eap>

Contact: *Susan McDade*

Introduction

One of the six thematic priorities for the United Nations Development Programme (UNDP) worldwide is energy and environment. Within this thematic focus, a new Sustainable Energy Program (SEP) was established in 2001, replacing the Energy and Atmosphere Program. Since the mid-1990s, UNDP has actively promoted the recognition of linkages between global energy and global development issues, in particular through the publication of *Energy After Rio: Prospects and Challenges* (UNDP 1997), which was presented in 1997 to the United Nations (UN) General Assembly Special Session (UNGASS) to review progress on Agenda 21 five years after the United Nations Conference on Environment and Development (UNCED) in 1992.

UNGASS agreed that more focus was required in some areas, including energy. It noted the critical role of energy in achieving sustainable development objectives and the deficiencies and declared that the Ninth Session of the Commission on Sustainable Development (CSD-9) in 2001 should focus specifically on energy and transport issues. In response, UNDP prepared *the World Energy Assessment: Energy and the Challenge of Sustainability* jointly with the UN Department of Economic and Social Affairs and the World Energy Council. It was intended for input to the preparatory processes for CSD-9 and CSD-9 itself, which was held in April 2001. The World Energy Assessment was officially launched on 20 September 2000.

One of the key challenges of the UNDP is how to promote sustainable energy policies that address the needs of all people, women and men, rural and urban. Energy policies that address poverty and equity concerns, and specifically those policy approaches that address the unique energy needs and constraints faced by women, have been identified as an important entry point for the development of the UNDP's sustainable energy program. Sustainable energy approaches that have both economic and environmental benefits, according to the UNDP, include:

- ❑ The promotion of end-use energy efficiency to increase the benefits from existing resources and fuels;

- ❑ The promotion of renewable energy systems, especially in decentralized systems, to provide services in rural areas where grid extension would be uneconomic;
- ❑ The introduction of cleaner, more efficient technologies and energy carriers where energy services are scarce or absent.

None of these approaches are gender neutral.

UNDP realizes that implementing these new approaches is complex and will require more integrated and participatory approaches. With new and innovative regulatory, technological, and financing measures, energy can become a powerful instrument that supports sustainable human development. Ensuring that adequate attention is paid to the three dimensions of sustainable development—economic, social, and environmental—including the gender-differentiated needs of poor people for energy services and the impacts of gender-neutral policies, is the goal of UNDP in this area.

UNDP considers it essential to include sustainable energy considerations in three types of policy dialogue: macroeconomic reform, energy sector reform, and sustainable development planning. All three provide opportunities to address the unique energy needs of women and to consider how the availability of energy services differentially impacts on groups and genders. UNDP further places program emphasis on a few key topics. The purpose is to support equity and sustainability in development outcomes. In relation to two program areas, specific issues are directly linked to the role of women in development:

- ❑ **Rural energy services (heating, cooking, electricity)**

UNDP assistance focuses on energy-efficient options through both conventional and renewable energy. Special attention must be given to the distinct energy needs of women in terms of their household and economic activities and the essential role of energy services in supporting value added activities in rural areas. Priority policy issues include topics such as resource use and ownership, pricing, credit, taxation, and public information to support rural energy objectives concerning electricity, cooking, and the other energy needs of poor communities.

- ❑ **Low-emission technology**

UNDP efforts in this area support the introduction and adaptation of low-emission technologies that can support economic growth, social development, and environmental sustainability. Priority activities in changing energy technology pathways include capacity building and creating networks to provide information on clean energy technology options, developing country experiences with different technology options, and assessing emerging trends regarding the introduction of technologies and their viability in developing country markets.

Energy and Women: Generating Opportunities for Development

In 1999, UNDP/Sustainable Energy Program launched a global project on energy and women entitled *Energy and Women: Generating Opportunities for Development (Project number: GLO/98/G23)*. The Energy and Women project looks at linkages between women and energy as an entry point for addressing both sustainable development and the advancement of women, two of UNDP's stated development priorities. Following the 1995 Beijing Conference, UNDP determined that 20 percent of all program financing should be focused on women and development. The Energy and Women project falls within this mandate and also serves as a means of implementing the 1996 *UNDP Initiative for Sustainable Energy*, which gives policy guidance on how energy activities can facilitate sustainable human development.

The overall objective to which this project contributes is the increased availability of environmentally sustainable renewable energy systems that women can use to support income-generating activities and sustainable livelihoods. There are three main objectives of this project, each of which is supported by various associated activities:

1. Provide an analytical framework for determining the elements of sustainable energy projects that benefit women.
 - ❑ Prepare a study on the lessons learned that analyzes existing successful and unsuccessful sustainable energy activities.
 - ❑ Produce a briefing kit on women and sustainable energy.
 - ❑ Undertake a study of microcredit mechanisms and their contribution to sustainable energy systems benefiting women.
2. Network with a wide range of interested parties in order to share information, and conduct training and advocacy activities regarding successful sustainable energy projects that benefit women.
 - ❑ Organize three regional workshops in eastern, western and southern Africa to share information and strengthen networking.
 - ❑ Conduct training sessions at UNDP headquarters and country offices.
3. Initiate pilot projects that are designed to generate income-earning opportunities for women.
 - ❑ Provide technical assistance in the preparation of pilot project proposals.
 - ❑ Prepare guidelines for documenting lessons learned from the pilot projects.

Substantive work on the Energy and Women project began in February 1999. Financial support for the Energy and Women project has been provided by the Swedish International Development Cooperation Agency (Sida) and UNDP's Sustainable Energy Global Programme. The project assumes that access to more efficient and environmentally sustainable energy services can provide women with more time and opportunities for income-generating work. The hope is that the project's activities will

help introduce new patterns for gender-sensitive energy planning and policymaking. The geographical focus of the project is on Africa, where large numbers of people lack modern energy services and where there is great potential for using renewable energy resources.

Following the commissioning of a concept paper by the *Energy and Development Research Center (EDRC)*, University of Cape Town (South Africa), a case studies publication was developed. Working with members of the ENERGIA network, an international group of experts on gender and energy, the case study publication, *Generating Opportunities: Case Studies on Energy and Women*, was published in April 2001. The case studies are not intended to demonstrate best practices, but rather to look at selected projects that address women and energy with a view toward extracting lessons about criteria for good project design and successful implementation that can be used to inform energy policies around the world.

In connection with the training and advocacy objectives of the project, a briefing paper on the Energy and Women project was developed entitled “*Energy and Gender: How Is Gender Relevant to Sustainable Energy Policies?*” It is included as a chapter in *Sustainable Energy Strategies: Materials for Decision-Makers (2000)*, which was prepared for use in UNDP Initiative for Sustainable Energy country-level training workshops.

National activities sponsored by the Energy and Women project began in southern Africa in the spring of 1999. The Energy and Women project document called for national meetings or consultations to discuss particular energy situations in different countries in relation to women’s development needs and priorities. Working with UNDP country offices to identify appropriate persons or groups able to organize national consultations and to prepare reports for presentation at the regional workshops, reports were prepared by Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia, and Zimbabwe.

As noted, the Energy and Women project document called for regional workshops in Africa over the course of the two-year project. The first regional workshop, held in South Africa on June 21 and 22, 1999, included representatives from the 10 countries in southern Africa that had prepared national reports, as well as other participants from governments, nongovernmental organizations (NGOs) and international organizations. There were many shared concerns about the need for more attention to women’s energy problems, especially in rural areas, and for more involvement of women themselves in solving those problems. Another regional workshop, primarily organized by the ENERGIA network, was held in Nairobi in March 2000.

One of the primary outputs expected from the Energy and Women project is a pipeline of proposals on women and sustainable energy and income-generating opportunities ready for funding and implementation. Although the Energy and Women project is not by itself intended to provide funding for pilot projects, it is expected to

provide technical assistance to selected countries in designing new proposals and approaches regarding women's access to sustainable energy resources, particularly for use in income-generating activities. Based on the discussions at the regional workshop in South Africa, it seems that there are a variety of energy activities already going on in most countries, and it may be useful to try to improve or add to ongoing projects rather than focusing only on initiating new pilot projects.

In addition to the identification and implementation of proposals for funding, another output expected from the Energy and Women project is a policy options paper, which will provide an analytical framework, for use by UNDP staff in identifying, formulating, and implementing sustainable energy projects that benefit women. The paper, currently being developed, provides support and policy advice for developing country planning and policy authorities to support the inclusion of gender concerns in national energy policy revision and formulation. It will provide a concise overview of policy entry points that can address energy and women linkages. The purpose is to provide a menu of policy considerations for use in dialogue with national energy officials.

UNDP has recently launched a new Thematic Trust Fund on Energy for Sustainable Development as a means of raising additional development assistance to support country-level operations, including policy dialogue and capacity building on sustainable energy issues. Attention to the role of women in energy options is a core part of these efforts, and it is fully reflected in the definition of the priority service lines within the fund. It is believed that this will be especially important for UNDP's field work in the least developed countries where some of these issues are the most pressing, but for which existing global funding mechanisms to support sustainable energy options are limited. The policy and program lessons derived from UNDP work in commissioning *Generating Opportunities: Case Studies on Energy and Women* have been an extremely important contribution in this regard.

Source of information: Summarized from Susan McDade and Astra Bonini, "International Programs: Focus on Engendering UNDP Energy Policy," *ENERGIA News* 4.3, November 2001. Reviewed by Susan McDade and Ines Havet.

Some UNDP Regional/Country Energy Projects Including a Gender Approach:

Financing Energy Services and Income-Generating Opportunities for the Poor (Project ENSIGN)³

Contact: *K. V. Ramani*

The notion that energy can enhance the economic status of poor women was put to the test in a UNDP-sponsored pilot project implemented by the *Asian and Pacific Development Center (APDC)* during 1996–98. Project ENSIGN (Financing Energy Services and Income-Generating Opportunities for the Poor) was carried out in India, Indonesia, Mongolia, Myanmar, Nepal, Philippines, Sri Lanka, and Vietnam with the primary objective of employing energy to reduce poverty.

The project was based on the following hypotheses:

- ❑ Only by enhancing their purchasing power can the poor meet the high costs of modern energy services.
- ❑ Access to such services can be facilitated by credit facilities with a grassroots outreach, the capacity to manage small-volume loans, and the ability to assemble small retail loans into larger packages that can attract upstream financing.
- ❑ Energy services can be made affordable by coupling them with income-generating activities. This will ensure close complementarities between energy and poverty eradication and improve the poor's acceptance of energy projects.
- ❑ Such an integrated financing model needs energy-intensive microenterprises, which can have a higher success rate and replication potential than conventional stand-alone energy projects.

Project ENSIGN centered on the idea of extending microloans to poor households and communities for energy-intensive microenterprises. In the event, 85 percent of the eventual borrowers turned out to be women. As a result, the project acquired a strong gender dimension and its outcomes have a direct bearing on the status of women and the implications of this as discussed earlier in this article.

Pilot loans under the project were cofinanced by a regional revolving fund and national institutions in the participating countries, namely:

- ❑ SEWA Bank (India).
- ❑ Foundation of Technology for Development (Indonesia).
- ❑ Poverty Alleviation Program Office (Mongolia).
- ❑ Yoma Bank (Myanmar).

³ Based on national reports and regional synthesis arising from the project—APDC (1998).

- ❑ Lalitpur Financing Co.
- ❑ Pvt. Ltd. and Agricultural Development Bank (Nepal).
- ❑ Technology and Livelihood Resource Center (Philippines).
- ❑ Regional Rural Development Bank (Sri Lanka).

Contributions from the regional fund amounted to 36 percent of the total costs of the microenterprises financed, with national financing institutions covering 50 percent, and borrowers' equity accounting for the remaining 14 percent. Loans to very poor borrowers had no equity component, while a few loans that involved high-cost equipment contained as much as a 50 percent equity contribution.

The rate of interest charged on the cofinancing component from the regional fund was one-third of the normal lending rate of the national financing institutions, with both the principal and interest accrued subject to reinvestment in new loans. The interest rate to borrowers was thus somewhat below prevailing market rates, typically ranging from 15 percent in Indonesia to 20.5 percent in Myanmar. A concessional rate of 6 percent was applied in Mongolia, since the microenterprise there was operated by a predominantly blind and disabled group of women.

Repayment periods for the loans ranged between two and six years, with longer repayment schedules and grace periods of between 6 and 12 months for projects with a renewable energy component. Amounts loaned averaged about US\$350 per household. Barring a few instances of delay, loan repayments were made according to the schedules set in all countries within the duration of the project.

In all, 36 energy-intensive microenterprises, involving 219 households, were made possible by the loans. They covered a wide variety of activities, such as the following:

- ❑ Garment making.
- ❑ Embroidery.
- ❑ Felt and leather goods manufacture.
- ❑ Copper welding.
- ❑ Utensils manufacture.
- ❑ Baking.
- ❑ Cold storage.
- ❑ Rubber stamp making.
- ❑ Beauty salons.
- ❑ Grain grinding.
- ❑ Threshing.
- ❑ Fish drying and powdering.
- ❑ Soybean processing.
- ❑ Rice-husk charcoal briquette manufacture.
- ❑ Battery-charging.
- ❑ Manufacturing of rice husk cookstoves.
- ❑ Spice drying.

- ❑ *Beedi* wrapping.
- ❑ Cinnamon peeling.
- ❑ Rice processing.

Urban microenterprises were based mostly on grid electricity in combination with efficient appliances, while rural microenterprises employed renewable energy sources (solar photovoltaic (PV), solar thermal, and rice husks as biomass) as well as coal briquettes and diesel. In the majority of enterprises, process heat and motive power proved the primary applications for energy, with lighting playing a supporting role.

Project ENSIGN resulted in an average income growth of 124 percent in the households covered (see table 1). Variations in income growth were influenced primarily by the type of microenterprise activity and the market for associated products/services. Exceptionally high-income growths were experienced in community-based, rather than household, enterprises; the former offered greater potential for higher capacity production equipment and labor-sharing. In some instances, owner-borrowers of community enterprises were able to offer employment to other households in the community.

Table 1: Income Growth in ENSIGN Microenterprises

Country	No. of households	No. of beneficiaries	Type of micro-enterprise	Energy source provided*	% increase in income
India	28	139	Household	Grid electricity	54.5
Indonesia	33	132	Community	Coal briquette, kerosene, passive solar, diesel genset	66.3
Mongolia	32	120	Community	Grid electricity	137.5
Myanmar	5	25	Community	Solar PV	61.0
Nepal	25	150	Community	Solar PV, solar thermal	9.0
Philippines	30	210	Community	Grid electricity, rice husk	233.0
Sri Lanka	66	330	Community	Grid electricity, solar PV, rice husk	306.0
<i>Total/Average</i>	<i>219</i>	<i>1,106</i>			<i>124.0</i>

*Does not include efficient end-use appliances provided, especially using electricity.

Consistent with experiences with mainstream microfinancing, women borrowers under Project ENSIGN proved to be enterprising, innovative, and—crucially—creditworthy. This provides a powerful argument in support of targeting women in ENSIGN-type initiatives. Apart from its economic impact, the project generated a range of positive social impacts that mitigated the hardships faced by women. The most common social benefit for women was a reduction in their labor for household activities and in existing enterprises that operated without electromechanical equipment. This

enhanced their time available for childcare, recreation, and social interaction. It also raised their self-confidence as a result of their new or improved abilities to contribute to the household income and their greater control over self-generated finances.

Conclusion

The outcomes of Project ENSIGN suggest that future actions should concentrate on establishing and strengthening the linkages between energy, gender, poverty eradication, and microfinance. This will require key policy changes and institutional innovations to bring together the various disciplines that have generally pursued their own agendas independent of one another. The results further suggest that these linkages should be centered on energy-intensive microenterprises, operated by women and facilitated by local NGOs that can play the role of business intermediaries.

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Rural Energy Development Program (REDP)–NEP/95/016

URL: <http://www.redp.org.np>

Contact: [Kiran Man Singh](#)

The Rural Energy Development Program (REDP) is a joint program of His Majesty's Government of Nepal and the United Nations Development Programme (UNDP). Principal government focal organizations include the Ministry of Local Development (MOLD), National Planning Commission (NPC), Water and Energy Commission Secretariat (WECS), and Alternate Energy Promotion Center. Other important partners are district development committees (DDCs), village development committees (VDCs), community organizations (COs), functional groups, local nongovernmental organizations (NGOs), and the private sector.

Description of the Project

REDP started in August 1996 and ran initially to December 31, 1998, but the program has been extended and is still active. The program was also extended from the initial five districts to the current 15 program districts. REDP aims to enhance rural livelihoods and

preserve the natural environment by supporting the sustainable development of rural energy systems. The program promotes an integrated approach to sustainable rural energy development to bring about an improved quality of life and a restoration of the natural environment, which, in turn, will lead to the overall development of rural communities. To achieve this, REDP:

- ❑ Promotes indigenous human capacity building.
- ❑ Supports institution development at the central, district and community levels.
- ❑ Promotes technology development.
- ❑ Adopts a multisectoral approach to rural energy development.

REDP believes that energy is of little interest in itself. But it is an essential ingredient for socioeconomic development. Therefore, the objective of rural energy systems should be to provide energy for reducing drudgery (especially for women), conserving and utilizing resources, generating employment, and increasing income.

One of the major activities of REDP is to link up rural energy planning with the participatory village and district planning and development process. This is important for identification of potential community-based energy development initiatives, preparation of the VDC and district-level energy development plans, and involvement of the local bodies, government agencies, and communities in rural energy development. This will also enable REDP to facilitate the mobilization of available resources with the DDCs, VDCs, and government line agencies.

Achievements

Self-reliance in access to resources

REDP has demonstrated that villagers, both men and women, are capable of exploiting all available local resources to develop rural energy systems for holistic development in the rural areas. REDP has carried out the following activities to achieve this:

- ❑ Demonstration and dissemination of “holistic” rural development model through rural energy schemes, mainly microhydro, biogas, solar PV, and improved cooking stoves, to improve rural livelihoods. Works are at different stages of construction in 10 program districts for a total of 60 microhydro schemes with total power generation of about 1,000 kW. This is a substantial development compared to the total estimated electric power of 2,000 kW developed so far from microhydro plants during the last 15 years by different agencies in the country. As of 31 December 1999, with program support, villagers had commissioned 25 microhydro schemes (400 kW), 300 solar home systems (SHSs), 300 biogas plants with toilet attachments, and 1,000 improved cooking stoves. These systems have helped villagers have better electric lights in households, energy for running mills, and less consumption of fuelwood in cooking.
- ❑ Building social capital in rural settlements through the implementation of a community mobilization package to promote rural energy systems. In this context,

REDP has been successful in developing 10 local NGOs as support organizations, through training and regular follow-up, capable of implementing the community mobilization package in the long term in the districts.

- ❑ Development of the private sector to provide technical support services through training in technical and entrepreneurial skills at the district levels. So far, the establishment of six rural energy services centers by local entrepreneurs with REDP's support has succeeded in gradually lessening the dependency on the city-based facilities for survey, installation, and repair of maintenance works.
- ❑ Gender development for equity and equal access and control over resources by both men and women through literacy, economic empowerment, and building decisionmaking capacity. Under the REDP community mobilization process, it is mandatory that one man and one woman from each household participate in COs formed separately by men and women. The members of each CO, under agreed rules and regulations, carry out different social and economic activities both collectively and individually. Upon maturity, these male and female COs join together to form functional groups to plan, implement, and manage a specific activity, such as the operation of a microhydro plant and community forestry. This has resulted into the increased the involvement of women in discussion and decisionmaking in matters related to households and community.
- ❑ Technological innovations for efficiency, diversity, and cost reduction through field testing of a number of potential rural energy-related technologies. Now villagers have more choices to select the turbine and other rural energy technologies compatible with local and specific configurations.

Decentralized Governance

REDP has provided support to DDCs and VDCs to carry out decentralized (bottom-up) energy planning that will culminate in the preparation of long-term and short-term district energy development plans and programs. Activities undertaken in this regard include the following:

- ❑ Supporting District Development Committees (DDCs) to enact the Local Governance Bill through the institutionalization of 10 Rural Energy Development Sections (REDS) to plan and manage the rural energy sector for district development.
- ❑ Mobilization of resources from various sources through the capacity building among rural people, both men and women. So far, 1,423 COs (708 male COs and 715 female COs) and 233 functional groups have been formed to plan and implement different social and economic initiatives in 70 program VDCs. A total of about Rs. 77 million has been mobilized from various sources, excluding the cumulative weekly saving of Rs. 3.1 million. The savings are mostly loaned to members for undertaking various income-generating activities and

microenterprises. The social capital, together with economic empowerment, has increased the confidence of the villagers to undertake different development works, both individually and collectively, in the settlements.

- ❑ Greater awareness of rural energy technology at the local level through orientation, in-country exposure, visits, and training workshops. The increased number of rural energy schemes in the annual district development plans and programs has reflected vividly the increased understanding and willingness of villagers to have energy and electricity in their homes and settlements to improve conditions. Similarly, the number of DDCs that have requested and shown a commitment to the REDP is increasing.

Poverty Alleviation

- ❑ Supporting the government's goal of poverty alleviation through implementation of the integrated rural energy–environment–income generation package. With program support villagers have been able to optimize multiple use of water for energy and irrigation. They also have initiated a number of end uses from the electricity generated by microhydro. Villagers have been motivated to undertake at least one income-generating activity so as to be able not only to pay the monthly electricity bill but also meet other household needs. Furthermore, the planting and management of trees in community-managed forests as well as on private lands by villagers through 65 forest functional groups have already shown positive result—sustained production and utilization of fuelwood, fodder, timber, and fruits. These actions further seek to protect and maintain microwatershed and canals built to divert water from rivers to power plants.

Lessons Learned

- ❑ Provision of an institutional mechanism for equal participation based on transparency and accountability encourages women to come out of their traditional roles of housewives to be active partners in development.
- ❑ Rural people are capable of pooling latent resources (manpower, money, and materials) for the activities identified and agreed to among community members themselves. What they need is help in acquiring skills and methods to plan, implement, manage, and maintain the systems through decisionmaking based on consensus.
- ❑ The establishment of genuine networking stimulates coordination and collaboration between and among the key stakeholders for common ends.
- ❑ Rural energy occupies a top position in the priority needs of rural people, and as an entry point, it can propel holistic rural development by harnessing the resources available in the settlements. Women's participation in the development

of rural energy systems is high in rural areas, as these technologies benefit rural women especially by relieving them of drudgery and long working hours.

- ❑ The development of the capacities of institutions (DDCs and VDCs), NGOs, and the private sector, as well as the creation of social capital at the community level, are essential for the wide-scale promotion of micro, hydro, and other rural energy technologies. For this, the supportive roles of government and donors are vital.

Source of information: Summarized from website and reviewed by Kiran Man Singh.

*Mali Multifunctional Platform Project*⁴

Contact: *Laurent Coche*—Programme Officer

The Mali multifunctional platform project began in 1997, after the UNDP and the Government of Mali recognized that existing platforms⁵ could serve as an engine of development and poverty reduction for the community as a whole. Based on a participatory evaluation held in 1998, the current, reformulated project started in 1999 with an expected duration of five years.

The multifunctional platform project provides decentralized energy to rural villages in response to the requests of women's associations from these villages. The platform consists of a small diesel engine mounted on a chassis, to which a variety of end-use equipment can be attached, including grinding mills, battery chargers, vegetable or nut oil presses, welding machines, and carpentry tools. It can also support a mini grid for lighting (150–200 bulbs) and electric pumps for a small water distribution network or irrigation system. The configuration of equipment modules is flexible and can be adapted to the specific needs of each village.

