

Winrock International receives support for the REPSO network from the U.S. Agency for International Development

## WIND-Generated Popsicles Mean Income for the Women of Makaminggit

By Jeff Gucker and Andrea Collins

### Background

Makaminggit is a poor village on a main road in East Sumba Island, Indonesia. During the three-month rainy season its people live from rain-fed farming and animal husbandry. During the dry season the men graze their livestock and the women sell roasted peanuts, boiled eggs, boiled corn, and fruit to travelers moving between Waingapu, East Sumba, and the West Sumba city of Waikabubak.

The cost of living is relatively high because of the community's location on the main road to the interior of East Sumba and the desolate condition of the area's natural resources. Deforestation is