Expected project outcomes include:

- ❑ Installation of 450 platforms, serving 10 percent of Mali's rural population.
- ❑ Two thirds of these planned platforms will be equipped with water and electricity distribution systems.
- ❑ Approximately 8,000 rural women will have access to improved community services and opportunities for microenterprises.
- ❑ At least 10 manufacturers and 45 technicians from the private sector will be trained to handle all technical aspects of the platforms.
- ❑ Increased income-generating activities, including:
 - ❑ Production of food pastes.
 - ❑ Production of shea butter.

⁴ From: Burn, N. and L. Coche. in: UNDP. *Generating Opportunities: Case studies on energy and women*, 2000

⁵ Originally developed through a UNIDO/IFAD regional project in Mali and Burkina Faso from 1994 to 1995.

- ❑ Soap manufacturing.
- ❑ Oil extraction, including jatropa oil.
- ❑ Oil extracted from the jatropa shrub seeds to be used in at least 15 percent of the installed platforms as fuel to run the engines.
- ❑ All activities to be taken over by a network of private technicians and financial partners.

The platform was purposely designed to take into account the multiple end uses for energy in rural economies and to provide a substitute for human energy. The project aims to bring together local supply and demand, as well as to build and strengthen local capacity to install, maintain, operate and manage the platform and equipment. The fixed costs of the engine can be recovered through fees on a variety of services provided by the platform.

The broad intervention strategy of the project has been guided by the twin objectives of providing a decentralized and sustainable energy supply and ensuring that the energy supply is used and controlled by women. From the outset, the project has focused on alleviating energy poverty and on generating the means to reduce the income poverty of both men and women. It has targeted women as prime beneficiaries, because energy poverty specifically affects women. In response to requests from villages, the project's approach has been to make it a condition that the platform be managed by a women's association. Training is then provided to a women's management committee in literacy, bookkeeping, management, and maintenance.

The project only responds to requests for acquisition of platforms from women's associations. Before a platform is installed certain criteria must be fulfilled:

- ❑ The economic, social and technical feasibility study results have to be positive.
- ❑ The portion of the equipment costs to be paid by the village has to be mobilized. A woman's management committee has to be appointed by the women's association.
- ❑ All services required by the platform—including installation, repair, and maintenance—are handled by the private sector and paid for by the beneficiaries. Throughout the feasibility, installation, and operational phases, training and follow-up activities take place in the villages, coordinated by project staff.

The project provides grants, without which the women's associations would not be able to afford to purchase the platforms. On average between 40 and 60 percent of the total equipment costs of the platform is financed by the women's associations, and they pay for all the maintenance and operation costs. The project has no line of credit.

The benefits to women include reduction of time and energy intensity of women's obligations and the increased possibility of income generation. As a result, women's ability to bargain and negotiate within existing norms may increase.

Source: Burn, N., and L. Coche. "Multifunctional Platform for Village Power—Mali." In UNDP, *Generating Opportunities: Case Studies on Energy and Women*. 2000.

Other United Nations Energy, Poverty and Gender Initiatives

United Nations Environment Programme (UNEP)

URL: <http://www.unep.org>

Contact: *Elizabeth Migongo-Bake*—Focal point for the program in DEPI (Nairobi, Kenya)

The United Nations Environment Programme (UNEP) is the lead organization on environmental issues within the UN system. In this context, UNEP is aware of the implications of energy production and use on human health, particularly that of women and children. As part of its response to the Beijing Platform for Action, UNEP has committed itself to increase the involvement of women in providing leadership in caring for the environment. UNEP recognizes that women also play an important role as the primary educators of their children and influence their future lifestyles. To enable women to contribute to sustainable energy use and environmental protection requires their capacity to be developed; to achieve this, UNEP uses a number of mechanisms; for example, creating awareness of sustainable resources, training, and projects.

Being the lead UN agency on environmental issues, UNEP focuses on major groups, including women and youth, and seeks to involve them in its activities. Governing council decisions have required the executive director to engage and increase the involvement of women in providing leadership in caring for the environment so that future generations are not deprived of their right to life.

UNEP's catalytic function in capacity development is achieved through the development and testing of guidelines, the identification and dissemination of best practices and success stories, and through pilot projects. Pilot projects further serve to develop and test guidelines for replication on a larger scale by UNEP's partners as well as by other organizations actively involved in environmental conservation management.

UNEP's Initiatives on Gender and Energy

UNEP Pilot Global Seminar on Women Leaders and Uptake of Renewable Energy Technology (RET)

One example of a recent initiative that comes from *UNEP's Division of Environmental Policy Implementation (DEPI)*, based in Nairobi, with support from the Swedish government, is a global seminar for women leaders on the uptake of renewable energy technologies (RETs). This UNEP initiative was one in a series of contributions toward improving women's awareness of sustainable energy resources and helping them to access and utilize such resources better. The seminar was held in June 2001 in Perth,

Western Australia, and was organized in collaboration with the Australian Cooperative Research Center on Renewable Energy and *ENERGIA*. The main goal of the seminar was to sensitize and share experiences with participants on sustainable energy issues through technical discussion as well as field visits. Thirty women leaders from 23 countries in Africa, Asia, and Latin America attended the seminar and discussed issues related to women and RETs.

The seminar covered five themes:

- ❑ Overview and scene setting.
- ❑ Stand-alone renewable energy systems.
- ❑ Energy efficiency and energy management.
- ❑ Policy and social issues.
- ❑ Education and training.

During workshop sessions, participants presented and discussed their experiences and drafted action plans for regional and subregional follow-up activities. *For proceedings of the workshop...*

Planned follow-up activities resulting from this seminar included a national symposium in the Philippines and seminars in Africa in 2002 in collaboration with ENERGINA and other NGOs in the region. In Latin America, contacts are being established with various key people in industry and government to plan subregional activities on RETs.

Mega-Chad Biodiversity Conservation and Renewable Energy Technologies Project

This project started in November 2001 and will run to late 2003. It aims to empower communities in four major countries of the Lake Chad basin (Cameroon, Chad, Niger, and Nigeria,) in West Africa to actively and effectively participate in sustainable development. The project, being conducted by the Center of Arid Zone Research, University of Maiduguri, Nigeria, and the Lake Chad Basin Commission, is drawing upon and replicating successful experiences from an earlier pilot project in Nigeria; this involved a model village practicing sustainable use and management of energy and water. The project is applying a holistic management approach to natural resources, realizing that the current energy and water requirements of the communities in this region are a direct cause of loss of biodiversity and eventual desertification, as these resources diminish with overutilization linked to human population growth.

Special attention is being given to community participation in the uptake of renewable energy technologies emphasizing the need for the self-sustainability of the project. Women and men will be appropriately exposed to policy issues, technical and capacity building activities, as well as to related opportunities in RETs, such as business openings in manufacturing (fabrication), sales, maintenance, bookkeeping, and management.

Youth groups will also form part of the target audience for environment and RET awareness through UNEP's Eco-school programs. These offer excellent opportunities for this rising generation for both gender and environmentally sensitive energy issues. It is hoped that through the Environmental Action Learning (EAL) program using the Eco-schools approach, the Mega-Chad project will increase the participation of women and youth in information sharing as well as in the actual uptake of renewable energy technologies. Opportunities include fabrication and sale of energy efficient stoves, construction of biogas digesters to serve schools and clinics, and the efficient use of biomass in various forms. It is hoped that the lessons learned from this project will help other countries and communities to implement similar projects.

Project on Incorporating the Energy and Water Needs of Women in the Rural Areas of the Himalayas

Over the years, poverty, increasing population, and inappropriate development interventions in the hill and mountain areas of developing countries have led to adverse environmental (degradation of forests and water resources, decrease in soil fertility, land and air pollution) and socioeconomic effects (most importantly, migration and consequent social dislocation).

Women have an intricate relationship with natural resources owing to their gendered roles and responsibilities, which require them to gather food, collect water, and meet the energy needs of their households.

Most of the energy and water-related institutional and technological interventions in the past have failed to consider women as primary beneficiaries, even though women are primarily responsible for managing energy and water requirements at the household level. Hence, strategies aimed at alleviating water and energy scarcity need to be sensitive to prevailing gender-based inequities.

The use of mechanical rather than manual technologies and the changes in the form of energy used and water management practices (for example, biogas- and solar-powered energy systems instead of wood fuel in the cooking and processing of agricultural and forest products, indigenous renewable energy technologies, and water-harvesting technologies) can drastically reduce both the time involved and the drudgery of women's work. This will further contribute to improved health through the reduction of drudgery and fuelwood smoke-related ailments, and also contribute to the conservation of biodiversity. Use of solar technologies and microhydropower for cooking, heating, and motive power applications (such as agroprocessing and water pumping) will also reduce greenhouse gas emissions by replacing the use of fossil fuels. Any new intervention for women should, therefore, aim to do the following:

- ❑ Reduce the hours of work.
- ❑ Reduce drudgery.
- ❑ Minimize the hazards and risk to health and life.
- ❑ Increase productivity.

- ❑ Enhance equity in the sharing of work and benefits.
- ❑ Widen the options for productive work through the saving of time and energy.

This UNEP pilot project (2002–04) is being implemented in three countries in the Himalayas (Bhutan, India, and Nepal) in collaboration with the *International Centre for Integrated Mountain Development (ICIMOD)* in Katmandu, Nepal. The project aims at increasing the capacity of women in the rural areas of the Himalayas through training and pilot projects in energy and water management. As with the Mega-Chad project, the lessons learned from this project will be used to replicate this project on a larger scale in the Himalayas and the wider subregion.

Other Planned Activities

Depending on the availability of donor funds, UNEP plans to implement two more regional pilot projects (during 2002–03) on Gender, Energy and Environment; one in the Pacific Islands on solar water pumping and purification, and the other in the Caribbean on biomass energy and RETs.

Source of information: "International Programs: Focus on United Nations Environment Programme on Gender, Energy and the Environment." *ENERGIA News* 5.1, April 2002. Reviewed by Elizabeth Migongo-Bake.

UNIFEM

URL: <http://www.unifem.org>

UNIFEM is the women's fund at the United Nations. It provides financial and technical assistance to innovative programs and strategies that promote women's human rights, political participation, and economic security. Within the UN system, UNIFEM promotes gender equality and links women's issues and concerns to national, regional, and global agendas by fostering collaboration and providing technical expertise on gender mainstreaming and women's empowerment strategies.

One of the areas of immediate concern that UNIFEM focuses on is strengthening women's economic security and rights and empowering women to enjoy secure livelihoods. Under this area of concern, UNIFEM has carried out a number of gender-focused projects in the energy sector. These include:

- ❑ In southern Africa UNIFEM supports women miners, working to ensure their representation in the SADC Mining Ministries.
- ❑ Energy for Sustainable Women's Livelihoods in Ghana and Nigeria: the project contributes to women's economic empowerment and food security by enhancing their ability to reduce postharvest losses and improve agroprocessing enterprises without causing environmental degradation. The project is also promoting gender-responsive energy policies in Ghana and Nigeria.

- ❑ Food Cycle Technology Sourcebooks make available practical guides on tested food-processing technologies. The Sourcebooks include case studies, many of which relate to energy activities.
- ❑ A series of Energy and Environment Sourcebooks, including one on Electricity in Household and Micro-Enterprises.
- ❑ Energy and Environment Technology Sourcebooks funds the publishing of an environmental energy sourcebook.
- ❑ National workshops on gender and energy in Ethiopia, Ghana, and Nigeria.

Source of information: Summarized from UNIFEM website.

2 Nongovernmental Initiatives

Gender and Energy Networks

This section lists international, regional, and national gender and energy networks that submitted information on request. However, especially in Africa there are a number of national gender and energy networks that could not yet be included in this report because of the lack of information about these networks' activities. We hope to add these in future.⁶

ENERGIA—International Network on Gender and Sustainable Energy

<http://www.energia.org/>

Contact: *Sheila Oparaocha*—Coordinator ENERGIA Secretariat

ENERGIA links individuals and groups concerned with energy, environment, and women. ENERGIA aims to strengthen the role of women in sustainable energy development through information exchange, training, research, advocacy, and action. Founded in 1995 by an informal group of women involved in energy inputs of the Beijing Conference on Women, it has since linked with a number of other informal initiatives. These include the Women and Energy Forum, which developed at the International Solar Energy Society's Solar World Congress in Havana in 1995, as well as Women for Sustainable Energy in the United States (U.S.) and the Women and Energy Group of South Africa. At present, ENERGIA has about 1,800 subscribers to its newsletter in Africa, Asia and Latin America as well as in Europe and North America. ENERGIA's approach is to seek to identify needed activities and then to encourage and, if possible, assist members and their institutions to undertake decentralized initiatives.

Phase 2 of ENERGIA (July 1999 to June 2002) is funded by the Netherlands Directorate General of International Cooperation (DGIS) and the Swedish International Development Agency (Sida). The activities of ENERGIA are currently administered as a project under the auspices the ETC Foundation (a nonprofit consultancy) in the Netherlands.

⁶ Information about activities not yet listed or updates of those included in this report should be submitted to Anja Panjwani <a.koerhuis@etcnl.nl>.

The objectives of ENERGIA are to:

- ❑ Build up a body of evidence and experience (conceptual, methodological, and case study) linking attention to gender in energy policy and projects with equitable, efficient, and sustainable outcomes in energy and development.
- ❑ Advocate in national and international arenas for the importance of bringing a gender perspective to policy analysis, formulation, and implementation.
- ❑ Provide capacity building and assistance to programs and projects related to energy policy planning that integrates a gender perspective, taking into account women's specific energy needs and interests as well as their capacities and knowledge of sustainable energy.
- ❑ Support the professional development of women working in the energy sector.
- ❑ Galvanize the creation of networks and institutions at the national, regional and international levels that support the above efforts at the practical and political levels.

During Phase 1 of ENERGIA, which officially ended in December 1998, the primary activities of the project were the production of *ENERGIA News* and providing networking and support and mentoring services for women working in the field of sustainable energy.

Phase 2 (July 1999–June 2002) showed an expansion of ENERGIA's vision to include a range of other activities, which are seen as mutually reinforcing the following:

- ❑ Continuing the newsletter *Energia News*.
- ❑ Establishing and managing a resource center.
- ❑ Advocacy.
- ❑ Regionalization.
- ❑ Capability building.
- ❑ Research and development of case studies.

ENERGIA News

ENERGIA's principal vehicle for information exchange is *ENERGIA News*, a quarterly printed newsletter, published since 1996. The newsletter has more than 1,800 subscribers and focuses on concepts and practice in the field of gender and sustainable energy.

ENERGIA News provides a forum to collect, analyze, discuss, and disseminate information and experiences. It depends for articles on contributions from people working in the field who are focused directly on women and energy issues. *ENERGIA News* is distributed free of charge, but subscribers are requested to contribute articles.

As the gender and energy sector has continued to develop, ENERGIA has received longer and more detailed articles suitable for publishing. In an effort to keep up with the development of the sector and to make this information available to the network, as well as to remain within the limits of the budget, the ENERGIA editorial committee decided to publish at least one 24-page issue per year. In addition, ENERGIA has begun to publish

some of the longer articles under the resource section on its web page. Further, since an important objective of ENERGIA is decentralizing and regionalizing activities, the decision was made to have each issue from 2001 onwards prepared jointly by a guest editor from a developing country and one of the *ENERGIA News* consulting editors.

An [archive of back issues of *ENERGIA News*](#) from issue 3.1 onwards is available in PDF format on the ENERGIA website. Issues 1 to 2.3 of *ENERGIA News* will soon be made available in html format. ENERGIA also carries an [overview of articles](#) that have been published so far.

The ENERGIA Resource Center

Through its resource center, ENERGIA aims to raise awareness of and the level (quality and quantity) of information available to, individuals, decisionmakers and organizations on the gender issue in energy. The resource center primarily focuses on generating information and making it available to members of the network. The major services provided by the resource center are the following:

- ❑ Maintenance of the ENERGIA website.
- ❑ Publication of the quarterly electronic newsletter, ENERGIA Net.
- ❑ Development and maintenance of several databases, including one for *ENERGIA News* subscribers (an online version of the database will be available soon) and an online ENERGIA photo database called Photoshare, a facility of the Media/Materials Clearinghouse at the Johns Hopkins University Center for Communications Program, is managing the [online ENERGIA photo gallery](#).
- ❑ Handling of requests for information about ENERGIA.
- ❑ Development of information packages on gender and sustainable energy upon request.

Advocacy

Advocacy activities are undertaken in international, regional, and national forums to increase attention to gender and energy. ENERGIA's advocacy is for a gender perspective and for the formation of regional networks in support of ENERGIA's objectives. ENERGIA's advocacy activities and their follow-up have been highly successful. They have stimulated interest in launching gender and energy programs, some of which have started with significant inputs from the ENERGIA steering committee. The programs include the following:

- ❑ The UNDP/SEED (Sustainable Energy and Environment Division) Project on Women and Energy and Income Generation in Africa.
- ❑ The World Bank ESMAP Gender Facility.
- ❑ The World Bank ASTAE Energy, Poverty, and Gender Project (ENPOGEN).
- ❑ The Central America Gender in Sustainable Energy Network (GENES).
- ❑ The FAO/RWEDP Bangkok gender and wood training program.

ENERGIA further participates at international forums and meetings to advocate for gender in sustainable energy, such as:

- ❑ Moving toward Equity and Sustainability in Rural Energy: Putting Gender Concepts into Action, a gender and energy workshop held as part of the Village Power meeting in Washington, D.C. December 4–7, 2000. *For proceedings of the workshop...*
- ❑ An energy and gender workshop held at WREC VI, “Renewables: The Energy for the 21st Century,” July 1–7, 2000, in Brighton, U.K. *For proceedings of the workshop...*
- ❑ Ninth Session of the Commission on Sustainable Development (CSD9) held April 16–27, 2001, in New York. The lobbying activities of ENERGIA, together with partner organizations, its Consultative Group members and Focal Points, in the CSD-9 process resulted in the inclusion of references to gender issues, with a strong Southern perspective, in six significant sections of the *document produced by the energy intergovernmental negotiations at CSD-9*. This outcome document was used as input for the World Summit on Sustainable Development (WSSD) in Johannesburg, South Africa, in August 2002.
- ❑ The Women and Energy Workshop held December 12–13, 2000, in Durban, South Africa.
- ❑ ENERGIA organized a forum on gender and sustainable energy as a contribution to the 2001 Solar World Congress, organized by the International Solar Energy Society. This is the first time such an event has been held as part of the formal Congress proceedings. *To view the Forum report...*
- ❑ ENERGIA was also active at PrepCom3 March 25 to April 5, 2002, mainly through Consultative Group members and Focal Points, with the objective of lobbying for the integration of specific language on gender and energy in the outcome document that will be used as an input to WSSD.
- ❑ With the similar intention of drawing attention to the importance of gender and energy issues at PrepCom4 and at the WSSD itself, ENERGIA has submitted a proposal for funding. A working group has been formed around the proposed activities, consisting of experts in the field from Africa, Asia, Latin America, and Oceania. Apart from its advisory role, the group will also participate in the implementation of the proposed activities, including advocacy and lobbying at PrepCom 4 and WSSD, preparation of regional summaries and a booklet on the theme of gender and energy, and hosting of exhibitions and side events at WSSD.
- ❑ ENERGIA, together with Jyoti Parikh, senior professor at the Indira Gandhi Institute of Development Research in Mumbai, India, organized a symposium on gender, energy, and health at the Third International Congress on Women, Work and Health, which was held June 2–5, 2002, in Stockholm, Sweden. The focus of the symposium was indoor air pollution.

Regionalization

An important strategy of ENERGIA is to encourage and support the development of regional and national networks by its members in the South (Africa, Asia and Latin America). Once these are established, the management of each network will be decentralized to regional and national network focal points. In particular there is a strong commitment to enabling effective grassroots participation in the network.

ENERGIA considered it appropriate to begin its regionalization activities in Africa. In March 2000, after national consultations, the Regional Workshop on Women and Sustainable Energy in Africa—for NGOs, research institutions, and governments—was held in Nairobi. As follow-up to the workshop, seed funding was provided to support activities aimed at building on and strengthening the networks that had been formed at the national and the (sub) regional level in preparing for the workshop. These seed fund activities mainly consisted of organizing national workshops and preparing project proposals.

The activities funded were as follows:

National level

- ❑ **Ghana:** The development of a proposal for a pilot project to promote women as energy entrepreneurs. (Focal point: GRESDA) ([to view the proposal...](#))
- ❑ **Kenya:** A two-day workshop to develop a major proposal to implement interventions to increase women's participation in energy and energy technology use for commercial purposes. (Focal point: Intermediate Technology Development Group, (ITDG), Kenya) ([to view the workshop report...](#))
- ❑ **Lesotho:** A one-day workshop on the situation of women, energy, and household management and appropriate energy technologies for Lesotho, including health issues pertaining to the use of biomass and other available forms of energy. (Focal point: Khalema Redebe Associates 4) ([to view the report...](#))
- ❑ **Nigeria:** A workshop on gender, energy, and food security. (Focal point: Friends of the Environment) ([to view the report...](#))
- ❑ **Senegal:** A one-day brainstorming session to initiate networking activities among local networks around the theme of gender and energy. (Focal point: ENDA) ([to view the report...](#))
- ❑ **South Africa:** Development of a project proposal aimed at formulating strategies and action plans that will galvanize the incorporation of gender and energy issues in energy policy and planning in South Africa. (Focal point: Minerals and Energy Policy Center, Stockholm (MEPC)) ([to view the proposal...](#))
- ❑ **Swaziland:** A one-day workshop to discuss concerns about the involvement of women in the design and use of energy technology, and so provide input into the ongoing energy policy formulation process. Participants were drawn from various institutions, although trainee teachers were the main targeted group to encourage

the insertion of renewable energy into the curriculum for girls' schools. (Focal points: MNRE and REASWA) ([to view the report...](#))

- ❑ **Tanzania:** Implementation of activities aimed at operationalizing the network through development of a members' directory and profiles, the distribution of the Nairobi workshop proceedings, conducting a steering committee meeting, and soliciting funds to further develop the network. (Focal point: TaTEDO) ([to view the proposal...](#))
- ❑ **Zimbabwe:** Development of a project proposal to support the production of case studies, based on reviews of various energy projects, programs, strategies, and the draft energy policy; that can serve as models of good practice. (Focal point: Water and Energy Development Services (WEDS); [to view the proposal...](#))

Subregional level

- ❑ **Eastern Africa:** The development of a subregional working strategy based on National Position Papers. (Focal point: ITDG, Kenya on behalf of Ethiopia, Kenya, Tanzania, and Uganda) ([to view the position papers...](#))
- ❑ **Southern Africa:** The preparation of three background papers on gender and climate change, regional environmental change and its effects on wood fuel availability, and the gender-differentiated impacts of rural electrification programs. These papers are aimed at influencing the agenda of the World Summit on Sustainable Development held in Johannesburg in 2002. (Focal point: MEPC on behalf of Botswana, Lesotho, Namibia, a South Africa, and Swaziland.) ([to view the background papers...](#))
- ❑ **Western Africa:** There are national focal points in Ghana, Nigeria, and Senegal. The focal points have been in consultation with each other about how to collaborate in their subregional network. The Nigeria focal point has produced a proposal, and ENERGIA's secretariat has offered advice and encouragement. However, more time is needed for the countries to reach a consensus on how to move forward together.

Regional level

Regional African Women and Energy Network: A proposal for the establishment of and implementation of the regional network's activities. ([to view the proposal...](#))

[To view the final report of the regional African workshop...](#)

ENERGIA has recently started to actively build on the idea of initiating a regional gender and energy network in Southeast Asia and the Pacific. To that purpose, a National Consultation Workshop of Stakeholders to Establish a National Network on Gender and Energy was held in Nepal in May 2002. The workshop was organized by the Center for Rural Technology (CRT) in Nepal with the following objectives:

- ❑ Identification and review of gender and energy and water-related programs and activities of various government organizations, I/NGOs, and individuals in Nepal, as well as discussion of issues and options.
- ❑ Formulation of an action plan for gender mainstreaming in Nepal and energy-based or related development programs and activities undertaken by various organizations and individuals in Nepal.
- ❑ Identification of an appropriate organization willing and able to facilitate a national network. This organization will function as a national focal point for the network to coordinate all required activities mentioned in the action plan.
- ❑ Establishment of an active national network on gender and energy.

ENERGIA also planned a special issue of *Energia News* on Asia (5.2, August 2002), another issue on the EnPoGen program (5.3, November 2002), and another special issue on the Johannesburg World Summit on Sustainable Development (5.4, December 2002).

In Latin America, ENERGIA is partnering with Latin American networks, such as the Mesoamerican Gender in Sustainable Energy Network (GENES). Cooperation is mainly accomplished by having resource persons at meetings and workshops organized by the respective networks. ENERGIA is also collaborating with the *Latin American Energy Organization (OLADE)* that, together with the University of Calgary and the Canadian International Development Agency (CIDA), is organizing search conference workshops on gender in energy and environment. ENERGIA has been identifying and inviting its Latin American members to the workshops. ENERGIA also produced an issue of *ENERGIA News* on Latin America (2.1, February 1998).

Capacity building

Capacity building at all levels aims at enhancing gender integration for energy specialists, gender and energy for social development specialists, and for women in the energy sector. ENERGIA has undertaken the following main activities in this program area:

❑ Women in Energy Leadership Program

ENERGIA has cofacilitated and contributed to the training during a pioneering workshop focusing on the role of women leaders in the uptake of Renewable Energy Technology (RET). The workshop was held June 27–July 7, 2001, and hosted by UNEP and the Australian Corporative Research Center for Renewable Energy. Women leaders from governments, NGOs, and the private and educational sectors who were already active in the RET field participated. These women have a great multiplier and extension potential to disseminate the

knowledge and skills acquired through follow-up activities at the subregional, national and local levels. *To view the workshop report...*

❑ **Energy and Gender Capacity Building Workshops**

Building on the momentum of the networking activities in Africa, ENERGIA has worked closely with Winrock International Renewable Energy Program's *African Women Leaders in Agriculture and Environment* program and its Clean Energy Group staff to conduct targeted energy and gender training at the Department of Minerals and Energy, South Africa; the African Development Bank, Ivory Coast; and the Senegalese Rural Electrification Agency (ASER).

❑ **Internet Connectivity for Energy Network Development**

ENERGIA, together with information technology (IT) staff of *Winrock International East Africa* and the *Tanzania Traditional Energy Development and Environment Organization (TaTEDO)*, and with DOE support, is engaged in an initiative to evaluate the specific requirements for electronic communications of the current and future gender and energy network members. This exercise also intends to identify parties for inclusion in Internet connectivity training. Plans call for a follow-up phase in which ENERGIA will work with the Winrock International Africa IT staff to customize existing Winrock International IT Training and Electronic Learning Network syllabi and coursework to meet the needs of the identified parties.

Research and development of case studies

ENERGIA's aim for its research and development activity has been to provide: (a) a forum for a variety of views and discussion on gender and energy (as well as action); (b) sound information about the linkages between gender and energy (especially case studies and practical experiences); and (c) tools and methodologies for addressing gender in energy projects and programs.

The following activities have been conducted in pursuit of these objectives:

❑ **Methodology for participatory assessments for gender and energy:**

ENERGIA decided to adapt the principles and methods of a Participatory Learning and Action (PLA) Initiative—implemented by the *World Bank Water and Sanitation Program* in partnership with the *International Water and Sanitation Centre (IRC)*—and apply it—to the energy sector. The PLA Initiative examined the linkages between the use of demand-responsive, gender, and poverty-sensitive approaches and the sustainability of services.

The methodology is currently being adapted within the World Bank/GEF Cambodia Renewable Energy Project, jointly carried out by Winrock International, Mallika Consultants, and ENERGIA, in consultation with the World Bank. The ultimate goal of the initiative is to generate valuable and replicable

“good practices” for application in future World Bank rural electrification projects.

❑ **Case study development:**

ENERGIA was represented on the technical advisory group that was involved in the design and review of the case study publication, *Generating Opportunities: Case Studies on Energy and Women*. The publication was developed by the UNDP under the Energy and Atmosphere Program and was launched in April 2001. The case studies highlight lessons learned from projects in Africa and Asia that adopted decentralized solutions for providing access to energy services. At the same time, the case studies took into consideration the linkages between the conditions of poverty that directly affect women and the opportunities for development presented.

❑ **Addressing Gender Concerns in Energy Research within the Commission of the European Community (CEC):**

A study on behalf of the research directorate of the Commission of the European Community (CEC) has been undertaken to examine ways to reach gender equity within the non-nuclear and nuclear research programs of the CEC. The study was undertaken by the Technology and Development Group of the University of Twente (TDG), IT Power Ltd., and Cornland International. ENERGIA was involved through the participation of Joy Clancy, Ph.D. as the team leader.

The aim was to produce recommendations that will lead to a better integration of the gender dimension in future research activities within these energy fields. The study envisages:

- ❑ In the short term, encouragement of more women scientists to contribute to Framework V.⁷
- ❑ In the longer term, the mainstreaming of women, their concerns and experiences, into the program, which could lead to a transformation of the existing research agenda to better reflect any differences between women’s and men’s energy concerns.

The study was completed in January 2001.

❑ **Participation in EnPoGen:**

ENERGIA is actively involved in the peer review of reports on field studies conducted in the EnPoGen project. EnPoGen (the Energy, Poverty and Gender Project) is managed by the World Bank’s ASTAE program. The objective of the project is to increase the beneficial impacts of ASTAE’s, and hence the World Bank’s, alternative energy projects on poverty alleviation and gender equity in the

⁷ The Fifth Framework Programme (FP5) sets out the priorities for the European Union’s research, technological development, and demonstration (RTD) activities for the period 1998–2002.

rural areas of Asia by qualifying and quantifying the linkages between alternative energy projects, poverty alleviation and gender equity. The linkages have been investigated in four Asian countries: China, India, Indonesia, and Sri Lanka.

❑ **Participation in Case Study on Gender and Biomass Energy Conservation in Namibia:**

The study was commissioned by GTZ ProBEC, the regional Programme for Biomass Energy Conservation in Southern Africa. The study was a joint effort by the Southern Africa Gender and Equity Network. The study was a joint effort by SAGEN, ENERGIA, the Namibian Ministry of Mines and Minerals, and the Desert Research Foundation of Namibia. The objective of the case study was to demonstrate how gender aspects can be successfully integrated at different levels in the biomass energy sector, thus contributing not only to improved efficiency and effectiveness of household energy programs, but to increased gender equity in participation and benefits. Gender integration was assessed at the policy, institutional, and implementation levels. The World Bank Methodology for Participatory Assessment (MPA) was used as a basis for developing variables and indicators for measuring gender integration in biomass energy in Namibia.

Source of information: Summarized from ENERGIA website.

African Regional Network on Women and Sustainable Energy

URL: <http://www.elci.org/energy>

On March 13–15, 2000, the Regional Workshop on Women and Sustainable Energy in Africa was held in Nairobi, Kenya. This event was jointly organized by the Environment Liaison Center International (ELCI) in Nairobi, ENERGIA, UNIFEM, and Winrock International. The workshop had more than 58 participants from 18 countries that represented NGOs, research institutions, and governments. With seed funds from ENERGIA, the proposal seeking funding for the network, *A Regional Network on Gender and Energy: Turning Information into Empowerment*, was written by ELCI after it was nominated as the focal point at the Africa regional workshop. ELCI is now stepping down and a new focal point for the network will be elected.

Project Purpose and Focus

The purpose of this network is to empower women in terms of both access to energy technologies and opportunities to influence energy-based policies and programs. This empowerment will be achieved through the dissemination of necessary relevant information and access to appropriate technologies within a supportive environment created by engendered policies. This proposal plans to establish a Regional Gender and Energy Network in Africa through which information, research, advocacy, and training will be undertaken. The proposal recognizes the existence of other networks in the

region, such as the East African Energy Technology Development Network coordinated by the Intermediate Technology Development Group (ITDG-EA). This and other networks will provide opportunities for partnerships in a variety of areas relevant to this initiative.

Network Structure and Responsibilities

The network consists of national, subregional, regional, and international focal points. These focal points were democratically nominated during the regional workshop. The responsibilities of each focal point would include the following:

- ❑ **National focal points:** Research, training, and advocacy.
- ❑ **Subregional focal points:** Facilitate country-level exchange at the subregional level for sharing and intercountry linkages.
- ❑ **Regional focal point:** Coordinate the flow of information between subregional focal points.
- ❑ **International focal point:** Maintain links with other regional gender and energy networks (that is, South America, Asia, and Europe), as well as represent the network at international meetings.
- ❑ **Local level:** The main beneficiary of the work of the network. The national focal points will have direct links to the local level mainly through linkages with community-based organizations (CBOs). The CBOs will have a gender or women's perspective with clear voting rights for women in order to ensure that their voices are heard.

Project Activities

The following activities will be undertaken:

- ❑ Establishment of a regional gender and energy network.
- ❑ Development of an Internet-based energy and gender information database.
- ❑ Advocacy at national and international levels to mainstream gender in policies, programs, and technologies.
- ❑ Training of women professionals in gender and advocacy.
- ❑ Transfer of appropriate technologies to grassroots groups.

The project will contribute to gender mainstreaming, greater visibility of gender issues in energy, and improved capacities in advocacy around gender.

Project Time Frame

Although this is a three-year project, several of the activities will continue after the close of this phase.

Source of information: <http://www.elci.org>. Reviewed by Pamela Rhys-Hurn (ELCI).

Southern African Gender and Energy Network (SAGEN)

URL: <http://www.mepc.org.za>

Contact: *Khamarunga Banda*—MEPC Gender Desk

SAGEN, the Southern African Gender and Energy Network, is a regional network launched during the ENERGIA/ELCI regional workshop on Women and Sustainable Energy in Africa, which took place in March 2000 in Nairobi. The *Minerals and Energy Policy Center (MEPC)* in South Africa is the regional coordinator of the network as well as the focal point for the national network.

SAGEN has the overall aim of strengthening the role of women in sustainable energy development through the exchange of information, training, research, advocacy, and action and empowering communities for sustainable development by providing both men and women with sustainable energy options. The network seeks to identify interventions and encourage and, if possible, assist members and their institutions to undertake decentralized initiatives in empowering women and engendering energy.

To date, the network covers seven members within the SADC countries, namely Botswana, Lesotho, Mozambique, Namibia, South Africa, Swaziland, and Zimbabwe, but has a view to expanding into other southern African states. Each of the participating countries has a national network on gender and energy and a SAGEN focal point.

Planning Meeting

SAGEN held its first planning meeting August 20–21, 2001, in Johannesburg. The meeting was organized by MEPC. The planning meeting was arranged primarily to plan SAGEN's contribution to the Earth Summit 2002. The objectives of the meeting were to:

- ❑ Review and evaluate the status of SAGEN and the national networks.
- ❑ Identify obstacles and problems facing both SAGEN and the national networks.
- ❑ Develop both short-term and long-term work plans for SAGEN.
- ❑ Based on these, allocate responsibilities to MEPC (as the regional coordinator), national focal points, and network members.
- ❑ Draft a communication structure for the network.
- ❑ Identify funding strategies for implementing the proposed plan of action and project activities.

One outcome of the meeting was the definition of SAGEN's vision: to contribute to poverty alleviation through increasing the empowerment of women for the sustainable use of energy resources. A short-term objective was to raise global awareness at the Earth Summit 2002. As to SAGEN's long-term objectives, the meeting agreed that the network should focus on “gender and energy for sustainable development from an African perspective.” The following were identified as major issues: (a) lack of data on energy policies, (b) lack of access to energy resources, and (c) lack of appropriate energy technologies.

Further outcomes of the meeting included:

- ❑ The decision and strategy to expand SAGEN's geographic coverage.
- ❑ A clearer understanding of the network's structure.
- ❑ Outlining mandates for the regional and national focal points.
- ❑ Strategies for communication and fundraising.
- ❑ A work plan, based on the objectives of the network.

Background Paper and Case Study Development

SAGEN has developed, through seed fund assistance from ENERGIA, three background papers on gender and sustainable energy issues:

- ❑ S. P. Utonih and S. Dlamini. "[Power Sector Reforms, Rural Electrification and Gender-Related Issues.](#)" October 2001.
- ❑ N. Wamukonya and H. Rukato. "[Climate Change Implications for Southern Africa: A Gendered Perspective.](#)" October 2001.
- ❑ P. V. Desanker and L. Zulu. "[Gender, Energy, Development and Environmental Change in Southern Africa.](#)" October 2001.

SAGEN taken also part in a case study in Namibia on gender and biomass energy conservation, commissioned by GTZ ProBEC, the regional Program on Biomass Energy Conservation in Southern Africa. The study was a joint effort by SAGEN, ENERGIA, the Namibian Ministry of Mines, and Minerals and the Desert Research Foundation of Namibia. The objective of the case study was to demonstrate how gender aspects can be successfully integrated at different levels in the biomass energy sector, thus contributing not only to improved efficiency and effectiveness of household energy programs, but also to increased gender equity in participation and benefits. Gender integration was assessed at the policy, institutional, and implementation levels.

Source of information: Summarized from SAGEN web page, a planning meeting report, and ENERGIA website.

Gender and Energy Network of Lesotho (GENOL)

Contact: *Lucy Khalema Redeby*—Khalema Redeby and Associates (PTY) LTD

GENOL, the Gender and Energy Network of Lesotho, was established by a workshop held on September 4, 2001. The choice of an institution as a national focal point for ENERGIA was also initiated on the same date. It was subsequently decided that the national focal point should rotate among the four institutions that had expressed interest.

The general objective of the network is to engender energy and empower women in Lesotho through promotion of information exchange, training, research, and advocacy.

The specific objectives aimed at achieving the general objective are to:

- ❑ Facilitate and promote information exchange.
- ❑ Make women aware of energy and its technologies.

- ❑ Create a forum for women to discuss and exchange information on energy and gender.
- ❑ Encourage education in activities that promote gender and energy.
- ❑ Facilitate maximum collaboration and cooperation among members on energy and gender.
- ❑ Empower women through training and research on energy-related matters.
- ❑ Provide women at the grassroots level with skills that strengthen their role in sustainable energy development.
- ❑ Consult with other national, regional and international networks.
- ❑ Work closely with the Department of Energy and the Department of Gender on matters concerning energy and gender in Lesotho.

GENOL Activities—2002

The gender and energy activities that have been undertaken as an ENERGIA national focal point have been mostly preparatory and were intended to derive an acceptable and implementable action plan for 2002. Three meetings have been convened so far, two in January 2002 and one on April 15, 2002.

The meetings also sought to prepare a proposal to seek funds for running the activities of GENOL. The major outcomes of the meetings can be summarized:

- ❑ Develop a database of energy-related projects which involve women in Lesotho; members of GENOL should make available information for database. An electronic database for the Internet should be employed.
- ❑ Training and capacity-building workshops for women. For example, the workshop(s) could be for training of trainers, based on an assessment of energy issues relating to women that need to be carried out first.
- ❑ Reduction of negative health effects from household energy use among vulnerable groups by more efficient cooking in Lesotho. The identified location is the Berea district, north of Maseru, the capital city. This project will benefit 150 households that are in the project area.
- ❑ A proposal has been written and submitted to the Shell Foundation for the third proposed activity above. Proposals for the remaining activities still need to be developed.
- ❑ At the meetings it was agreed that GENOL should /network with focal points of other countries and, when necessary, visits pertinent countries. Further, there was a general consensus that it might be useful to revisit earlier energy projects to identify the gaps or loopholes and then concentrate on filling those gaps, if possible, completing those projects for the benefit of the people for whom they are intended.

Source of information: Provided by Lucy Khalema Redeby.

Nigeria Energia Network (NEN)

Contact: [Joanna Olu-Maduka](#)—Chairperson Friends of the Environment Nigeria

The Nigeria Energia Network (NEN) was established in the run-up to the Regional Workshop on Women and Sustainable Energy in Africa, which was held in March 2000 in Nairobi. With seed funds from ENERGIA, NEN held a workshop at the UNDP conference center in Lagos in September 2001 with the theme of “Gender, Energy and Food Security: Opportunities for Economic Growth.” The workshop was organized by Friends of the Environment (FOE), the focal point of this national network. The plan of action arising from the workshop follows:

- ❑ Build a database on energy and gender information for Nigeria.
- ❑ Assess the mandate of the Ministry of Women Affairs, Youth and Development
- ❑ Submit recommendations on how the ministry should operate to ensure that it is truly relevant to women’s affairs
- ❑ develop network capacity among members
- ❑ Undertake pilot projects on postharvest losses.

Recently, NEN has been working to achieve the goals set out in the plan of action. NEN has made progress as follows:

- ❑ Compiled a database containing more than 100 names of Nigerian women experts working in the various areas of energy. Because of the paucity of funds, the information could not yet be circulated as was intended.
- ❑ Undertaken a review of the mandate of the Ministry of Women Affairs, Youth and Development. This has involved interviews with officials of the ministry.

FOE, as the focal point for NEN, is in constant consultations with members of the Network and is planning another workshop with the theme “Gender and Energy in Nigeria: The Way Forward?” before the end of the year. This workshop is expected to chart the course of the network in 2003. FOE is also canvassing for funds to hold the workshop.

Source of information: Provided by Joanna Olu-Maduka.

Tanzania National Gender and Sustainable Energy Network (TNGSE)

Contact: [Gisela Ngoo](#)—Environment Energy Specialist, TaTEDO

The Tanzania National Gender and Sustainable Energy Network (TNGSE) is a network of organizations and institutions that seek to promote and exchange information on women and sustainable energy in the country. The network is responsible for enhancing sharing of experiences on energy issues and its related problems, especially among women. The network was initiated during the Tanzania National Consultation Workshop held November 26–27, 1998, in Dar es Salaam. It has 25 members. [TaTEDO \(Tanzania Traditional Energy Development and Environment Organization\)](#) is the focal point of network activities.

The overall goal of the network is to promote women's involvement in the energy sector in Tanzania through exchange of information, awareness creation, and transfer of knowledge and skills. Specific objectives are the following:

- ❑ To advocate solutions on energy problems at all levels of society so as to facilitate socioeconomic development.
- ❑ To create awareness and promote information about women and sustainable energy.
- ❑ To act as a link between existing energy institutions and women at the grassroots level.
- ❑ To serve women working together for better energy services and the elimination of barriers to women's involvement in formulation of energy policies and implementation of energy program.
- ❑ To mobilize society on the importance of making the energy sector more gender responsive, so as to bring about rational participation of men and women in the sector.

Project Implementation Status

This project was implemented to speed the development and operational activities of the network. More specifically, the project aimed at soliciting seed funds for carrying out some network activities including preparation of much bigger project proposal, which will be presented to donors for funding. As the funds allocated for this project were very limited, activities were narrowed to two main activities, namely operationalizing and developmental activities; other activities were implemented in conjunction with subregional networks. As a result, some of the training conducted among the partners was carried out by integrating resources from different subnetworks. A summary of achievements follows.

Operationalizing of Activities

Partners directory and profiles

The directory and profile of network partners were continuously updated. Four new partners were included in the list, bringing the total to 25. An E-group (ngse@yahoogroups.com) for partners was created to make communication easier, and their communication and sharing of information organizations has considerably improved. Along with updating of the partners directory and profile, two training sessions on information and communication technology (ICT) were organized and conducted by TaTEDO. During the training 10 network partner members were trained how to use the Internet, develop websites, and use E-mail.

Distribution of workshop proceedings

Copies were made of the report on the proceedings of the regional workshop on women and sustainable energy workshops conducted in Nairobi in March 2000 and distributed to all partners. The aim was to ensure that each partner would implement activities that link to the action plan for women and energy in Africa. This activity could not be completed because the officer responsible for distribution developed health problems. However, copies of the proceeding were planned to be distributed in June 2002.

Conducting a steering committee meeting

A plan was made to conduct a meeting of the steering committee to discuss how the activities of the network would be implemented, particularly how to raise funds from various sources. The committee consists of 10 individuals from six organizations that were selected during the consultation workshop of November 1998 organizations. Some committee members met and worked on a project proposal.

Development Activity

Preparation of project proposal

With the ideas of members of the steering committee, a project proposal was prepared to solicit funds to run and improve network activities. The proposed project focuses on increasing the exchange of information on energy and gender issues to advocate solutions to gender-related energy problems. The project asks how networking in energy and gender issues can help eradicate poverty and improve the quality of life for women and their society.

The agreed project name was National Gender and Sustainable Energy Networking Strengthening Project (NGSENSP).

Future Plans

Focusing on the good objectives of the network, TaTEDO has planned to ensure that TNGSE is capable of undertaking activities on its own. This could only be done if they were funded. The objectives of the proposal are:

- ❑ To increase exchange of information on energy and gender issues by creating awareness.
- ❑ To build the communications capacity of the TNGSE focal point and of network members so they can access information and share it with others.
- ❑ To recruit more members into the network.

Source of information: Provided by Gisela Ngoo.

Mesoamerican Gender in Sustainable Energy Network (GENES)

URL: http://www.geocities.com/red_genes

Contact: *Vivian Lanuza-Monge*—Coordinator, GENES

GENES, the Mesoamerican Gender in Sustainable Energy Network, was founded in 1998 at a workshop on energy use and gender held in Antigua, Guatemala. More than 50 organizations signed the Declaración de Antigua that established the formal regional network and appointed the Fundación Solar as the acting secretariat. One organization from each country agreed to participate in the network and serve as national coordinator.

With financial support from *Winrock International*, GENES aspires to improve the effectiveness, longevity, and equity with which energy projects address development priorities by stressing the importance of addressing gender distinctions and including women, as well as men, in project planning and implementation. In the long term this would ensure the rational and equitable use of energy resources and catalyze the process of sustainable development.

The first National Coordinators' Meeting was held in Managua, Nicaragua, in May 1999. Participants discussed the goals of the network and produced a strategy for advancing its primary objectives, including:

- ❑ Regional information exchange via the distribution of a periodic bulletin.
- ❑ Increased awareness and capacity of all member organizations in gender and energy issues.
- ❑ Access to a database of member profiles, including needs and capabilities in gender and/or energy.
- ❑ Acquisition of funds to facilitate exchanges, training opportunities, and selected pilot projects.
- ❑ Increased awareness and interest among policymakers in the importance of gender in energy and development planning.

Key Issues for GENES

Social inequalities must be recognized within an institution before gender issues on the outside can be effectively addressed. Gender awareness starts with a basic education that allows the institutions and its employees to address social inequity *within* the office.

GENES works at the local level to unite development organizations so as to catalyze grassroots development. It is demand driven in the sense that energy use and demand differ highly between the sexes and this fact needs to be addressed properly, making the support by people in the field indispensable.

Addressing gender issues in field work in rural areas starts with a series of evaluations and community assessments. These surveys reveal sexual division of labor, which allows the host institution to address the needs of both women and men.

Socioeconomic and energy-related statistics need to be desegregated by gender for channeling of effort in project development accurately. The Fundación Solar has taken steps to gather gender-disaggregated data. In 1999, Fundación Solar evaluated the first PV project for domestic rural electrification in Guatemala, five years after its implementation. The technical part of the evaluation examined geographic conditions and the quality of the solar system components, such as the panel, the battery, the regulator, and the lamp. The second half of the evaluation examined the larger social context of the project, such as community organization and gender issues, as well as the efficacy of credit programs.

The evaluations showed first that proper maintenance, simplified technology, community organization, and economic know-how of community residents led to longer sustainability of the PV systems. Second, *it was determined that women are the main users of the installed PV systems*. However, women remain under-represented in energy projects. Because women proved to be the main users of PV systems, training for women is critical to the success of solar energy development projects. The Fundación Solar's experiences suggest that all GENES members committed to applying gender concepts will need to focus strongly on capacity building.

Some GENES members have taken the institutional steps required to initiate the ongoing process associated with adopting gender sensitive projects and policies. Because of the difficulty associated with changing attitudes and organizational structures, any attempt at discussing, and perhaps changing, gender roles, amounts to a long-term commitment. Because of these challenges, socially appropriate capacity building (related to both gender and energy issues) should play an increasingly important role in energy projects.

Proper training in gender issues is the first of a series of steps to address development needs in rural areas. Other challenges include lack of access to technology, such as computers, email and the Internet, which significantly inhibits communications; insufficient staff time within member NGOs for GENES activities on top of daily responsibilities; and high startup costs for basic network operations, which few donors are eager to cover.

Activities Undertaken by GENES

Communications

The first tangible result of the network was the distribution of the GENES bulletin, which provides information about the network's ongoing activities and its members, as well as news on energy and gender issues in the region. The bulletin was defined by network coordinators to be a dynamic forum by and for all members. GENES also established a [website](#) in Spanish featuring the network's history, mission, objectives, areas of activity, and vision for the future.

Exchanges

In June 1999, two member organizations initiated the first of two planned exchanges. ANDAR, an NGO from Costa Rica, sent four technicians to Honduras to receive technical training on PV system design and installation from the Association for the Development of Solar Energy (ADESOL), a Honduran NGO established by Enersol Associates. ANDAR, in turn, will host ADESOL staff for gender training. This exemplifies the kind of network exchanges from which all members could benefit.

Information dissemination

In July 1999, Fundación Solar, currently regional coordinator of the GENES network, hosted a meeting of all Guatemalan members to present the outcomes of the Nicaraguan Coordinator Meeting, at which the network's strategy was revised. The purpose of this follow-up meeting was to facilitate greater general understanding of the network's goals among its national members. ADESOL and ANDAR-CR have organized similar in-country member meetings.

Local and internal gender capacity building

Fundación Solar sees gender training as an integral part of the development process and has made a commitment to mainstream gender in its institutional policies. Thus, in the second half 1999, Fundación Solar undertook three gender workshops to introduce basic information on gender concepts and on one of Fundación Solar's PV projects. Field workers discussed what was needed to ensure a gender-sensitive community needs assessment. Also discussed were the possibilities for women's PV training that would enable women to become educated users of renewable energy technology.

During an internal workshop for technical staff held in October at the Fundación Solar, regionally developed gender tools for the environmental sector were presented. The new gender-sensitive methodology includes training on how to conduct a needs assessment for a rural community and how to develop project proposals that specifically address women's needs. Previously, project analysis focused primarily on quantitative data. The new gender-sensitive data attempts to analyze *qualitative* data, taking into consideration how women's roles in the community might change after a project is implemented. Although strategies addressed gender and environmental issues rather than gender and energy, the model proved useful as an initial introduction to gender tools for the Fundación Solar staff.

National gender policy

- ❑ **Honduras:** ADESOL is participating in a seminar series, organized by UNDP and called Gender and Public Policy, which promotes dialogue on ways to make key Honduran laws more gender sensitive.
- ❑ **Guatemala:** Fundación Solar is currently participating in a multi-institutional effort to develop gender-sensitive environmental policy through contributions to Guatemala's National Environment Commission, which has begun to collect input

from environmental NGOs and other organizations. Experience gained from this process could be used by Guatemala's National Energy Sector to develop a gender-sensitive policy for renewable energy. Fundación Solar is also involved in a dialogue on gender issues in renewable energy with the Ministry of Energy and Mines. The current ministry has begun communications with the renewable energy sector to find ways of introducing alternative energy sources into rural electrification efforts.

Fundraising

In September 1999, Winrock International and Fundación Solar submitted two proposals on behalf of the GENES network, seeking support for a range of start-up activities envisioned by GENES network members. While donors often favor concrete projects over less measurable capacity building, these proposals have taken a holistic approach. They seek assistance for basic infrastructure to facilitate improved information exchange, gender and energy capacity building, regional exchanges; and, ultimately, pilot projects to raise awareness and demonstrate the application of a gender approach to achieve equitable and successful provision of energy services.

Second regional meeting and beyond

To follow-up on these initial activities, a second regional meeting was held in Antigua, Guatemala in August 2000. The objectives of the meeting were to:

- ❑ Discuss the potential goals and strategic actions of GENES within the framework of a regional study on the energy and gender situation in Central America.
- ❑ Identify projects and project priorities for capacity building in sustainable energy development and gender.
- ❑ Generate an action plan based on the priorities agreed upon by the assembly.
- ❑ Continue and improve the interactions and exchange of information between countries and organizations in Central America and with similar networks.

The highlight of this session was the expansion of GENES from a Central American network into a Mesoamerican one. This new definition of GENES raised the necessity of reconsidering strategic alliances with people, institutions, and other networks, and, in turn, the importance of clearly defining the GENES structure and membership.

The presentation of the draft report of the regional study, conducted to substantiate the rationale for GENES objectives and activities, noted that the study's two main points were the following:

- ❑ The relationship between energy use and women's time, labor, and energy.
- ❑ The relationship between energy use and economic development.

The study also introduced the concepts of energy intensity and different energy options, concluding that, in the long term, renewable energy sources offer a cleaner and decentralized source of energy for developing countries, even if their costs and

technologies may not be currently within reach. Four elements were agreed upon in the ensuing discussion as keys to facilitating women's access to energy services: information, capacitation credits, and technical assistance. Since the meeting, the study has been elaborated to incorporate further input from the discussion at the meeting.

Toward the end of the year 2000, ESMAP, (the World Bank's Energy Sector Management Assistance Programme) approved GENES' proposal to build capacity in gender and sustainable energy (including improved wood stoves) on an institutional level as well as at project level. In August 2001, GENES organized a two-day stoves event in Antigua, Guatemala.

Fundación Solar in Guatemala has started measuring the impact of 800 SHSs that are installed in the rural areas of Guatemala. Indigenous women were trained in the management of SHSs, both technically and on a community organization basis. Measures of quantitative and qualitative progress of equity in projects have been developed by the organization, and case studies on the social effects and the quality of life of women and men where the solar systems and improved stoves have been installed are being carried out to improve the projects' quality.

Source of information: Articles on GENES in *ENERGIA News*; Fundación Solar Annual Report for the year 2000–2001; GENES website.

Africa—Regional and National Nongovernmental Initiatives

This section lists some of the regional and national NGO activities in Africa. This list is not complete, however. Many more, for example can be found in *ENERGIA News articles*. We hope to add these in the future.⁸

Energy and Development Research Center (EDRC), University of Cape Town, South Africa

URL: <http://phantom.eri.uct.ac.za/>

Contact: *Gisela Prasad*

EDRC, the Energy and Development Research Center at the University of Cape Town in South Africa, is committed to research, teaching, capacity building, and advocacy. One of EDRC's research areas focuses on energy, poverty, and development, and this is a summary of activities in this particular area. This research area is dedicated to finding creative and insightful strategies to fulfill the variety of low-income energy needs within the context of the holistic improvement of quality of life. A particular focus of the work is the poor, particularly poor women, and their access to, and control over, energy resources.

⁸ Information about activities not yet listed, or updates of those included in this report, should be submitted to Anja Panjwani <a.koerhuis@etcnl.nl>.

Energy has been identified as a basic need, and it is important that energy needs should be adequately met. The large-scale changes under way in the energy sector, such as the restructuring of the electricity supply industry and the petroleum industry, need to be monitored in terms of their impact on the poor. Since the grid electrification program will not reach all people in the foreseeable future, greater attention is being paid to those areas that will not be reached by the grid. These tend to be poorer, more remote villages, which may have greater reliance on renewable sources of energy. The experience that EDRC staff has in these areas will be increasingly valued and utilized.

EDRC's work in the field of energy, poverty and development aims to contribute to improving the quality of life of the poor in South Africa and the southern African region through understanding all the dimensions of their energy needs and helping to find and support creative and sustainable ways of meeting them

Goals

- ❑ To gain a deeper understanding of the energy needs of the poor through research that places people—particularly women—at the center of our work.
- ❑ To ensure that the implementation of energy policies and strategies provides sustainable benefits to urban and rural low-income users through monitoring, educating, evaluating, lobbying, and networking at local and national levels.
- ❑ To contribute to the ongoing development of energy policy targeted specifically at the needs of the poor through assessing the impact of current policy, developing and supporting strategies for improved policy development, and providing training at local, national, and regional levels.
- ❑ To develop capacity within EDRC to research and understand energy, poverty, and development issues by changing the staff profile to include a greater number of black researchers and by working cooperatively.
- ❑ To develop capacity in low-income communities, NGOs, energy providers, and in national, regional and local government to understand that a variety of energy sources meet people's need and to build this understanding into integrated planning.
- ❑ To continually examine our practice so that we do less extractive and more participative research to fulfill our mission.
- ❑ To assist communities to initiate their own energy development and feed their experiences to policymakers.

Research Priorities

- ❑ The meaning and implications of continuing multiple fuel use for integrated energy planning with attention to electrification, natural resource management, renewables, and hydrocarbons.

- ❑ Impact of off-grid energy service delivery as a component of integrated rural development.
- ❑ Participatory development planning to support the integration of energy with other development inputs (integrated energy centers).
- ❑ The impact of energy sector reform and restructuring on the poor.
- ❑ The impact of rural electrification, including the impact on people's quality of life and the work burden of women.
- ❑ Energy to support small, medium, and microenterprises (SMMEs) and development.
- ❑ Energy and women in Africa.

Major Completed Projects

(For detailed information, see [publication list](#).)

The social determinants of energy use in low-income households in the metropolitan area of the Western Cape

One of the most useful findings was the confirmation of continued multiple fuel use by low-income households, despite electrification. The underutilization of electricity by households, which leads to the increased use of paraffin, investment in liquefied petroleum gas, and the use of candles is at least partially because of the affordability of appliances, accessibility, credit granted by local retailers, and an easy exchange of fuels between the households. This information has at last become part of the accepted energy scenario, and we are beginning to see moves to address integrated energy provision rather than simply electricity supply. Much of this work is reflected in the thinking of the government white paper on energy policy in 1998.

The role of electrification in the integrated provision of energy to rural areas

More than 40 reports contain the research carried out over three years. In addition, a number of workshops and seminars have been held around the country to disseminate the findings. Under the umbrella of this project, more than a dozen researchers inside and outside EDRC have studied the impact of electricity on health, education, SMMEs, agriculture, water supply, and households. The project has also dealt with supply and tariff options for the very poor, the financial implications of rural electrification, community participation in rural electrification, off-grid, integrated energy, electrification selection criteria, and coordination between electricity and other development sectors. Many of the papers from this project can be downloaded (and are also listed in [EDRC's page of publications](#)). Key summary papers on the primary findings in this project are available.

The development of a national database of domestic energy use

Three different sources of energy-use data have been used to compile the database, which has been constructed as a user-friendly tool for anyone doing household research. Among

other information, the database can be used to graphically illustrate data on household income, household size, urbanization, racial groupings and climatic regions on electrification, and the prevalence of multiple fuel use and wood collection, as well as energy expenditure and energy end uses. The energy efficiency and electrification data were also used to generate a number of energy-demand scenarios.

Ongoing Projects

Case studies on the impact of electrification in rural areas (Cecile Thom, coordinator)

The original objective of this project was to assess the impact of electrification in a rural area over a period of three years, including the impact on people's quality of life and the work burden of women. It was subsequently broadened to include the expectations and likely demand growth of households that currently consume relatively little electricity. The main methodology employed has been qualitative household interviews; small household surveys have also been undertaken to collect quantitative data.

The project is funded by the Resources and Strategy Division of Eskom, the national electricity utility. The project commenced in 1999, at which time research was conducted in two rural villages in the Northern Province. Different categories of households were identified based on their average monthly electricity consumption, appliance ownership, and patterns of utilizing appliances. The impacts of electrification on energy use patterns, access to energy services, domestic work burden of women, quality of life, access to information and education, and economic opportunities were assessed. Electricity-related problems people experience, including lack of information and poor quality of appliances, and socioeconomic factors that affect the utilization of electricity by households were identified.

The second research phase was undertaken in 2001 in two areas, including the same villages in the Northern Province and two rural villages in the Eastern Cape Province. A comparative study was done of energy and electricity use in these two areas. The third research phase will be undertaken in 2002, again in both these areas.

Electricity Basic Services Support Tariff (EBSST) (Coordinator Gisela Prasad)

Beginning in October 2001, EDRC staff were part of a University of Cape Town research project on the proposed electricity basic services support tariff (EBSST) in South Africa, entitled "Options for a Basic Electricity Support Tariff" and funded by Eskom and the Department of Minerals and Energy. EDRC was involved in three sectors: health and environment; social impact; and financial and economic aspects.

This summary deals with the work concerning the social impact of the proposed EBSST. The following key questions were addressed:

- ❑ What kinds of measurable social changes and effects on poverty alleviation can be expected from the EBSST in its proposed form (or alternative forms)?
- ❑ How will the EBSST affect wellbeing, attitudes and awareness?

- ❑ How inclusive is the EBSST in its proposed form?
- ❑ What are the requirements for effective delivery from the users' point of view?
- ❑ What differences in terms of social impact can be attributed to the various supplier strategies in implementing the EBSST?
- ❑ What impact might be expected of the EBSST on electricity theft and nonpayment?

One aspect of the social impact study comprises surveys using quantitative and qualitative questions in one urban and two rural areas before and after the implementation of the EBSST. Three pre-implementation surveys have been completed—two in rural areas and one in an urban area. A further qualitative component of the research was focus groups conducted in 10 areas (rural and urban) across the country where the EBSST had been implemented to investigate its preliminary impact.

A report on the project with definite recommendations was published at the end of February 2002. The post-implementation surveys in the three research areas will be conducted about six months after the implementation of the EBSST.

Supporting innovation in the delivery of energy services to the rural poor: off-grid electrification via concessions in rural South Africa (coordinator Yaw Afrane-Okese)

The main objective of this project is to ensure that the responsible public and private agencies make informed decisions to improve off-grid energy service delivery as a component of integrated rural development.

The South African government has embarked on a program to provide off-grid energy services to the section of the rural population that will not receive grid electricity in the foreseeable future. The approach being pursued, as in a number of other countries, is the award of concessions to service providers to provide off-grid electricity supplies in remote areas. The concessions will be granted to private consortia, which will provide off-grid electricity services on a fee-for-service basis, in particular in geographic areas. Public funds will be used to subsidize the off-grid systems installed. In this manner the government aims to encourage private sector participation in rural energy service provision.

Because of the limited global and local experience in this delivery model, this project seeks to provide monitoring of the program and support to stakeholders where required, to establish appropriate approaches to ensure that the goal and objectives of the program—in particular, the needs of rural communities—are met. In addition, the lessons learned from the South African experience will be of interest beyond South Africa's borders.

Rural Sustainable Energy, Environment and Development Project (SEED) (Coordinator Bill Cowan)

The rural SEED (Sustainable Energy, Environment and Development) project has operated in rural communities in Eastern Cape and Limpopo Province to help local

groups identify their energy priorities and possible solutions. Women are particularly affected by energy poverty in these areas. A number of energy committees were formed, and later energy-and-development cooperatives. One of the coops has already established an energy center, which receives bulk deliveries of fuels like paraffin and liquefied petroleum gas (LPG) for cheaper local distribution. Improved access to such fuels, at a reduced price, has been an immediate priority for people in these villages, but there are further plans to expand operations, covering a wider range of fuels, appliances, and services, in support of people's domestic energy needs as well as income-generating projects. The government and energy-supply companies have been supportive and, nationally, the government is now helping to establish a number of Integrated Energy Centers across the country. (Phase 1 of the Rural SEED project was sponsored by the Danish Cooperation for Environment and Development.)

EDRC publications on energy, poverty, development, and gender

EDRC has published more than 100 publications on energy, poverty, development, and gender. The bulk of these focus on (rural) electrification, mostly in South Africa, but also in Namibia and Botswana. Other research subjects include (a) energy, poverty, and inequality, (b) integrated energy planning, (c) women/gender and energy, (d) household energy use, (e) energy for rural development, and (f) others.

For a complete list of EDRC publications, the reader is referred to *EDRC Publications on Energy, Poverty, Development and Gender*.

Source of information: Provided by Gisela Prasad.

ENDA-Tiers Monde

URL: <http://www.enda.sn/energie/indexnrj.htm>

Contact: *Youba Sokona*—Head Energy Department; *Fatma Denton*—Gender and Energy Consultant

Environment and Development Action in the Third World is an international nonprofit organization based in Dakar, Senegal. Founded in 1972, ENDA is an association of autonomous entities coordinated by an executive secretariat.

ENDA collaborates with grassroots groups in search of alternative development models on the basis of the experience, expectations, and objectives of marginalized peoples. This mutual commitment translates as:

- ❑ Presence at all levels of decisionmaking and action.
- ❑ Development of replicable models of progress that unite action, research, training, and communication.
- ❑ Involvement of intellectuals and professionals in defining and implementing development models for the majority and the least privileged.
- ❑ Fighting poverty (the primary principle behind ENDA activities).

- ❑ Involvement in international debates to render southern positions visible and influential.

ENDA relies essentially on the initiative and methods of popular action for its impetus:

- ❑ Individual and collective initiative (particularly inner-city inhabitants, who mobilize in response to particular challenges and issues).
- ❑ Grassroots groups and social movements (rural and urban associations involving youth, women, communities, professionals, and consumers, and local or national federations).
- ❑ The construction of basic common infrastructures (socioeconomic activities, sanitary and social services, and so forth with the involvement of grassroots communities).

In general, ENDA works to enhance the visibility and value, in practice as well as theory, of the knowledge and tools that exist in local development efforts. This consists of identifying and supporting community development initiatives—especially in terms of local organizations.

ENDA's support of grassroots groups also involves the following:

- ❑ Collaboration with numerous institutions and administrations in the third world.
- ❑ Employment of voluntary workers of southern origin and from certain industrial countries.
- ❑ Facilities bestowed by third world states, particularly Senegal.
- ❑ External support: the United Nations, Switzerland, Austria, the Netherlands, and a number of NGOs together ensure ENDA's independence; Belgium, Canada, the European Union (whose contribution is increasing), Finland, France, Italy, and Sweden have all contributed, or are contributing, their support.

The work carried out by ENDA's Energy Program is centered around the use and development of energy in Africa. The program uses the principles of research, action, and training to help put into place the United Nations Conventions on Climate Change and Desertification in Africa and to develop alternative energy technology. Working in partnership by coordinating networks and jointly led projects is an important aspect of ENDA's Energy's work. The team is involved in collecting information on energy and implementing projects on a local as well as regional level.

Gender and Energy Activities

ENDA was one of the participants at the regional workshop on women and sustainable energy in Africa held in Nairobi, Kenya, in March 2000 and organized jointly by ENERGIA, ELCI, and UNIFEM in partnership with Winrock International. At the workshop, ENDA was identified as the focal point for francophone Africa for the regional African network on gender and energy. With seed funding from ENERGIA,

meant to assist the focal points with some of their startup costs, ENDA held a one-day brainstorming session to initiate networking activities among local networks around the theme of gender and energy.

At the Ninth Session of the Commission on Sustainable Development (CSD-9), ENDA was actively involved, together with ENERGIA and other stakeholders in gender and sustainable energy, in lobbying for inclusion of specific language on women-gender concerns in the outcome document of CSD-9. A further objective was to raise awareness of women-gender issues among delegates, NGOs, and other participants.

ENDA and ENERGIA jointly prepared a one-day side event for CSD-9 on April 24, 2001. Participants were invited to join in a roundtable discussion with the theme: Does Sustainable Energy have a Woman's Face? Advocating for a Gender and Energy Inclusion in CSD-9 and Beyond? These lobbying activities in the CSD-9 process resulted in the inclusion of references to gender issues with a strong southern perspective in six significant sections of the CSD-9 outcome document.

From June 11–13, 2001, ENDA and the World Bank *Regional Program for the Traditional Energy Sector* jointly organized the gender and energy workshop, "Moving toward Practical Solutions of Meeting Gender-Differentiated Energy Needs within an Integrated Development Approach." The workshop, held in Dakar, was an opportunity for gender and development analysts and practitioners to share their field and research experience. Its aim was to revisit gender and energy studies and identify ways of pushing the gender debate forward. The workshop adopted an integrated development approach, without losing sight of the need to use energy as an indicator of development.

There was a general consensus that the fundamental problem is poverty. Although there are no readymade solutions for reducing poverty, many participants felt that energy could serve as an entry point to alleviate some of the socioeconomic constraints that people face.

Important issues raised in the discussion included the following:

- ❑ "Energy for development" was one of the recurrent themes of the meeting. It was recognized that improved energy services could help achieve sustainable development.
- ❑ The need for governments, NGOs, and other stakeholders to cooperate was emphasized. Governments should evaluate the extent to which their policies are gender sensitive, and they should consider gender sensitization and training for their institutions.
- ❑ Practical steps need to be taken that do not require large resources, such as lobbying and advocacy and further research.
- ❑ Constant exchange of information is essential and needs to occur at all levels.

The participants believed that the following recommendations could be used as a basis for reducing poverty and improving the quality of life of rural and urban women in Africa. The recommendations were structured around three issues:

1. Energy perspective

- ❑ Energy policies need to break away from the centralized processes in the management, supply, and commercialization of energy sources.
- ❑ Both short and long-term solutions should be adopted to address the problem of energy accessibility.
- ❑ Some of the barriers to alleviating women's poverty, caused by the absence of affordable energy services, need to be reviewed and addressed.
- ❑ Refine the current focus, which is heavily weighted toward energy, in favor of a more integrated approach.

2. Financial perspective

- ❑ Focus on income-producing activities to alleviate the cash flow problems that women face and identify ways of making these more durable.
- ❑ Identify sustainable income bases for women through consultation with women's groups and training programs.
- ❑ Adopt a participatory approach that would place women center stage and identify activities that have entrepreneurial potential and would be attractive to the private sector.
- ❑ Adopt a hands-on, market-business approach with concrete outputs and women as the main drivers.
- ❑ Develop business ideas with the assistance of the private sector and businesswomen to gradually progress from informal vending toward large-scale entrepreneurial activities.

3. Advocacy, training, and sensitization programs

- ❑ Use long-term programs to empower women.
- ❑ Advocacy can be conducted through networking activities.
- ❑ Investing in people means mobilizing the necessary funds to equip them with the right tools. Training should target the needs of specific groups.
- ❑ Training should not follow a one-dimensional approach.

Publication on Gender and Energy

ENDA and its partners are working on a publication on gender and energy entitled: "Gender: The Missing Link to Energy for Sustainable Development. Rethinking Gender Dynamics and Strategies through Sustainable Energy Services and Integrated Solutions." The study provides an exercise in stocktaking by critically examining issues and identifying practical solutions that would empower both men and women and allow for complementarity and partnership. The study will create a forum for African men and women through their varied field and research experiences to critically rethink development policies through sound gender analyses. It will provide an opportunity to

identify strategies of “engendering” energy, provide pointers for poverty alleviating schemes, and, finally, lay the foundation of an enabling environment in which each key stakeholder can explore and take advantage of its comparative advantage.

The publications seeks to:

- ❑ Provide critical and in-depth insights into the constraints women face in the energy sector and create an understanding of how these constraints impede sustainable livelihoods.
- ❑ Address gender and energy issues from a holistic perspective, taking into account other development sectors where contributions from men and women are visible and long lasting.
- ❑ Inform policy and act as a tool for more favorable gender-sensitive energy policies.
- ❑ Identify practical and sustainable energy options, which are economically viable, socially and culturally accepted, and environmentally friendly.

The regional scope of this project is on Africa, and its deliverables are as follows:

- ❑ Launching a book on gender and energy within an integrated development approach, reviewing current thoughts, analyzing project activities, and pointing out strategies and tools to address the key constraints of poverty.
- ❑ Linking a study or book as part of a database for a knowledge network on sustainable energy initiatives in Africa.
- ❑ Using case studies as a premise for policy briefs and link the studies to existing policies on gender and energy.
- ❑ Forming part of a wider network on gender and energy and identifying areas and opportunities for women through networking activities

Source of information: Summarized from ENDA Energy website; Networking Around the World,” *ENERGIA News* 4.4, December 2001; F. Denton, “Gender: The Missing Link to Energy for Sustainable Development,” *ENERGIA News* 5.1, April 2002. Reviewed by Fatma Denton.

Southern African Regional Poverty Network (SARPN)

Contact: [Tieho Makhabane](#)—Gender, Energy, and Development, South Africa

The Southern African Regional Poverty Network (SARPN) seeks to raise the level and quality of the public debate about poverty across the southern African development community. SARPN recognizes that in the development toward ensuring a sustainable energy future, the critical role of gender in society and the measures to combat poverty in the developing world are often discussed in isolation.

This gap was also identified by the Renewable Energy Information Network of Namibia (REINNAM) and EMCOM Consulting Group. The three organizations have entered into an alliance to critically discuss and debate the link between poverty and

energy in an integrated manner in regional public policy. This was also in view of the World Summit on Sustainable Development held in August 2002 in Johannesburg, South Africa.

To this end, the three organizations jointly sponsored the regional seminar “Poverty, Energy, Gender: The Missing Links in Regional Development and Poverty Alleviation Strategies?” which was held in May 2002 in Windhoek, Namibia. The objectives of the meeting were to assemble national and international experts, facilitate participation among a range of regional stakeholders, and evolve pragmatic ways in which poverty, gender, and energy could be integrated into development policy.

These stakeholders included decisionmakers, policymakers, and project coordinators from both government and NGO levels. The seminar aimed to highlight the correlation between gender, energy, and poverty by analyzing regional attempts at addressing these issues, building on mutual experiences, and devising replicable strategies.

Source: Proposed program for the regional seminar Poverty, Energy, Gender: The Missing Links in Regional Development and Poverty Alleviation Strategies.

Asia—Regional and National Nongovernmental Initiatives

This section lists some of the regional and national NGO activities in Africa. This list is not complete, however. Many more activities, for example, can be found in [ENERGIA News articles](#). We hope to add these in the future.⁹

The Asia Regional Cookstove Program (ARECOP)

URL: <http://www.arecop.org>

Contact: *Christina Aristanti*—Coordinator, ARECOP Secretariat

ARECOP was initiated in 1991 as a network of NGOs in Asia with a focus on improved cookstoves (ICs) and sustainable biomass fuel use. The network covers 14 countries in the Asia region:

- ❑ Bangladesh.
- ❑ Bhutan.
- ❑ Cambodia.
- ❑ China.
- ❑ India.
- ❑ Indonesia.
- ❑ Lao PDR.
- ❑ Myanmar.
- ❑ Nepal.

⁹ Information about activities not yet listed, or updates of those included in this report, should be submitted to Anja Panjwani <a.koerhuis@etcnl.nl>.

- ❑ Pakistan.
- ❑ Sri Lanka.
- ❑ Thailand.
- ❑ The Philippines.
- ❑ Vietnam.

ARECOP aims to be an active as well as responsive network that can facilitate improved cookstove program (ICP) development in Asia through communication and capacity building.

From the start, ARECOP recognized the interdisciplinary nature of ICPs and aims for integration with complementary programs on, for example, women, health, environment, agriculture, forestry, food technology, and kitchen management. The goals of ARECOP are:

- ❑ Enhancing the viability of biomass fuel as a manageable and ecologically sound energy resource for households, small-scale industries and institutions in Asia.
- ❑ Creating a strong network of communication and cooperation to ensure that the needs of biomass fuel users will continue to be addressed in the future.

Methodology for Participatory Assessment (MPA) on Improved Cookstove Program: Linking Sustainability and Demand with Gender and Poverty

One of ARECOP’s aims is to raise gender awareness in ICPs. The development of guidelines and tools for Gender Sensitive Participatory Monitoring and Evaluation (GSPME) of ICPs has been initiated by the ARECOP secretariat. The guidelines and tools are based on and adapted from various existing participatory planning, monitoring and evaluation methodologies. Following are the three main references used to develop the guidelines and tools:

- ❑ “Measuring Successes and Setbacks—How to Monitor and Evaluate Household Energy Projects.” Developed jointly by GTZ/HEP, ITDG, and FWD.
- ❑ “Methodology for Participatory Assessment (MPA).” Developed by the Water and Sanitation Program of the World Bank and the IRC International Water and Sanitation Center.
- ❑ “Participatory Hygiene and Sanitation Transformation (PHAST).” World Health Organization and UNDP–World Bank Water and Sanitation Program.

The guidelines and tools consist of two main parts. The first part focuses on project or program planning, the second on program monitoring. The part on monitoring is further divided into first, monitoring for and by users, and second, focusing on project management, conducted for and by program management stakeholders. These guidelines and tools are currently undergoing further development and testing in some of the ARECOP member countries.

The development objectives of GSPME guidelines and tools are:

- ❑ Improving the cookstove adoption rate.
- ❑ Getting women involved and providing them more opportunities to be involved in the decisionmaking process related to ICPs, from planning to implementation, as well as to monitoring and evaluation.
- ❑ More sustainable projects.
- ❑ Equity.

ARECOP had conducted a workshop and training on MPA for monitoring and evaluating ICPs, which provided feedback and early indications of the shortcomings. Training on MPA for planning ICPs also was conducted. As of now, the secretariat is working closely with resource persons to further improve the guidelines and tools, based on participants' feedback. Further development will be done through lessons gained from pilot projects to be organized in Indonesia and Cambodia. Vietnam also requested ARECOP for a training in MPA on planning ICPs, which was planned for October 2002. The training in Vietnam will also be followed up with pilot projects. The application of the guidelines and tools in the pilot projects will be valuable for ARECOP in improving both.

Source of information: "International Programs: Focus on ARECOP—The Second Phase," *ENERGIA News* 5.2, August 2002. Reviewed by Christina Aristanti.

All India Women's Conference (AIWC)

Contact: *Lalita Balakrishnan*—Secretary-General

The All India Women's Conference (AIWC) is one of the oldest women's organizations in India working toward the emancipation and empowerment of women. It is a national NGO, actively propagating nonconventional energy sources and devices throughout India through its 500 branches all over the country and through other agencies working at the grassroots level. AIWC's activities have obtained community support and participation.

National Program on Improved *Chulha* (NPIC)

In 1985 AIWC was identified as a nodal agency to propagate improved stoves under a nationally funded program. Realizing the importance of the program in improving the quality of life of rural women, AIWC created a separate Rural Energy Department on a permanent basis in 1985.

The activities of the improved *chulha* (traditional Indian woodstove) program consist of:

- ❑ Training of trainers.
- ❑ Demonstrations.
- ❑ Training of local women in their own villages.

- ❑ Extension work.
- ❑ Monitoring and feedback.

AIWC has trained thousands of women, who have gained self-esteem and respect in their communities by earning a decent income either through constructing improved *chulhas*, or by taking up income-generating activities during the time saved by the use of improved *chulhas*.

Where AIWC branches find it more and more difficult to visit their areas of operation as often as they should, with only a few branches continuing the extension program, there are other NGOs (partner NGOs in the biogas program described below, and other NGOs) who started undertaking this activity. The main reason for this is that those NGOs can more easily combine their biogas activities with dissemination of the improved *chulhas* and make the required visits to the project area for survey, implementation, monitoring, and so forth.

The improved stoves activities have led to the installation of 200,000–300,000 stoves, training of thousands of women and more than 150 10-day training courses.

In order to also address problems related to rising costs of fuel and the health problems caused by smoke release from cooking, AIWC has also been conducting awareness and training programs on biogas and solar cookers, solar water heaters and dryers, solar chicken brooders, PV lanterns, stand above lighting systems, and so forth throughout the country.

National Project on Biogas Development (NPBD)

Since 1996 AIWC has been made a Nodal Agency for the implementation of the National Project on Biogas Development. Like the activities of the NPIC, activities of this biogas program centered around training of trainers, demonstrations, training of local women in their own villages, extension work and monitoring and feedback.

The last few years' experience of implementing the NPBD has brought out the following points:

- ❑ Housewives and farmers who use the biogas feel that the cow dung is better utilized.
- ❑ Many of the houses they use for cooking as well as lighting. Some have also such arrangements by changing the connection pipe they could use either of them.
- ❑ Earlier only men were taking interest. Slowly women are also getting involved.
- ❑ AIWC has done a large number of toilet linked biogas units in which people use without hesitation. The organization also facilitated toilets attached to biogas in schools.

The results at the end of the year 2000 show that 1,228 biogas plants were constructed, that 30 biogas user training courses and four biogas construction and maintenance training programs were held.

Solar Thermal Devices

Since its inception, the AIWC Rural Energy Department has been conducting awareness programs of solar thermal devices throughout the country, after training AIWC members through the training of trainers program. Practically all states in India have been covered.

Since the last few years, AIWC has also started implementing the solar lantern and home lighting systems for which demand is growing.

At the end of the year 2000 it was seen that 1,000 PV lanterns, and 375 SHSs were installed. Further there had been 50 solar cooker demonstrations and promotion materials on solar cookers had been published.

In addition, realizing the importance of energy conservation, AIWC has been conducting awareness programs for women and rural people suggesting various ways of oil conservation as well as energy saving throughout the country. For this the AIWC branches and partner NGOs use many innovative methods such as folk media, songs and skits, demonstrations and site visits.

AIWC is also part of various RET networks. It collaborates with a number of groups and institutions specialized in RETs and draws the required expertise and specialists as and when required.

Lessons Learned

While conducting these programs, AIWC has learned some useful lessons:

- ❑ Wherever the women have been given pre-installation demonstrations and the necessary training in the usage, maintenance and even in construction the programs have been successful and sustainable.
- ❑ It has been established that NRSE could be a tool in the empowerment of women. AIWC's experience, gained over a decade, indicates that though there is a resistance to total change, in the course of time, by appropriate interventions and training, more women could be encouraged to adopt the use of NRSE devices.
- ❑ Contrary to the general belief, AIWC's experience, since implementing the NPIC program in 1984, has shown that the women beneficiaries and the self-employed workers (those trained to construct the mud stove in other houses) perceive the improved cook stove as a health program first, then as a provider of self-confidence and added income, and also as a means of reducing drudgery and saving time.

AIWC Plans for the Future

AIWC is striving to integrate renewable energy with a microcredit program. Once they have some money in their hands, the poor rural women could make their own choice of fuel and stove, woodstove or biogas, it has been proved that they are credit worthy and return their loan in full without delay. AIWC therefore wishes to start a microcredit program for poor women in India through networking of AIWC's 500 branches.

AIWC is further trying to create a whole cadre of women and youth—“barefoot technicians” who will be able to install, maintain, service and repair the devices at the village level itself.

Source of information: "Women's Participation in NRSE Technologies—AIWC Experience" by Lalita Balakrishnan, in: *IREDA News* Vol.12, no.3, July–September 2001, 21–28.

Center for Rural Technology, Nepal (CRT/N)

URL: <http://www.panasia.org.sg/nepalnet/crt/home.htm>

Contact: *Gyami Shrestha*—Program Officer

The Center for Rural Technology, Nepal (CRT/N) is a professional nongovernmental organization. It is engaged in developing and promoting appropriate technologies effective in meeting the basic needs of the rural mass and improving their life support systems. Initially it was established in August 1989 under the Company Act. CRT has now been registered with His Majesty's Government of Nepal (HMG/N) under the Society Registration Act from October 1998. It is actively engaged in upgrading traditional technologies and also developing new technologies to make it more diversified and versatile to meet rural needs.

Aims and Objectives

- ❑ To promote appropriate technologies that will respond to basic needs of the people and create opportunities to improve the quality of life and economic condition of the people.
- ❑ To conduct adoptive and action oriented research on indigenous and improved technologies.
- ❑ To train and transfer technical information and know-how on the production, installation and management of appropriate technology.
- ❑ To assist in the development of technical and institutional capabilities for the application of science and technology for sustainable development.
- ❑ To provide technical support and consulting services in the field of energy and environment.

Fields of Operation of CRT/N

- ❑ Renewable energy technology development.
- ❑ Environment and natural resource management.
- ❑ Small-scale irrigation management.
- ❑ Sustainable agricultural system development.
- ❑ Rural sanitation and low-cost housing.
- ❑ Organization of training and workshop.
- ❑ Dissemination of information and networking.
- ❑ Technology for women and microenterprise development.

Operational Mechanism

CRT/N maintains close links with key technology researchers, developers, promoters and users at the national, regional and international level. It also keeps close links with agencies and professionals as well as development volunteers who are willing to collaborate with this Center. It further provides support services and motivates local community members to participate in technology need assessment development and its utilization.

CRT/N also provides assistance in conducting training and workshops for project staff and grassroots community leaders, promoters to develop and enhance their technical capability especially on the application of rural technologies such as improved cooking stove, solar technologies, microhydro, improved water mill, improved latrines, small scale irrigation, briquetting, composting and other income oriented technologies suited to the village and community development.

Further, CRT/N provides necessary technical support to Governments, NGOs, international nongovernmental organizations (INGOs), Grassroots Organizations as well as the users for the promotion and dissemination of appropriate technologies. The Center carries out studies, surveys and assessments for individuals, institutions, INGOs and NGOs covering a diverse range of appropriate/rural technologies.

CRT/N organizes study visits to familiarize with specific technologies that are being used successfully in various parts of the country. It provides a forum for the exchange of ideas and experience to planners, researcher, promoters and community members engaged in the development, promotion and use of appropriate technologies.

CRT/N collects, processes and disseminates information on rural technologies in conjunction with its documentation unit. It establishes formal and informal networking with national and international agencies to facilitate information dissemination, technology transfer and experience sharing on appropriate/rural technologies.

Also, the Center publishes:

- ❑ Newsletters.
- ❑ Illustrated manuals.
- ❑ Case studies/stories.
- ❑ Technical brochures.
- ❑ Operational guidelines.
- ❑ Books on the appropriate technologies for their practical application by:
 - ❑ Project officials.
 - ❑ Grassroots technology users.
 - ❑ Beneficiaries.

The technologies CRT/N mainly promoted and disseminates are as follows:

- ❑ Improved cookstoves.
- ❑ Improved water mills.
- ❑ Improved latrines.

- ❑ Solar cookers.
- ❑ Solar dryers.
- ❑ Briquetting.

Gender and Energy

Women are mainly reached through the promotion and dissemination of locally made improved cookstoves (ICs). This activity is carried out by CRT in collaboration with government institutions, such as the Alternative Energy Promotion Center, Women Development Division, INGOs, and NGOs with close links with grassroots organizations and local community members (especially women). The goal is to improve users' health, sanitation and reducing the fuelwood consumption and burden of fuel wood collection. ICS has now been integrated into the Kitchen Improvement/Management activities to achieve the benefits as mentioned above.

CRT has conducted a number of field-based orientation, demonstration and training programs for local promoters, community workers and users in order to transfer the stove building technology and strengthen local capability. The local promoters have helped promotion and dissemination of ICS locally in rural areas of Nepal through different community development projects undertaken by various institutions.

CRT makes constant follow-up and monitoring visits in order to effectively deliver the technology to the local promoters and users. CRT has also prepared information material and technical guidelines on Improved Cook Stove construction and dissemination as a tool for the transfer of technology.

An ICS Network formed among the organizations, has been actively participating toward the promotion and dissemination of ICS in the rural areas of Nepal. It is estimated that with active participation of all the Network members, more than 88,000 ICS have been disseminated in the country since 1980.

Initiation of a National Network on Gender and Energy in Nepal

In March 2002, the CRT organized an informal meeting to discuss gender issues with regard to energy and water in Nepal. The objectives of the meeting were to:

- ❑ Share experience with regard to gender issues in energy and water management at both household and community level.
- ❑ Get an overview of the ENERGIA Network and its program.
- ❑ Discuss the establishment of a national network on gender and energy in Nepal.
- ❑ Plan future action required.

After an overview of some of the issues on gender related to the energy and water sectors, there was a brief discussion on gender problems and issues in relation to water and energy. Presentations were given about ENERGIA and also one on a proposal for a national consultation workshop on gender and energy/water. The proposed objectives of this workshop are:

- ❑ Identification and review of programs, organizations, and individuals involved in gender, energy and water.
- ❑ Formulation of a national action plan for gender mainstreaming in the water and energy sectors.
- ❑ Creation of an active national network on gender and energy/water in Nepal.

The meeting decided that this national consultation workshop would be held May–June 2002. Points for discussion were the question whether or not to include the water sector, as the water sector is very broad encompassing a wide range of issues, for instance drinking water and irrigation. Some participants also expressed their concern that resources (funds, but also information) need to be found and that a framework needs to be prepared for the national consultation workshop. A working group was thus formed to plan the workshop.

CRT is actively involved in the UNEP-ICIMOD Project on Women in Energy and Water Management since April 2002. This project strives for integration of women in the water and energy sector in the rural hill and mountain areas, employing a pro-environment and a pro-poor approach. Capacity building of women and women groups for the realization of this goal is the primary activity envisaged. For more information about this project activity, the reader is referred to the write-up on UNEP.

Source of information: Summarized from CRT/NP website, and from March 2002 informal meeting report. Reviewed by Gyami Shrestha.

Grameen Shakti

URL: <http://www.grameen-info.org/grameen/gshakti/>

Contact: *Mujibur Rahman*—General Manager

The Grameen Bank has gained worldwide renown for its microcredit programs with women's groups. Grameen Shakti belongs to the Grameen family of companies, and started operation since 1996 as a renewable energy company. It is currently implementing projects in PV electrification, wind energy, and biogas. The PV program installed 7,074 SHSs up to January 2002 and plans to install 10,000 systems within the next 2 years. Soft financing is provided and most entrepreneurs are encouraged to apply PV systems for generation of income. Although most applications of the technology have been by men in their businesses, GS believes that the systems are benefiting women as well.

Development of Renewable Energy Resources for Poverty Alleviation

Only 30 percent of the population is receiving grid electricity in Bangladesh. There is no possibility of connecting all the homes of remote villages and isolated areas, business centers and other establishments, to the grid system in the near future. Renewable energy could be an effective alternative to fulfill the demand for electricity. The main aims of Grameen Shakti are to promote and supply renewable energy resources to the rural households in Bangladesh by:

- ❑ Popularizing and delivering renewable energy to the rural households.
- ❑ Marketing solar, biogas and wind energy on commercial basis, focusing on rural areas.
- ❑ Providing services that alleviate poverty and protect environment through applied research and development of renewable energy-based technologies.
- ❑ Undertaking a project to progressively manufacture and market efficient and affordable household-based PV systems.
- ❑ Implementing projects to generate electricity from wind in the coastal belts and offshore islands; operate mini and microhydro-plants in the hilly areas.
- ❑ Developing and implementing special credit, savings and investment programs for generation, storage, and utilization of renewable energy for benefit of the rural people.
- ❑ Testing the new and appropriate technologies to provide more cost effective energy services at affordable price to the unelectrified areas.
- ❑ Providing capital, technology and management services to energy enterprises, including individuals, communities, businesses, nongovernmental organizations (NGOs), private voluntary organizations (PVOs), which promote, produce, and finance enterprises based on renewable energy sources.

The main strengths of Grameen Shakti are:

- ❑ Its network in the rural areas to disseminate new technologies.
- ❑ It can capitalize on the networks of Grameen Bank to reach millions of people quickly.
- ❑ Technical capacity to design, develop and re-engineer technologies.
- ❑ Commercialize the new products and technologies.

Photovoltaics Program

Grameen Shakti has installed 7,074 SHSs up to January 2002 with installed capacity of 352.48 kWp. It has a plan to install 10,000 systems within the next 2 years. For this purpose Shakti has already opened 44 branches. This network allows Grameen Shakti to quickly disseminate and commercialize any improvement in the technology. Since the systems are expensive for the rural people Grameen Shakti has introduced a soft

financing systems for the customer. GS has linked this technology to some income-generating activities as well.

Financing policy of Grameen Shakti

GS finances the customers of SHS. GS offers various modes of payment for those who want to buy the system on credit or in cash:

Mode 1: The customer has to pay 15 percent of the total price as down payment. The remaining 85 percent of the cost are to be repaid in monthly installment within 36 months with 12 percent service charge.

Mode 2: The customer has to pay 25 percent of the total price as down payment. The remaining 75 percent of the cost are to be repaid in monthly installment within 24 months with 8 percent service charge.

Mode 3: 4 percent discount is allowed in case of cash purchase.

Income-generating activities through photovoltaics

Customers of Grameen Shakti are using PV systems mainly for lighting and for recreational purposes (watching TV). However, the solar system has created the possibility for income-generating opportunities for small entrepreneurs. Grameen Shakti encourages entrepreneurs to apply PV systems for generation of income. Some examples of application of PV systems for income generation include the following:

- ❑ Education.
- ❑ Charging cellular phone.
- ❑ Lighting rice/sawmill.
- ❑ Lighting tailoring or grocery shop.
- ❑ Lighting clinic.
- ❑ Lighting restaurants.
- ❑ Bazaar.
- ❑ Microutility (selling power to neighboring shop).
- ❑ Radio/TV repairing shop.

Impact of photovoltaic on users: especially on women

More than 6,000 SHSs have already been installed in different places of the country. Children's education and other activities of houses have improved because of better quality of light. Buyers reported increase in income by extending working hours after dusk. Productivity has also improved because of the use of computers through PV systems. Besides, PV systems have opened up new opportunities for employment. Living standard of our customers is also improving.

Other programs by Grameen Shakti

Wind Energy Program

Grameen Shakti is conducting research to utilize wind energy in the coastal areas of Bangladesh. GS installed 4 hybrid power stations (combination of wind turbine and diesel generator) in four cyclone shelters, of which three are 1.5 kW and one is 10 kW. Appliances used with these systems are lights, fans, televisions, water pumps, and incubators. The present phase of the program will allow Shakti to gather financial and technological information for possible future expansion in other places.

Biogas Program

Cow dung is widely used as fertilizer and cooking fuel. But the fire and smoke from cow dung create health hazards. Besides indiscriminate cutting of trees for firewood has created environmental problems. Grameen Shakti is promoting the use of biogas for cooking and for using residues in the field and in the ponds as an alternative to chemical fertilizer.

Training Program

GS impart training to develop technicians on PV installation and maintenance in order to create employment for the local people. The training program has several dimensions: transferring of technologies and developing skilled technician-cum-retailer in the rural areas, and educating the rural people in renewable energy technologies and popularizing the use of renewable energy. Grameen Shakti already trained 300 technicians under its PV program. So far 2,500 customers have been trained.

Research and Development Program

The research program covers four distinct areas:

- ❑ Exploring ways to develop appropriate technologies and their uses.
- ❑ Developing ways to popularize and making the renewable energy systems easily accessible to large number of households and institutions.
- ❑ Innovating financial services for the customers to facilitate rapid expansion of use of renewable energies.
- ❑ Developing and fabricating the solar accessories (such as charge controllers, lamps, and dc to dc converters) locally in order to reduce the total system cost. Grameen Shakti has SHSs of various sizes using solar modules ranging from 10 Wp to 225 Wp. Customers can also have a customized system according to their energy demand.

Source of information: Summarized from Grameen Shakti website. Reviewed by Mujibur Rahman.

International Centre for Integrated Mountain Development (ICIMOD)

URL: <http://www.icimod.org.np/>

Contact: *Phuntshok Tshering*—Gender Specialist (Gender Program); *Dr. Kamal Rijal*—Renewable Energy Specialist (Energy Program)

ICIMOD was established in 1983 as an independent international center, with the mission to help promote the development of an economically sound mountain ecosystems and to improve the living standards of mountain populations in the Hindu Kush–Himalayas (HKH).¹⁰ Problems of poverty, soil degradation, deforestation, and overgrazing are common, while desertification in the arid and semiarid western areas and soil degradation under shifting cultivation in the humid eastern areas of the HKH are examples of location-specific problems.

Within the overall mandate of poverty alleviation and environmental conservation, ICIMOD's statutes include four specific tasks:

- ❑ To be a multidisciplinary center for documentation on integrated mountain development.
- ❑ To be a focal point for the mobilization, implementation and coordination of applied and problem-solving approaches.
- ❑ To be a focal point for training on integrated mountain development.
- ❑ To be a consultative center for providing expert services on mountain development to the countries of the HKH Region.

From the start of ICIMOD activities, gender issues have been considered in most of the projects, realizing that mountain women suffer most from drudgery, not only from the collection of fuelwood, fodder, and water (including their large contribution to farming land) because of the topography, but also because of the increasing number of female-headed households because of the relatively high migration of men to earn cash income compared to their counterparts on the plains. Besides this, women in hill and mountain areas are subject to various risks and hazards associated with the fragile ecosystems and the rapid deforestation and desertification. Participation of women in decisionmaking, and their access to and control over resources, technologies, and information varies across the HKH Region (Gurung 1999).

¹⁰ The Region consists of hill and mountain areas of Afghanistan, Pakistan, India, Nepal, China, Bhutan, Bangladesh, and Myanmar, extending 3,500km from the west to the east and sustaining approximately 150 million people.

Highlights on gender, renewable energy, and natural resource management

ICIMOD embarked on a four-year (1995–98) Regional Collaborative Program (RCP-1), with distinct objectives, outputs, and activities. It changed its style of operations from a project-driven to a program and demand driven one. This provided an opportunity to systematically integrate gender issues into all ICIMOD programs. The main foci were:

- ❑ Farming households and privately owned land.
- ❑ Natural resources owned/managed by governments and/or communities.
- ❑ Diversifying mountain economies.
- ❑ Geoinformatics for sustainable development.
- ❑ Sharing new knowledge and information.

The highlights of selected programs are as follows:

- ❑ Mainstreaming gender in program activities, and at ICIMOD and partner institutions: ICIMOD has developed a strong program for mainstreaming gender with 14 partner institutions in the region, and made proactive attempts to incorporate gender issues in all program activities.
- ❑ Himalayan Grassroots Women's Natural Resource Management Association (HIMAWANTI): This network is a response aimed at closing the organizational gap regarding the needs of women resource managers, primarily in forest and fuelwood, and fodder management.
- ❑ Renewable energy and gender: Concerted efforts have been made through workshops and seminars to influence policy and decisionmakers to integrate gender issues in the dissemination of different renewable energy technologies.
- ❑ Improvements in the conditions of women in mountain farming: A number of review studies were carried out based on the selection of aspects of the conditions affecting women in mountain areas and in agriculture. This has provided many valuable findings that have been disseminated through publications (for example, *Searching for Women Voices in the Hindu Kush–Himalayas*) and meetings.

The main focus during RCP-I was primarily on women issues, but given the situation in the mountain areas of the developing countries, it was realized that gender issues could probably be appropriately tackled by looking at both the male and female members of the community since the “hidden” resistance of male members had been noticed. It was therefore thought appropriate to look at both male and female members; and in many cases sensitize male members with regard to gendered needs and roles, and how these relationships are unequal, and then allow them to identify gaps and appropriate interventions to reduce existing gaps.

The lessons learned during RCP-I were enormously valuable in helping the Center to move on to the next four-year programming phase (1999–2002), particularly in relation to gender issues. The second Regional Collaborative Program (RCP-II) identified the

following gender-related program with a specific thematic focus on “Gender Balanced Mountain Development” on a par with other thematic areas.

- ❑ **Mainstreaming gender:** Integration of gender in decisionmaking process and organizational development related to natural resource management and social development.
- ❑ **Children and mountain development:** Exploring opportunities for improving their future.
- ❑ **Improved labor-saving options for mountain women:** Reducing drudgery and workloads in mountain areas.
- ❑ **Women entrepreneurs and professionals in mountain areas:** Promoting and facilitating the expansion of professional skills among mountain women and also their entrance into positions of professional importance and in the commercial sector.

Besides this, the Gender Policy of ICIMOD requires each program formulation and implementation to address gender issues, which are then reviewed by the Gender and Development Committee.

Improved labor-saving options for mountain women

ICIMOD has commissioned a series of studies on women and improved labor-saving options in the hill and mountain areas of China, India, Nepal and Pakistan. The purpose of these studies was to explore options, which would not only reduce their workload and save time and energy but also provide alternative economic and productive activities.

The synthesis of the studies concludes that women’s well-being in the hills and mountains depends to a large extent on the wellbeing of the mountain ecosystem. The workload of women is crucially dependent upon the health of the ecosystem. The more robust and healthy the linkages between the subsystems of the mountain economy are, the easier it is for women to perform their everyday functions, both productive and reproductive ones. At the same time, unless work is done with sectors other than forestry, forest degradation cannot be contained.

Development interventions, since most mountain characteristics are interlinked because of their broadly common causes and externalities, must be looked upon as an integrated system and not dealt with in isolation. This is now being realized by many NGOs within the HKH Region who are advocating integrated programs and projects rather than technology-based interventions targeted at a particular sector. (*Soma Dutta, 2001, Program Development in the Areas of Improved Labour Saving Options for Mountain Women, Draft Report, Prepared for ICIMOD, Kathmandu*)

Other efforts to integrate gender in ICIMOD programs

Action research on *community-based energy planning and management* gave special emphasis on addressing women’s issues in a holistic manner. The approach was based around participatory action research to help identify communities’ needs and the most

appropriate way of satisfying them, with priority given to addressing women's issues with appropriate sensitization programs for the male members of the communities. Action research exercises were carried out with local communities and NGOs in Nepal, China, India, and Pakistan from 1999 to 2001 through national partner institutions.

The experiences and lessons learnt resulted in designing a program on Incorporating Needs and Roles of Women for Energy and Water Management Practices in the Himalayas, and was supported by UNEP (for further details refer to *ENERGIA News* 5.1). The Tata Energy Research Center is implementing this program in selected districts of Uttaranchal and Himachal Pradesh in India. The Center for Rural Technology is implementing it in the Palpa and Dhankuta districts of Nepal, and the Royal Society for Protection of Nature is implementing the program in Wangdi and Ha districts of Bhutan.

The program on *sustainable water harvesting technologies and management systems* built 12 rooftop water harvesting systems with the participation of 9 households, in villages of Kavre Palanchowk district of Nepal. Six months after installation, the program commissioned a study on the effectiveness of the systems. Before they were installed, women and girls spent many hours each day fetching water. They worked an average 17 hours a day, whereas in comparable areas with easy access to water the women worked for only about 11 hours a day. The women in the participating households were found to work about 6 hours more than their male counterparts and had little leisure time. Only about 25 percent of them had basic literacy skills.

The installation of the rooftop rainwater harvesting systems had considerably reduced the women's workload during the six months of the monsoon and other rainy periods. Women now took only five minutes to fetch a bucket of water, rather than an hour as previously. The women were extremely pleased with the new systems; they saved almost one labor workday per household per day during six months of the year, and the women had some leisure time—at least during the wetter season. Above all, the women said that the main benefit was that they no longer had to get up as early as 4 a.m. to fetch water.

Further reading

Gurung, J (1999), *Searching for Women's Voices in the Hindu Kush–Himalayas*, Kathmandu: ICIMOD.

ICIMOD (2001), *Selected Project Profile of ICIMOD*, Kathmandu: ICIMOD

ICIMOD (March 1999), *Partnerships in Sustainable Mountain Development 1995–1998: Highlights of the Implementation of the First Regional Collaborative program for the Sustainable Development of the Hindu Kush–Himalayas*, Kathmandu: ICIMOD.

ICIMOD (April 1998), *Mountains 2000 and Beyond: Second Regional Collaborative Program for the Sustainable Development of Hindu Kush–Himalayan Region (RCP-II, 1999–2002)*, Kathmandu: ICIMOD.

ICIMOD (2001), *ICIMOD Annual Reports 2000*, Kathmandu: ICIMOD.

Source of information: "International Programs: Focus on ICIMOD on Gender , Sustainable Energy and Water," *ENERGIA News* 5.2, August 2002. Reviewed by Kamal Rijal.

Creating Awareness of Energy Conservation and Renewable Energy among Women in Vietnam, Lao PDR, and Cambodia

Contact: [Lisa Surprenant](#)—Coordinator Public Relations and Marketing, VECF (Vietnam)

The three-country project "*Creating Awareness of Energy Conservation and Renewable Energy Among Women in Vietnam, Lao PDR, and Cambodia*" was designed by Foundation Energy Development and Planning (Foundation EDP, Netherlands) to generate interest, assess awareness, and gain necessary feedback from women and primary energy users. The project received funding from DGIS (Netherlands) and the Swedish International Development Cooperation Agency (Sida) in Phase I (1999–2000), and by Sida and Foundation EDP in Phase II (2001–02).

The project's aim was to increase household energy awareness in women as a means to empowerment. The project was conceptually three-tiered:

- ❑ **Locally:** Increased *time or money* from conservation would encourage women to gain literacy or numeric skills, generate income, socialize, or improve child-rearing—any of which could lead to increased equality.
- ❑ **Nationally:** Capacity building using *mass organizations* like women's unions would be a robust activity with which these agencies have extensive experience—making them well suited to become in-country project managers.
- ❑ **Regionally:** Active "*south–south*" cooperation between developing countries of similar economic characteristics and development trajectories would enhance regional expertise—making this project more sustainable.

Foundation EDP brought Vietnamese, Lao, and Khmer women's organizations together to implement the project. The Vietnam Women's Union (VWU), the Lao Women's Union (LWU), and the Cambodian Women for Peace and Development (CWPD) worked together and managed their in-country teams. All in-country teams shared these commonalities:

- ❑ Each implementing organization viewed women as key "motivators" in the delivery of primary household revisions (such as conservation, technologies, or techniques).
- ❑ Each in-country team viewed energy systemically (even though it is often integrated with other social services) and regarded household energy revisions as entry points for increased gender equity.
- ❑ Each in-country team illustrated a willingness to pioneer nonhierarchical and nondidactic ways to educate and communicate with stakeholders about fuel-use efficiency.

The organizations had limited energy expertise at the project's inception. The Vietnam Women's Union acted as vanguard to the three since they had been trained through the Vietnam Energy Conservation Program (VECP) of the Ministry of Science Technology and Environment (MOSTE) in Hanoi. They therefore started building the capacity of LWU and CWPD cadre and staff in energy conservation.

Each country team developed a range of brochures, women's "motivator" manuals, children's books on energy and the environment, radio and television programs, undertook surveys, provided training in energy conservation awareness, and participated in study tours to the home countries of their "sisters."

Before suggesting changes to operations at the household level, it was critical that each working group understood the stakeholders' daily lives. A survey questionnaire was designed, which took place in 8 urban provinces in Vietnam, Lao, and Cambodia during Phase I and in 15 rural, remote, and hill tribe provinces in Vietnam, Lao, and Cambodia during Phase II. The survey queried the beliefs, biases, motivations, delimiting factors, and a range of impacts that might affect a woman's ability to effectuate changes in her household or in her community. These impacts were later addressed in the materials and public relations campaigns.

The correctness of using the women's mass organizations was proven by their efficiency in distributing documents through their organizations and their effective mobilization of other entities with equally broad community outreach. An additional benefit was that each "three sisters" organization had the support of their government and was trusted within their political framework.

To lay the groundwork for changes in household energy use, each team undertook training stakeholders. Women from the village to the provincial level became "primary motivators" accepting the responsibility for training others and assuming the roles of energy experts. Those who felt they could not become trainers became "secondary motivators" agreeing to train another individual, increasing the multiplier effect.

Through study tours, the "three sisters" gained first-hand knowledge of the implementation impediments and advantages in the other sisters' countries. More than 9,000 households in Vietnam, Lao, and Cambodia were surveyed. Nearly 1,000 "primary motivators" in three countries have been trained with another 5,000 "secondary motivators" trained. Upon project completion, an estimated task force of approximately 11,000 women will have been advised. More than 5,000,000 households have been directly contacted while another 50,000,000 people have heard radio broadcasts, read newspaper articles, or viewed the television broadcasts produced under this project.

In Lao and Cambodia, the "three sisters" project led to the spontaneous creation of the Lao Energy Conservation Program (LECP) and the Energy Conservation Program of Cambodia (ECPC). Another sign of the project's effectiveness was the high level of cooperation by the local government agencies and electricity companies who joined the

in-country project teams. And in all countries, the television, radio, and news media exhibited keen interest in airing or publishing materials the teams developed.

Through this project, the “three sisters” have helped women attend to their basic needs, enhance their life skills, and stimulate energy conservation using *strategies the stakeholders helped design*. Future directions for the “three sisters” being planned by Foundation EDP and for which additional funding is being sought are initiatives in barter-based microfinance, kitchen design kits, and trades of women’s knowledge for technologies or training.

Source of information: Lisa Surprenant and Do Hoang Le Cam, “Three Sisters’: Women’s Organisations in Vietnam, Lao PDR, and Cambodia Conserve Energy and Empower Women,” *ENERGIA News* 5.2, August 2002.

Latin America—Regional and National Nongovernmental Initiatives

This section lists some of the regional and national NGO activities in Africa. This list is not complete, however. Many more, for example can be found in [ENERGIA News articles](#). We hope to add these in the future.¹¹

Central America Regional Electricity Project (PREEICA)

URL: <http://www.cnee.gob.gt/asegica>;
<http://www.preeica.ca/equidad%20de%20genero.htm>

Contact: [Gloria Hanff](#)

The Central America Regional Electricity Project (PREEICA), financed by the Canadian International Development Agency (CIDA), is implementing a series of initiatives aimed at ensuring an equitable participation of women and men in government agencies and private sector organizations that generate, distribute or regulate energy resources as well as ensuring that women in general share in the benefits of their programs. These activities are being carried out as part of the larger \$25 million five-year project whose aim is to assist Central American countries in implementing a wide-ranging reform program in the energy sector. This program is expected to lead to improved efficiency, private sector participation, and improved predictability and equity in supply. It will also help these countries to take advantage of the cost savings possible through regional collaboration in electricity.

PREEICA is being implemented by a joint venture comprised of SNC-Lavalin International Inc., Acres International Ltd., the Manitoba Hydro-Electric Board and Sigma VI/Universal Management Group, in association with Stikeman Elliott and Ernst & Young.

¹¹ Information about activities not yet listed, or updates of those included in this report, should be submitted to Anja Panjwani <a.koerhuis@etcnl.nl>.

The project aims at maximizing its effectiveness, by working with partners who provide guidance with respect to the cultural context in the region, identifying champions at decisionmaking levels that act as gender equality promoters and working with Canadian and local experts who understand that improving gender equality, as any social process, is not easy and requires persistent cumulative efforts over time.

PREEICA has carried out an analysis of the situation of women in a number of partner institutions in Guatemala, Nicaragua and Honduras. The challenge in carrying out an institutional diagnosis was to help women to speak frankly about their problems. The sessions were held in confidence, and a wide-ranging sample of women with different educational levels were consulted. The results of the diagnosis were similar in all three countries: female employees had to continually prove themselves to their male colleagues; mistakes were not tolerated; their bosses took credit for their successes and they received no recognition; and access to promotions and training was low. The women often found they were excluded, frequently because of their roles as wives and mothers. They identified the need to have access to technical training to be competitive with male workers.

Sensitization sessions were subsequently held in Honduras and Guatemala. The sessions have taken various forms, from informal meetings to discuss the results of the analysis with men and women decisionmakers to two-day workshops on diversity and gender equality in the workforce for senior managers. The workshops focus on diversity management within the scope of the development of their human resources. Gender equality initiatives are introduced as an essential component of a larger diversity strategy. Participants to the workshops analyze aspects related to diversity and gender equality from their own experiences and are exposed to the experiences of Canadian organizations involved in the generation and distribution of electricity.

These workshops are planned and delivered with the aim of ensuring a commitment from participants to address gender equality issues within their institutions. PREEICA then supports the development of specific actions and provides coaching during their implementation. For example, in Honduras, PREEICA provided technical advice and support to individuals from senior and intermediate levels for the development of a Gender Equality Policy and Action Plan for the *Secretaría de Recursos Naturales*. The Action Plan, which incorporates organizational and management elements, aims at strengthening the *Secretaría's* capacity to implement the Policy and to train its personnel on gender equality issues to ensure sound development practice. The Policy and Action Plan were developed in consultation with the *Instituto Nacional de la Mujer* (INAM). PREEICA will provide support for the presentation of the Policy and sensitization on gender and energy to the new Cabinet.

At a regional level, PREEICA supported the establishment of the *Asociación del Sub-sector Eléctrico de Equidad de Género del Istmo Centroamericano (ASEGICA)*. The objectives of the Association are, among others, to promote gender equity initiatives

within organizations linked to the electrical sector, aimed at advancing women's equal participation with men in the sector.

This year's activities will build on the work done to date and are geared to strengthening ASEGICA, by providing support in the implementation of their Regional Action Plan, including provision of experts for the delivery of training on "gender, energy and rural development" and for sensitization sessions on employment equity for decisionmakers, as well as training on employment equity theory and application for individuals working in human resources. PREEICA has designed a [website](#), which was recently launched by the Association. A regional meeting to discuss gender, energy policies and sustainable development is being organized to take place toward the end of the year. The rural electrification component of PREEICA has incorporated gender equality concerns within the rural electrification policies that have been developed and will support partner initiatives in Guatemala to develop a pilot project for improving women's economic alternatives.

Source of information: "[The Power to Change: Women and Energy in Central America](#)" by Gloria Hanff and Diacuy Mesquita, September 2001. Reviewed by Gloria Hanff.

3

International Nongovernmental Initiatives

This section lists international NGO initiatives on energy, poverty and gender. This list is not complete, however. Others, for example can be found in [ENERGIA News international features](#). We hope to add these in the future.¹²

Winrock International Renewable Energy Program

URL: <http://www.winrock.org>

Contact: [Jamal Gore](#)—Program Associate Clean Energy Group; [Johanna Gregory](#)—Program Associate Clean Energy Group

Winrock International is a United States–based international nonprofit organization that works with people around the world to increase economic opportunity, sustain natural resources, and protect the environment. Winrock International matches innovative approaches in agriculture, natural resources management, clean energy, and leadership development with the unique needs of its partners. By linking local individuals and communities with new ideas and technology, Winrock International is increasing long-term productivity, equity, and responsible resource management to benefit the poor and disadvantaged of the world.

Winrock’s international network of [Renewable Energy Project Support Offices \(REPSOs\)](#) is part of a strategy to help local people find appropriate and environmentally sustainable solutions to their energy and income needs. These offices, managed as local organizations in coordination with Winrock International, foster cooperation between government agencies, private enterprises, nonprofit organizations, and communities in common pursuit of harnessing proven technologies for sustainable energy development. Each REPSO provides technical and financial support services to small businesses, NGOs, communities, and others to promote development of renewable energy programs, equipment, and services. Offices operate in Brazil, Guatemala, India, Indonesia, Nepal, Mexico, South Africa and the Philippines, and are being developed in China and Peru.

GENES

Winrock has worked through its Brazil and Central American REPSOs to build networks aimed at fostering regional exchange of information and experience on the gender-energy

¹² Information about activities not yet listed, or updates of those included in this report, should be submitted to Anja Panjwani <a.koerhuis@etcnl.nl>.

nexus. Workshops in Guatemala in 1996 and Brazil in 1997 initiated a process of awareness-building from grassroots organizers and NGOs to government decisionmakers and donors, laying the groundwork for establishing an NGO network in Bahia, Brazil, and a multi-institutional, cross-sectoral network in Central America and Mexico. The *Mesoamerican Gender in Sustainable Energy (GENES) Network*, founded in 1998, represents more than 50 organizations. GENES has undertaken activities in exchanges, information dissemination, local and internal gender capacity building, and inputs to national gender policy. With the support of the *Energy Sector Management Assistance Programme (ESMAP)*, GENES is currently (summer 2002) conducting a series of bi- and trilateral gender and energy workshops in the region to increase capacity within GENES country networks to put gender and energy concepts into action. The GENES/ESMAP project is supporting country-to-country exchanges to build capacity among GENES members in both gender and sustainable energy. Further, the GENES/ESMAP project will support the development of two pilot projects in the region in late 2002 and early 2003.

For more information about GENES, there is a separate section about this Mesoamerican network below.

Gender and Energy Training in Africa

This program, supported since 2000 by the U.S. Department of Energy and the World Bank's ESMAP and *Regional Program in the Traditional Energy Sector (RPTES)* initiatives, organizes training workshops, conferences, and networking opportunities to help institutionalize gender considerations into the work of African energy NGOs and government agencies.

The gender and energy integration program has four main components:

1. Gender and Energy Roundtables at the December 2000 African Energy Ministerial Conference

A two-day workshop on Women and Energy was held in December 2000, immediately preceding the Pan-African Energy Ministers' Conference, held December 13–15. The Workshop on Women and Energy linked together some of the key themes at the intersection of women and energy in development—access to adequate energy services, access to microcredit, involvement in the decisionmaking arena, and support for capacity building programs—in order to strengthen women's ability to participate more effectively in their family, community and economic life.

The workshop focused on both the grassroots and policy level, and provided an opportunity for practitioners from across Africa and around the world to meet with decisionmakers and share best practices, examine methodological tools that have been employed to address these themes, and plan networks for sustainable program implementation.

The workshop and conference brought together senior policymakers from governments across Africa, along with representatives from the private sector operating

on the cutting edge of various fields. From this came the Durban Declaration on women in energy, which was endorsed by all the energy ministers attending the workshop and conference.

For proceedings of the workshop and conference ...

2. Targeted gender and energy training with public and private sector investment institutions

The objectives of the training component were:

- ❑ To raise awareness of gender and energy linkages so as to facilitate the inclusion of gender considerations in the work of these institutions.
- ❑ To provide practical tools to help staff incorporate gender considerations in their everyday project design and finance work.

The training was carried out in partnership between *ENERGIA, the International Network on Gender and Sustainable Energy*, and Winrock International International's Gender and Community Development Training Centers in Kenya and Cote d'Ivoire. The training content was modified to suit the target group; in particular the emphasis was on providing tools that planners can use in their work. Training courses have been conducted for the following key institutions and their local partners:

- ❑ South Africa Department of Minerals and Energy, August 2001.
- ❑ Senegalese Rural Electrification Agency (ASER), September 2001.
- ❑ Cote d'Ivoire Ministry of Energy, October 2001.

3. Training and content development for Internet and distance communications

Winrock International is working with ENERGIYA to evaluate the specific electronic communication requirements of current and potential ENERGIYA gender and energy network members in Africa, and provide customized internet connectivity training to help these organizations interact and share information more effectively.

4. Portfolio development for gender-oriented clean energy projects

Under this task, Winrock International will identify the specific criteria of public and private sector investors, along with any technical assistance services these organizations are willing to provide. Winrock International will then liaison with its existing network of project offices and ENERGIYA network members throughout Africa to identify high priority end-use projects that address men's and women's needs and meet the criteria of these investors.

Clean Energy for Productive Applications

Working in partnership with Winrock International's *African Women Leaders in Agriculture and Environment* program, Winrock's Clean Energy Group is designing and implementing gender-oriented, income-generating, and labor saving projects. This U.S. Department of Agriculture—supported program has yielded results in six countries. Gender-focused energy demand assessments have been conducted in Kenya and Senegal

and identified a host of viable project activities. Improved woodstove projects have been implemented in Kenya and Uganda, with more than 2,000 efficient stoves currently being used on a regular basis. These stoves reduce fuelwood consumption dramatically and improve indoor air quality for women and children.

Biogas digesters have been built in Cote d'Ivoire and South Africa, providing a high quality cooking fuel and eliminating the need for fuelwood collection among participating households. Simple treadle pumps have been introduced to irrigate women's community gardens in Cote d'Ivoire and South Africa, increasing yields while reducing labor requirements, and a solar (PV) pump is being used for a large women run market garden in Mali. Finally, solar crop dryers are in use in western Kenya by three women-led cooperatives, reducing spoilage and increasing the price fetched by their cassava, sorghum, and soybeans.

Designing a Poverty-Focused, Gender-Sensitive Monitoring and Evaluation Plan

In collaboration with the World Bank, Rekha Dayal of the Mallika Consultants and ENERGIA, Winrock International has developed a management tool for assessing end-user needs and monitoring and evaluating the social development-related impacts of World Bank rural electrification projects, with a focus on poverty and gender implications. The framework—which is useful for not only postproject evaluation, but also for project design and ongoing project implementation and assessment—integrates complementary participatory community assessment and social impact survey methodologies.

The participatory community assessment component is based on the Methodology for Participatory Assessments (MPA) developed by IRC and the *Water and Sanitation Program*. The socioeconomic impact survey component builds upon the Benefit Assessment and Valuation Methodology developed by the Energy Sector Management Assistance Programme (ESMAP) for the Rural Electrification and Development in the Philippines Project. For the purposes of this initiative, these methodologies were revised and refined. While the MPA is highly participatory, poverty-focused and gender-sensitive, and able to highlight the community's self-defined needs, it needed to be adapted for use in rural electrification projects and made applicable to stand-alone energy systems, in addition to community-managed systems. At the same time, while the Benefit Assessment and Valuation Methodology is applicable in an electricity project context and able to measure social impacts in monetary terms useful to Bank energy projects, it needed to be revised to take into account gender considerations, and adapted to be used for ongoing project monitoring, in addition to evaluation.

The framework will be applied and tested in the upcoming World Bank/GEF Cambodia Renewable Rural Electrification (RRE) Project.

Source of information: Summarized from Winrock International website, and ENERGIA files. Reviewed by Jamal Gore.

Technology and Development Group (TDG), University of Twente, Netherlands

URL: <http://www.utwente.nl/tdg>

Contact: *Joy Clancy*—Senior Lecturer; *Margaret Skutsch*—Senior Lecturer

The Technology and Development Group (TDG) was formed in 1979 with the objectives of introducing a development perspective into the technological and social subjects covered by the different departments of the University and to study the role of technology in the development processes in the developing world. The group consists of a multidisciplinary teaching and research group with a particular focus on development issues. The group is divided into two sections: the Technology and Sustainable Development (TSD) Section and the International Management Section (with a focus on business management in non-Western countries). It is the section TSD that deals with Gender issues.

Gender and Natural Resources Management, TDG

The TDG has long recognized the significance of the gender (or social) conditions in society in relation to the different roles, responsibilities and rights for men and women as regards energy, as well as the other aspects of daily life. In particular the TSD Section within the Group concentrates on gender in relation to natural resources management, in particular the energy, water and forestry sectors. This interest in gender issues began with considering women's needs as one of the factors to be taken into account in rural energy planning and appeared in this way as a topic in the TDG's training courses.

Over the last 20 years there has been increasing recognition in development circles that planning in energy (and other fields) has unwittingly been aimed at men and ignored women. Planners and decisionmakers are anxious to know how to address this deficiency. While these changes in planners' attitudes were taking place, TDG's own research interests have developed.

The aim of the work related to the energy sector has been to encourage energy planners to see that women's energy needs are broader than stoves and biomass supply problems; they encompass all energy uses and technologies. In addition women's energy needs cannot be divorced from men's energy needs and have to be viewed within the context of the society in which they live. In June 1997, the TSD section developed a training pack on Gender in Energy and has given training courses for third parties. This training pack is currently under revision.

Other resource material has also been developed for international agencies. TSD staff have acted as gender and energy advisors to international agencies. They have also published a number of articles in academic journals on the themes of gender and energy and gender in the climate change discourse. They were instrumental in establishing *ENERGIA*, an international network on gender and sustainable energy, and continued to be involved in ENERGINA. Research has been undertaken on donors' approaches to

incorporating gender into their energy policy and a new area is the development of a methodology for incorporating women's metabolic energy into national energy statistics. The TDG's documentation center is developing a collection of resource material on gender and energy.

In 2001 TSD staff have been making inputs to the EnPoGen project of the World Bank and have also participated in the Quality Assurance Group for the project. They have also carried out research for the U.K. government's Department for International Development (DFID) on developing a guidance note on integrating gender, poverty reduction, and energy as well as bibliography of the literature on gender and energy. TSD has further been involved in a research project for the European Commission on identifying ways of reaching gender equity within the non-nuclear and nuclear energy research programs of the CEC. The aim was to produce recommendations that will lead to a better integration of the gender dimension in future research activities within these energy fields. Three working papers, which make a gender analysis of the working programs in energy research, identify women's specific concerns in energy and formulate "best practice" for incorporating gender concerns in research have been produced.

What can the TSD/TDG offer?

- ❑ Development and delivery of training courses for third parties.
- ❑ Development of resource material.
- ❑ Research and advisory work.
- ❑ Bibliographies.
- ❑ Project formulation, assessment, and evaluation.
- ❑ Policy papers.
- ❑ Organization of meetings, workshops, and conferences.

Source of information: Summarized from the TDG website. Reviewed by Joy Clancy and Margaret Skutsch.

Intermediate Technology Consultants Ltd (ITC) / Intermediate Technology Development Group (ITDG)

URL: ITC: <http://www.itcltd.com/itc.htm>; ITDG: <http://www.itdg.org>

Contact: *Rona Wilkinson*—Energy and Environment Program Manager, ITC Ltd.

As the consultancy arm of ITDG, Intermediate Technology Consultants Ltd (ITC) undertakes project activities for a range of multilateral and bilateral donors, governments and NGOs which specifically address the relationship between gender and technology. ITC was established in 1969 and provides high quality independent and professional advice to governments, NGOs, aid agencies and the private sector. ITDG is an international development NGO, with teams of professionals in eight countries where the

Group has permanent offices (Bangladesh, Kenya, Nepal, Peru, Sri Lanka, Sudan, United Kingdom, and Zimbabwe).

In these countries, ITDG works with poor communities to develop appropriate technologies in food production, agroprocessing, energy, transport, small enterprise development, shelter, small-scale mining, and disaster mitigation. Lessons from ITDG's grassroots experience are spread through consultancy services, publishing activities, education, policy and research, and through an international technical inquiry service. ITC provides advice, assistance, training and research in the following three main sector areas: Energy and Environment, Enterprise Development, and Sustainable Livelihoods.

ITC has been working in the field of renewable, household energy and decentralized rural electrification for 30 years. It has a proven track record of managing complex, multidisciplinary international projects and has worked on Renewable Energy Policy and strategy issues in Europe as well as Africa, Asia and Latin America.

ITC has developed a proven approach to identifying users', including women's, needs and opportunities for technology change, managing that change and providing support to local institutions to ensure sustainability. ITC provides independent professional advice and assistance for the following types of energy work:

- ❑ Energy needs assessment, demand surveys and market studies.
- ❑ Resource assessment, for example, hydrological studies, wind monitoring, solar energy assessment and biomass surveys.
- ❑ Feasibility studies covering the technical, social and economic aspects of biomass, solar wind and hydro use.
- ❑ Technology development and adaptation to socioeconomic contexts.
- ❑ Support to local manufacturers and developers, for example, stove design methodology, induction generators and low wattage cookers.
- ❑ Technology transfer, for example, of electronic control systems and turbine designs.
- ❑ Policy analysis, institutional development, strategic planning and action plans.
- ❑ Training courses in all aspects of rural and renewable energy, both general and technology specific.
- ❑ Specialist technical support for practical project design, implementation and evaluation to implementation programs incorporating rural and renewable energy, including:
 - ❑ Biomass combustion systems for industrial applications, agroprocessing, lime making and waste incineration.
 - ❑ PV systems for specialist and high value energy applications.
 - ❑ Micro, mini, or small hydro power.

- ❑ Wind pumping or electricity generation.
- ❑ Publications and technical manuals on renewable energy.

The group has managed complex multidisciplinary projects and has been engaged in long running programs over the last 25 years in the development and practical application of renewable energy technologies for industrial, domestic, agricultural, communications and transport uses. This work has been principally carried out in Nepal, Sri Lanka, Peru, Zimbabwe and Kenya. In addition, ITC has ongoing consultancy contracts studying the integration of renewable energy into existing energy systems in Europe.

International training courses are held which, in addition to the technical issues, pay considerable attention to the social, economic and management aspects of renewable energy development.

Publications

ITDG produces the international biomass journal *Boiling Point* for those working on the technical, social, financial and environmental issues of household energy for people in poor communities.

ITDG Publishing produces and distributes a strong list of energy titles for development.

Improved stoves and household energy

Typical improved biomass stoves now available in poor communities thanks to ITDG Energy initiatives include:

- ❑ Mud stoves such as the Lorena or Magan Chulha.
- ❑ Ceramic stoves such as the Upesi or Anagi.
- ❑ Metal stoves such as the Kenya Ceramic Jiko (KCJ).

In Sri Lanka and Kenya the introduction of improved stoves has been a great success. Since 1991 about half a million “Anagi” stoves have been produced and sold in Sri Lanka and more than 400 potters and installers trained in their construction and installation. It is estimated that future production will reach around 120,000 per year.

In Kenya ITDG has been working closely with women’s groups to produce, promote and install the “Upesi” improved cooking stove. At present 13 women’s groups (approximately 200 people) in western Kenya make and sell around 11,000 Upesi stoves a year. As a result of their labors the women have gained status, self-confidence and financial independence.

Microhydro

ITDG has developed microhydro systems with communities in Nepal (around 1,200 schemes benefiting around a million people), Peru, Sri Lanka, and Kenya. These systems, which are designed to operate for a minimum of 20 years, are usually “run-of-the-river” systems. This means they do not require a dam or storage facility to be constructed but simply divert water from the stream or river, channel it in to a valley and “drop” it in to a

turbine via a penstock (pipeline). This type of hydro generating thus avoids the damaging environmental and social effects that larger hydroelectric schemes cause.

Cost for a typical microhydro system varies depending on the project. As a guide every kilowatt of power generated cost around £800. A 6-kilowatt system, enough to drive an electric mill and provide light for a community of about 500, would cost approximately £4,800. Experience shows that community capital (in labor and cash), financial credit, and improved income make these schemes economically viable and sustainable.

Besides providing power for domestic lighting and cooking needs, village hydro schemes can also be used for charging batteries or for income-generating activities like grain milling, depending on the needs of the community.

Solar Power

Many solar applications on the market in developing countries do not pass the test of being affordable, accessible and appropriate. As a result they cannot meet the needs of poor people who continue to use kerosene, candles and dry cell batteries for their power needs. ITDG's consulting subsidiary have developed a low cost Solar Lantern designed to make this source of energy more accessible. The lantern, now in prototype in Kenya, can provide up to six hours of high quality light, or a combination of light and radio output to bring news and information to households.

Biogas

In Sri Lanka, ITDG has helped commercialize new biogas schemes and has worked with national authorities and universities and with local communities and institutions to ensure that biogas, which was a failing technology, has become a success. More than 60 new schemes have resulted, meeting 75 per cent of household cooking needs. Incomes have risen as women and girls are freed from up to two and a half hours a day of domestic labor, using the time instead for new income generation. The biogas plants also produce organic waste that is dried and used as fertilizer. Both fertilizer and fuel wood are increasingly expensive in the country and biogas has a potentially important future. It may also be used to manage organic waste in urban settings.

Other Energy Projects

Energy and Street Foods Project

Country: Bangladesh, Sri Lanka

Date: November 2000 to August 2002

This project seeks to improve the livelihoods of street food vendors by identifying and improving energy efficient technologies and fuels.

Urban Waste Management for Small Scale Energy Production Project

Country: Phase 1—Cuba, Sri Lanka, Senegal, Kenya, Nepal; Phase 2—Cuba, Kenya

Date: August 2000 to October 2002

This project seeks to provide livelihood opportunities for the urban poor by investigating the potential for the use of waste in urban areas as a small-scale energy supply for households and microenterprises, using appropriate technologies.

Sparknet

Country: Uganda, Kenya, Zambia, Tanzania, Zimbabwe, Mozambique, South Africa

Date: Phase 1—January 2002 to December 2004

A formal knowledge network on sustainable energy for low-income households in rural areas in southern and Eastern Africa. Key themes include household energy and health, household energy and gender, and household energy and forestry.

New Study and Projects Provide Practical Solutions to the Problem of Indoor Air Pollution in Developing Countries

The project, involving 50 rural households in Kajiado and Western Kenya, devised appropriate technology to reduce pollution in people's kitchens. Results showed that the introduction of smoke hoods, eaves, windows and improved, fuel efficient stoves can reduce these damaging particles by approximately two thirds.

Statistical analyses of the results show that the introduction of the hoods produced an average reduction of health-damaging particles in the house of 75 percent and in carbon monoxide, of 77 percent. The results from the cooks' personal monitors gave an improvement in carbon monoxide exposure of 35 percent. Where the households selected eaves spaces, windows and stoves, the reduction in smoke particles was 62 percent; and other benefits included increased daylight and more pleasant working conditions.

Advantages perceived by women are less soot on walls, ceilings, hair, sheets, children's books and clothes, which makes it easier to wash the children, do the housework and light the fire. The interventions also help cook faster and any fuel can be used with the smoke hood so the family can stay longer in the house, cook food faster and watch over their livestock through the windows.

Source of information: Summarized from ITC and ITDG websites. Reviewed by Rona Wilkinson.

National Renewable Energy Laboratory (NREL)

URL: <http://www.nrel.gov>

Contact: *Barbara Farhar*—Senior Social Scientist

NREL has initiated several gender and energy activities, including an annotated bibliography, and has sponsored speakers at Village Power '98 and the World Renewable Energy Congress V in 1998. NREL further hosts the Gendernet list server

(Gendernet@mail.nrel.gov) to help those interested in gender and sustainable energy to share significant information of general interest.

NREL further published the following documents on gender and energy:

Cecelski, E. (2000). Role of Women in Sustainable Energy Development. 55 pp.; NICH Report No. SR-550-26889.

Smith, J. A. (2000). Solar-Based Rural Electrification and Microenterprise Development in Latin America: A Gender Analysis. 30 pp.; NICH Report No. SR-550-28995.

Farhar, B. C. (2000). Progress on Linking Gender and Sustainable Energy. 10 pp.; NICH Report No. TP-550-27999.

Farhar, B. C. (2000). Progress on Linking Gender and Sustainable Energy.

Farhar, B. C. in Sayigh, A. A. M., ed. Renewable Energy-Renewables: The Energy for the 21st Century. Proceedings of World Renewable Energy Congress VI (WREC2000), July 1–7, 2000, Brighton, United Kingdom. New York: Pergamon; pp. 1518–23; NICH Report No. 30588.

Farhar, B. C. (1998). Gender and Renewable Energy: Policy, Analysis, and Market Implications. Sayigh, A. A. M., ed. Renewable Energy: Energy Efficiency, Policy and the Environment. Proceedings of World Renewable Energy Congress V (WREC-V), September 20–25, 1998, Florence, Italy; Part I. New York: Pergamon Press; pp. 230–39; NICH Report No. CP-550-24308.

Source of information: Summarized from NREL website. Reviewed by Barbara Farhar.

4 Bilateral and Other Programs

This section lists some of the bilateral and other programs that support energy, poverty and gender initiatives. This list, however, is not complete. We hope to add more of these programs in the future.¹³

Canadian International Development Agency (CIDA)

URL: <http://www.acdi-cida.gc.ca/>

CIDA has sponsored work on integrating gender in oil and gas projects in China and Pakistan, and also on a study on socioeconomic assessment including gender of power sector reform in India (Kerala). CIDA is currently supporting the *Central America Regional Electricity Project (PREEICA)*, which is aimed at ensuring equitable participation of women and men in institutions as well as ensuring that women in general share in the benefits of their programs. CIDA also offers support to the Latin American Search Conference Workshops on Women in Energy and Environment, which are organized by the Latin American Energy Organization ([OLADE](#)) and the University of Calgary.

Directorate General for International Cooperation (DGIS), Ministry of Foreign Affairs, the Netherlands

URL: DGIS: <http://www.minbuza.nl/menu.asp?Key=302510&Pad=>

The Netherlands assistance program, together with Sida, is contributing to the *ENERGIA Network*.

Swedish International Development Cooperation Agency (Sida)

URL: <http://www.sida.se>

Sida is contributing to the *ENERGIA Network* and to the *UNDP/SEP project on energy and women*. Sida further supports the International Masters Program Sustainable Energy Engineering (SEE), which is offered by the Department of Energy Technology of

¹³ Information about activities not yet listed, or updates of those included in this report, should be submitted to Anja Panjwani <a.koerhuis@etcnl.nl>.

the Royal Institute of Technology in Sweden. Sida is especially calling on suitable female students to join the program.

U.K. Department for International Development (DFID)

URL: <http://www.dfid-kar-energy.org.uk/>

Contact: *Dick Jones*—Senior Energy and ICT Advisor

An Energy for Poverty Reduction (EnPov) Working Group has been set up to prepare a Guidance Note for DFID Departments and partners on the role of energy in helping to achieve the International Development Targets, and how energy could be most effectively brought back on the development agenda. DFID recognizes that women's use of energy should be considered a major issue.

Under DFID's Knowledge and Research (KaR) Program, energy is one of the main focus areas. Under this program, DFID is supporting the following projects, which also benefits women:

- ❑ **Poverty Alleviation Aspects of Successful Improved Household Stoves Programs:** This project looks at all the impacts of stove programs on income, employment, gender, household security and other social factors in Uganda, Kenya and Ethiopia for consumers, producers and intermediaries in the stove business. The subsequent workshop that was held on 17 October 2001 at DFID offices in London, UK, to present the results of the project, showed that improved stove programs, particularly in Ethiopia and Kenya, have had positive effects on the livelihoods of producers, and positive impacts for the consumers.
- ❑ **The Commercialization of Innovative Woodstoves:** This project developed and tested the "Mirte" (meaning best or excellent); a low-cost, efficient wood stove in Ethiopia. This included tests on construction materials and the use of nonwood fuels. Small-scale artisans, half of whom are women, were trained to make and market the stove. The women were found to be particularly successful at marketing the stove.
- ❑ **Energy Provision to the Urban Poor:** This project compiles and disseminates experiences and recommendations on energy provision to the urban poor. This includes identifying the options for increasing access for the urban population to higher grade and more sustainable forms of energy.
- ❑ **Energy, Poverty, and Sustainable Urban Livelihoods:** This project demonstrates the benefits to the livelihoods of the poor from improved energy efficiency, in terms of: better health and less expenditure on domestic fuel; increased income-earning opportunities for small enterprises; and reduced pollution from local industries and transport.

- ❑ **Energy and Street Foods in Bangladesh and Sri Lanka:** This project looks to improve the livelihoods of street food vendors and the health of consumers by identifying and improving access to energy efficient technologies and fuels.

DFID is also a major donor to *ESMAP*.

Source of information: Summarized from DFID website. Reviewed by Dick Jones.

GTZ-Household Energy Program (HEP)

URL: <http://www.gtz.de/hep/>

Contact: *Agnes Klingshirn*

Focus areas of the HEP are to contribute to:

1. Poverty alleviation through:

- ❑ Reducing household expenditure on fuels and foreign exchange expenditure on energy substitutes.
- ❑ Promoting artisanal training and small industries.
- ❑ Reducing disease (respiratory diseases, burns, workload, and nutrition) through smoke reduction, protected fire, reduced fuel procurement, more nutritious food.

2. Environment through:

- ❑ Contribution to the conservation of the soil fertility by a better management of the biomass resources.
- ❑ Awareness-raising on environmental protection and resource conservation through educational campaigns and school curricula.
- ❑ Advice to decisionmakers on the formulation and implementation of national strategies and planning on biomass energy conservation.

3. Gender through:

- ❑ Improving the status and quality of life of the family, especially women and children, through training, income-generating measures, health.
- ❑ Lowering the workload through reduction of firewood consumption.

HEP believes that household energy (HE) is a cross-sectoral issue between the following sectors:

- ❑ **Resource and environmental protection:** Activities undertaken by HEP in this sector, include dissemination and usage of fuel-efficient stoves and tree planting.
- ❑ **Economy:** HEP is undertaking measures such as manufacturing, dissemination, and usage of fuel-efficient stoves.
- ❑ **Small-scale industry establishment:** HEP activities include manufacturing and marketing of fuel-efficient stoves.

- ❑ **Health:** HEP undertakes measures such as usage of fuel-efficient stoves and better kitchen and fuel management.
- ❑ **Quality of life:** Activities by HEP include dissemination and usage of fuel-efficient stoves.

HEP's core services include:

- ❑ Support to national strategy development.
- ❑ Enhancement of communication and information exchange between different actors.
- ❑ Capacity building.
- ❑ Promotion of commercialization and marketing of HE-technologies.
- ❑ Support in implementation of projects.

Project for Protection of Natural Resources (HEP NR)

Based on a project agreement signed between the Ethiopian and the German Government, the Household Energy/Protection of Natural Resources Project (HEP NR) has started its activities in January 1998. Funds have been secured until December 2003. The project is jointly implemented by the Ministry of Agriculture, under the Natural Resources Management and Regulatory Department, and the German Agency for Technical Cooperation (GTZ).

The objectives of the project are:

- ❑ To increase the efficient use of biomass resources.
- ❑ To integrate household energy measures into national development programs.

By achieving these objectives, the project aims at making contribution to the protection and sustainable development of the natural resources of the country.

The project assists government institutions of different sectors and at different administrative levels in developing strategies to increase the efficiency of biomass energy utilization in households (demand management). The project focuses on the practical application and dissemination of proven technologies, and aims at increasing the access of significant numbers of urban and rural households to improved energy-saving stoves to reduce their dependence on biomass fuels. In order to create long-term sustainability, the project seeks strong participation of the private sector and focuses on a commercial dissemination approach.

Fields of intervention are:

- ❑ Capacity building and training of institutions, organizations and the private sector.
- ❑ Selection, adaptation and promotion of improved energy saving end-use technologies.
- ❑ Promotion of improved stove production.
- ❑ Promotion of marketing and commercialization.

- ❑ Studies and reports.
- ❑ Networking and cooperation.

The benefits obtained from 1,000 households are:

- ❑ 575 tons of fuelwood saved per year.
- ❑ 210,000 ETB of household energy expenditures saved per year on fuelwood purchases only.
- ❑ 75 hectares of forest plantation preserved.
- ❑ more than 480,000 ETB for establishing new forest plantations saved.
- ❑ improved health and safety conditions through smoke reduction and protected fire places.
- ❑ Reduced net carbon emissions, minimizing contribution to global warming.

Future perspectives include:

- ❑ The promotion of improved commercial/ institutional cookstoves.
- ❑ The promotion of solar cookers, a zero fuel option.
- ❑ The promotion of other renewable energy technologies for different applications.

Regional Program for the Promotion of Alternative Domestic Energies in the Sahel (PREDAS)

CILSS, in close collaboration with all interested donors, has drawn up a regional program for the promotion of alternative domestic energies in the Sahel (PREDAS). The overall goals of PREDAS are to:

- ❑ Assist CILSS Member States to organize the sustainable supply and rational use of domestic energies for Sahelian populations without causing harm to the environment.
- ❑ Contribute to poverty alleviation.

In particular PREDAS is about creating a framework conducive to the organized and sustainable management of domestic energy resources. The program is designed to:

- ❑ Assist CILSS Member States to design, adopt, and implement their domestic energy plans for overcoming the fuel wood crisis. These plans will serve as national reference documents;
- ❑ Identify, consolidate, and promote know-how in the Sahel in the field of domestic energy in order to create in the long run a network of Sahelian expertise in this field and to set up an energy technology information system; and
- ❑ Produce and disseminate up-to-date information on countries' achievements and prospects in the field of domestic energy (set up a database or energy technology information system).

PREDAS will take into account—and turn to account—past and current experience in the field of domestic energy within the subregion. The Program’s actors are all those who help to promote the proper functioning and improvement of domestic energy management. Its end-beneficiaries are the poor in their capacity both as production partners in the rural wood-producing areas and as consumers in the urban areas.

The framework for the organization and implementation of PREDAS is as follows:

- ❑ At regional level, a small permanent structure to handle organization, promotion and management (regional coordination), attached to the CILSS Executive Secretariat.
- ❑ At national level, promotion, monitoring and implementation structures.
- ❑ A regional steering committee charged with consideration of the draft program of work and annual budget.
- ❑ A regional executive committee with ultimate responsibility for adoption of the work program and annual budget.

ProBEC—Program for Biomass Energy Conservation in Southern Africa

ProBEC is a regional Program, which aims to enhance capacities and commitments of governments, and development institutions/organizations to plan and implement integrated biomass energy conservation programs. Thus, it intends to contribute to the improvement of quality of life for the poor rural and urban populations by enabling them to fulfill their energy needs in a socially and environmentally sustainable manner.

ProBEC is a joint program between SADC, the European Commission (EC) and the German Government. Most of the financial support comes from the Forestry Sector of the EC. The German Technical Cooperation (GTZ) is commissioned to implement ProBEC. In a first phase (1998–2001) ProBEC activities are restricted to six SADC countries: Lesotho, Malawi, Mozambique, Namibia, South Africa and Zimbabwe.

ProBEC has no implementation structure of its own, rather it gives the necessary support to those local, national and regional initiatives aiming to improve the energy situation for poor urban and rural households as well as for small businesses using biomass energy.

Fields of intervention for ProBEC are:

- ❑ Improved access to information on biomass energy demand, supply and conservation as well as on experiences and resource persons in the field of BEC.
- ❑ Capacity building in the fields of planning, implementing, monitoring of integrated BEC programs, data collection and analysis, strategy development, and so forth.
- ❑ Demonstration projects showing that an integrated approach, bringing together partners from different levels and with different sectoral expertise can achieve in a comparatively short time benefits for biomass energy users.

- ❑ Improved planning and monitoring of biomass energy measures through policy planners and decisionmakers.
- ❑ Networking, learning from similar experiences elsewhere, in-country or in the region.

In order to support local, national and supraregional initiatives aiming to improve the energy situation ProBEC offers:

- ❑ Advisory services in the fields of planning, implementing and monitoring of integrated biomass energy conservation programs through own staff as well as through regional and international consultants.
- ❑ Training in planning, technology selection/adaptation, sensitization, monitoring, gender orientation, and so forth.
- ❑ Support in collection and exchange of data on biomass energy conservation;
- ❑ Support in exchange of know-how.
- ❑ Support in planning and implementation of demonstration projects.

Gender and Biomass Energy Conservation in Namibia

This case study was carried out in November 2001 and was commissioned by GTZ ProBEC. The idea for carrying out a case study on gender integration in biomass energy integration in southern Africa was developed together with *SAGEN*, the Southern African Gender and Energy Network and *ENERGIA*. These networks provided the international expertise for the case study.

The objective of this case study was to demonstrate how gender aspects can be successfully integrated at different levels in the biomass energy sector, thus contributing not only to improved efficiency and effectiveness of household energy programs, but to increased gender equity in participation and benefits.

The Methodology for Participatory Assessments (MPA) was used as a basis for developing indicators for measuring gender integration in biomass energy in Namibia. The World Bank Participatory Learning and Action Initiative originally developed this methodology for use in the water and sanitation sector. The MPA integrates gender and poverty with demand and sustainability. It combines participatory tools in self-assessment with statistical analysis at community, institutional and policy levels. In this case study, gender integration was assessed at the policy, institutional and implementation levels, corresponding to the three levels of ProBEC interventions in Namibia.

The study found that, although ProBEC scores well in many areas in gender-sensitivity, the program has taken for granted that its activities benefit poor families, especially women, and thus has not taken an explicit gender perspective.

Source of information: Summarized from GTZ-HEP website. Reviewed by Agnes Klingshirn.

Shell Foundation Sustainable Energy Program (SEP)

URL: http://www.shellfoundation.org/sep/sep_main.html

Contact: *Chris West*—Program Manager

SEP is the major grant-making program of *the Shell Foundation*. The Shell Foundation has chosen to focus its grant making on energy issues for two reasons. First, the production and use of energy and its impact on people's quality of life and the environment is the focus of some of society's most critical concerns. Second, energy expertise within the Shell Group is a valuable resource that can be deployed to enhance the social benefits of SEP funded initiatives.

The vision of the Sustainable Energy Program is a world where energy is available at affordable prices to all, in ways that balance the needs of people and the environment. The SEP mission is to be a leading catalyst of equitable and effective solutions to the environmental and developmental challenges posed by the way society produces and uses energy. SEP's core principles are to:

- ❑ Work in partnership wherever possible.
- ❑ Promote stakeholder engagement in project design and implementation.
- ❑ Be open and transparent in all processes.
- ❑ Support initiatives whose outcomes are financially viable, environmentally responsible, objectively verifiable, communicable and widely replicable.

SEP Objectives

Through a series of background papers, market research, online dialogues and workshops with a wide range of stakeholders and experts, SEP has decided to focus its efforts over the next few years on achieving the following two major objectives:

1. Reducing the environmental impact of fossil fuel use

SEP support addresses three themes:

- ❑ Delivering solutions to the urban transport and environment dilemma.
- ❑ Promoting equitable and efficient mechanisms for mitigating climate change.
- ❑ Assessing the impact of the oil and gas sector on biodiversity.

2. Increasing the access of low-income communities in developing countries to modern energy services

SEP support addresses four themes:

- ❑ Promoting market-based approaches to the provision of modern energy services.
- ❑ Validating successful business approaches to the provision of modern energy services.
- ❑ Establishing investment partnerships to finance energy service provision.
- ❑ Tackling the linkages between household energy and health.

Increasing Access to Modern Energy Services

The Shell Foundation supports this objective because there is a direct link between energy use and the livelihoods of the poor. Industrial countries would not have achieved their current affluence without cheap and reliable sources of energy and the services they provide such as light, heat, power, transport and communications. Yet, at the outset of the 21st century, some 2 billion people in developing countries do not have adequate and affordable access to the modern energy services needed to achieve a minimal quality of life. Nor can they engage in productive activities capable of providing a source of income that can help lift them out of poverty.

Shell Foundation understands modern energy services to include the full menu of energy options, including (but not restricted to): battery charging; fuel-efficient household stoves; grid extension; off-grid electrification schemes; all types of liquid, gaseous and solid fuels; all types of renewable energy.

One of the key challenges that emerged from the online dialogues was how to support market-based approaches for delivering modern energy services to poor communities in ways that are both financially viable and environmentally sound. SEP is addressing this challenge through the support it provides to SMEs, entrepreneurs, NGOs, and community-based groups to provide modern energy services to poor communities in developing countries. In addition, SEP is in the process of establishing new investment partnerships in South Africa and East Africa with Financial Institutions and other local organizations responsible for providing business development support and seed capital to local SMEs.

The Shell Foundation also recognizes that some poor households will not be able to switch from a dependence on traditional fuels. Yet the use of such fuels is linked to the premature death of up to 2 million people in Asia, Africa, and Central America every year. SEP is therefore supporting initiatives that raise awareness of this problem, as well as promoting appropriate solutions that tackle it.

While SEP does not specifically target efforts toward benefiting women, gender issues are important criteria that underpin program development, project selection and project implementation. Clearly there are particular benefits to women and girls associated with improving household consumption of improved energy services (through reducing labor costs associated with firewood collection), as well as reducing household health problems associated with the domestic use of traditional fuel sources.

SEP identifies potential partners in two main ways. First, the program solicits proposals through an open “Request for Proposals” announced on the website. An RFP for modern energy services and household energy and health was announced on February 27, 2002. Second, it adopts a proactive approach—informed by independent regional advisers and Shell Operating Units—to identify partners in selected countries.

SEP-Funded Initiatives

Details of all SEP-funded initiatives can be found on the Shell Foundation website. Some examples of these initiatives include the following:

- ❑ **Review of the Chinese National Improved Stove Project:** This project, being implemented by the University of California at Berkeley, will produce a rigorous independent review of the Chinese National Improved Stove Program to inform policy and decisionmakers at the national and international level. The Chinese program is the largest of its kind in the world—reaching up to 170 million people—and has sought to provide the population with more efficient and cleaner stoves to conserve energy resources and to prevent respiratory illnesses associated with indoor cooking and the use of coal and biomass fuels. The review will address key questions at the national, regional and local policy levels through surveys of government units and households. Surveys will capture information about stove program policy and management practices, local stove manufacturers and service providers, household fuel and stove use and efficiency and indoor air quality, health status with particular regard to women and children), objective tests of health function and levels of particulate matter in indoor air. Analysis of survey data from 150 facilities and 2300 households will provide evidence upon which to base future household energy policy decisions in China and throughout other low and middle income countries. A dissemination strategy including publications, national and regional workshops and raising awareness among the donor community will ensure that the study leads to policy changes and replication.
- ❑ **Integrating biopower and income generation in the Philippines:** The Philippines Coconut Authority and the University of the Philippines have designed a simple, low cost, mini coconut oil mill to allow groups of coconut farmers to capture the highest possible value locally for their coconuts by making and selling their own coconut oil and other downstream, high-value products. Some mills have been installed but a major impediment to large-scale dissemination of the mill is its requirement for grid electricity or costly and environmentally harmful power from 25 kW diesel gensets. The project involves the field testing of an integrated system combining a biopower unit (using coconut shells as fuel) to drive the mill—thus creating a modular unit capable of independent operation using its own energy resources. In addition, the Center for Renewable Energy and Energy Efficiency of the Philippines will develop the necessary capacities among local NGOs and the local coconut farmers’ cooperative to operate the system on a financially sustainable basis, and will help develop a roll-out mechanism and plan for the wider dissemination of the system among the country’s coconut farming community.

- ❑ **Decentralized Rural Power Production from Biomass in India:** The project, being implemented by Decentralized Energy Systems India Pvt. Limited, tests the business model that small-scale decentralized power suppliers can achieve financial sustainability. These schemes add value to small scale decentralized electricity generation business based on the gasification of biomass by combining them with sufficient income, generating loads (such as the sale of pumped water and small enterprises) and fuel supplies. The scheme is community-based and increases the ability of people to pay for improved energy services by raising employment. The main beneficiaries of this project will be women, who will benefit from reduced labor costs associated with improved water supply, targeted employment opportunities, and new income-generating opportunities associated with the productive end use of energy provision. A “mutuality of interest” is created between biomass fuel suppliers, electricity users, and operators. DESI Power operates a Build, Own, Operate and Transfer investment package that includes a reliable proprietary biomass gasification system and electricity generation plant, finance, management support, and a process of continuous training. DESI will use the funds from the Shell Foundation to set up a not-for-profit revolving fund that initially provides repayable loans to three village cooperatives. As the loans are repaid into the fund, the package will be extended to new locations and new cooperatives. The loans can in principle finance either the energy conversion or productive end-use businesses.

Source of information: Summarized from Shell Foundation SEP website. Reviewed by Chris West.

5 World Bank Programs

ASTAE

URL: <http://www.worldbank.org/astae>

Contact: *Enno Heijndermans*

In 1992, the World Bank created the Asia Alternative Energy Program (ASTAE) to mainstream renewable energy and energy efficiency investments into the Bank's lending program in the East Asia and Pacific and South Asia Regions. Since its inception, ASTAE has supported alternative energy activities in:

- ❑ Bangladesh.
- ❑ Cambodia.
- ❑ China.
- ❑ India.
- ❑ Indonesia.
- ❑ Lao PDR.
- ❑ Nepal.
- ❑ Sri Lanka.
- ❑ The Philippines.
- ❑ Thailand.
- ❑ Vietnam.

In its activities ASTAE seeks to:

- ❑ Promote viable alternative energy options at all levels of decisionmaking;
- ❑ Strengthen institutional capacities to identify, assess and implement proven, cost-effective alternative energy options; and
- ❑ Foster public-private sector partnerships in the development of environmentally sustainable energy projects.

EnPoGen

The Energy, Poverty and Gender (EnPoGen) Project is part of the Bank/Netherlands Partnership Program. The project is managed by ASTAE, which is located in the *East Asia and Pacific Energy and Mining Development Unit (EASEG)*. Although EnPoGen initially would end in December 2000, the project has been extended to end 2002.

The objective of the EnPoGen project is to increase the advantageous impact of ASTAE's alternative energy projects on poverty alleviation and gender equity specifically in rural areas in Asia by qualifying and quantifying the linkages between

alternative energy projects, poverty alleviation, and gender equity. The linkages have been investigated in three countries in Asia: China, Sri Lanka, and Indonesia. In each country field studies have been conducted with the following objectives:

- ❑ Identify the linkages between access to energy/electricity, poverty alleviation and gender equity in general and specifically in the country considered.
- ❑ Quantify the impacts of access to modern energy on poverty alleviation, development and gender equity in the country considered.
- ❑ Draw lessons learned which may improve the impact of projects of the World Bank and ASTAE on poverty alleviation and gender equity in the country considered and possibly in other countries.
- ❑ Contribute to the development of a methodology for the monitoring of impacts of energy projects.

All field study reports have been peer reviewed in order to improve the quality of the reports produced by the international contractors.

Follow-up work of the EnPoGen project will develop and test improved project preparation methods for increasing impact of alternative energy on poverty alleviation, and will promote incorporation of alternative energy into rural infrastructure/poverty projects. The results of this initiative will increase the impact of ASTAE-supported energy sector projects and the program's ability to work in other sectors, such as health, education, and rural development. In addition EnPoGen supports the development of a monitoring and evaluation methodology for the impact of Alternative Energy Projects on Poverty Alleviation and Gender Equity. This methodology will be tested in a World Bank project in Cambodia (see below).

Designing a Poverty-Focused, Gender-Sensitive Monitoring and Evaluation Plan

Winrock International, Rekha Dayal of Mallika Consultants and *ENERGIA*, in consultation with Doug Barnes (from ESMAP) and other World Bank staff, will be developing a comprehensive methodology for measuring poverty- and gender-related impacts in a rural electrification project-specific context (the World Bank/GEF Cambodia Renewable Energy Project). This methodology will be heavily based on methodologies already developed by:

- ❑ Doug Barnes and ESMAP for the Rural Electrification and Development in the Philippines ?project, which is designed to quantify and measure the social and economic benefits of rural electrification projects; and
- ❑ Rekha Dayal et al. for “Participatory Assessments with Communities, Institutions and Policy Makers,” which is designed to link project sustainability with demand, gender and poverty in the water sector.

Both methodologies have been developed and applied with great success, and have important contributions to make in the assessment of social development, poverty and

gender impacts of World Bank projects. The innovation of the Barnes methodology lies in its technique for measuring the so-called intangible and heretofore “immeasurable” impacts—the social development impacts—of rural electrification in monetary terms, in order to translate these impacts into a language the Bank can understand and incorporate into its energy projects. The innovation of the Dayal methodology is its highly participatory and gender-sensitive technique for linking project success with gender-sensitive, poverty-targeted, demand-responsive approaches, and for translating the community’s self-defined needs and values into language that can be used by project planners and implementers to identify the key needs which should be addressed at the community, institutional and policy levels.

However, there is room for further refinement of these methodologies. Therefore, the proposed initiative will draw on the comparative strengths of the two methodologies to formulate an assessment framework for use in rural electrification projects. This framework will be used to develop a monitoring and evaluation plan for the Cambodia project that comprehensively measures poverty- and gender-related impacts in an energy project-specific context.

Source of information: Summarized from ASTAE website and taken from EnPoGen documentation. Reviewed by Enno Heijndermans.

ESMAP

URL: <http://www.worldbank.org/esmap>

Contact: *Dominique Lallement*—Manager Gender Facility

Mission Statement

The Energy Sector Management Assistance Programme (ESMAP) of the World Bank has as its mission to address the role of energy in the development process with the objective of contributing to poverty alleviation, improving living conditions and preserving the environment in developing countries and transition economies.

ESMAP is a global technical assistance program, established in 1983 under the joint sponsorship of *the World Bank* and *UNDP* as a partnership with UNDP in response to global energy crises. Since its creation, ESMAP has operated in some 100 different countries through approximately 450 activities covering a broad range of energy issues. Early on, these activities were almost exclusively Country Energy Assessments, tools that served to fill the knowledge gap on the energy situation in a specific country, and provide options to address priority energy issues in an environment of rapidly rising energy prices. More recently, ESMAP’s product line has been expanded to include targeted technical studies, strategic advice, best practice dissemination, and pre-investment work.

ESMAP's Gender Facility

ESMAP's support to gender in energy in the 1980s mainly focused on an inventory of institutions and programs on gender and energy and woodstove improvement projects. In 1998 discussions with *NREL*, *ENERGIA*, *UNDP*, *Winrock International* and others were started, to add a more systematic gender dimension to ESMAP's work. This resulted in the establishment in November 1999 of a Gender Facility in the program to develop and implement a strategy for gender mainstreaming in the energy sector. The Gender Facility received US\$2.6 million for a period of three years, from 1999 to 2001.

Mainstreaming gender was deemed necessary for the following reasons:

- ❑ **Efficiency:** To enhance the impact and effectiveness of ESMAP work in developing sustainable energy for the poor.
- ❑ **Equity:** To ensure that both genders benefit equally from ESMAP interventions, and to overcome existing gender disparities.
- ❑ **Sustainability and client orientation:** To ensure sustainable development through the participation of all stakeholders.

The overall objective of the ESMAP Gender Facility is to build a body of good practice on gender in energy by:

- ❑ Mainstreaming gender issues into ESMAP assistance: targeted technical studies, strategic advice, and pre-investment work.
- ❑ Increasing knowledge and practice of gender mainstreaming in the energy sector overall through the collection and dissemination of findings and lessons learned in upstream work in ESMAP.

A secondary objective is to bring a better understanding of energy issues into the discourse on gender and development.

The main areas of activity of the Gender Facility, as laid down in the Business Plan, are:

- ❑ **Studies:** To document gender in energy issues.
- ❑ **Pilot projects:** To test new approaches to associate women with the solutions to energy use and services.
- ❑ **Outreach and dissemination activities:** To network with and capitalize on other gender in energy programs.

Studies/Policy Formulation

- ❑ **1999: Vietnam: Preparation of Renewable Energy Strategy.**
Workshop to identify constraints and solutions to Renewable Energy Development included Women's Union.
- ❑ **1999/2000: India: Rural Energy Strategy: Gender Dimension.**
- ❑ **2000: Yemen: Rural Energy Strategy (approved not yet started).**

❑ **Bringing in a gender dimension into the Energy Chapter of the PRSP (*Poverty Reduction Strategy Paper*) Sourcebook.**

The Sourcebook is a guide to assist countries in the development and strengthening of poverty reduction strategies. The Energy Chapter proposes a framework focused on comprehensive energy development goals having to do with access, reliability, fiscal stability, governance and health and environment and links these to the different poverty dimensions of income, capability, security and empowerment. The Energy Chapter is a draft, which will be revised in the light of country experience in developing and strengthening poverty reduction strategies.

- ❑ **Voices of the Poor**...and follow-up meeting with CBOs.
- ❑ **World Bank's Energy Strategy Preparation.**
- ❑ **2001: informal socioeconomic rapid appraisal carried out in connection with a study for ESMAP: Rural Electrification Benefits Women in Tunisia.**

Pilot Projects

Poverty Alleviation through Women's Renewable Energy Microenterprise in Bangladesh

One of the pilot projects that ESMAP supported (\$175,000) is the Poverty Alleviation through Women's Renewable Energy Microenterprise in Bangladesh, which began in 1999. This project was developed by Prokaushali Sangsad Limited in Dhaka, Bangladesh, after surveys and consultations about energy needs, with community members in an area made up of remote islands, identified electric lighting as a high priority for the rural households. The project is located at Char Montaz, an island in the south of Bangladesh. Electric grid extension to this area will not be economically viable within at least the next 20 years, and therefore there is a high demand for alternative modern lighting.

The project's aim was to improve the lighting and indoor air quality of rural households by replacing the traditional kerosene lamps with modern battery-operated lamps. Through a microenterprise 33 rural women of Char Montaz are now engaged in the construction and sale of efficient fluorescent lamps that use direct current and rechargeable batteries. About 1,000 households have started using these lamps by now.

The women involved in the project have benefited by it. "Besides increasing the nonagricultural skills of rural women, the project has also allowed them to generate income, play a role in decentralized energy service delivery, improve their quality of life through better lighting, and raise their status in the household and in the community." (Quoted from article in *ENERGIA News* 4.3, November 2001.)¹⁴

¹⁴ For more information, view the [chapter on this project](#) in the UNDP publication "*Generating Opportunities: Case Studies on Energy and Women.*"

Support to the *Mesoamerican Gender in Sustainable Energy Network: GENES*

This is done in partnership with Winrock International and is focusing on training, information dissemination, and project identification and implementation. ESMAP sees the possibility of replicating the approach taken in Bangladesh.

New Projects on Reducing Indoor and Outdoor Air Pollution

- ❑ Mongolia: Stove improvement project.
- ❑ India: Indoor air pollution reduction. Indoor air pollution in India is causing 500,000 annual deaths, mainly among children under 5 and women, or 8 percent of all deaths in this group. Worldwide, IAP is causing 2 million excess deaths per year, or 5 percent of the global burden of disease, therefore being a leading cause of death and illness, larger than tuberculosis, AIDS, or malaria (from a WHO 1996 PowerPoint presentation published on the ESMAP site).
- ❑ Africa: health impact of energy.
- ❑ Bangladesh and Thailand: two-stroke engine emission reductions.
- ❑ Nicaragua: improved wood stoves.

Knowledge: Outreach and Dissemination

- ❑ Joined the advisory board of ENERGIA.
- ❑ June 1999: UNDP workshop on gender in energy, Pretoria, South Africa.
- ❑ December 1999: World Bank workshop on gender in energy.
- ❑ April 2000: World Bank seminar that presented Bangladesh project.
- ❑ July 2000: regional meeting in South Africa on Women in Mining and Energy; financing opportunities.
- ❑ November 2000: Dhaka; renewable energy seminar.
- ❑ December 2000: Village Power. The theme of the conference was “Empowering people and transforming markets.” Linked to the conference was a half-day workshop on Gender in Energy, entitled Moving toward Equity and Sustainability in Rural Energy: Putting Gender Concepts into Action.
- ❑ December 2000: Pan African Seminar in Durban on gender in energy. This meeting was part of the second Africa/U.S. Ministerial Conference to discuss and explore possible policy, financial and socioeconomic solutions for problems experienced by African Women with regard to the energy sector.

Plans for the Future

- ❑ Leadership program for women in energy in Africa: partnership with Winrock International.
- ❑ Replication of Bangladesh project.
- ❑ New gender-focused projects.

- ❑ Multisectoral networking.
- ❑ ICT publications.

Sources of information: D. Lallement (2001), "Women in Energy", presentation held at IIE, September 2001; D. Lallement (2001), "Biomass in the World Bank Group's Energy Business Strategy," presentation held at Biomass Workshop, November 15, 2001.

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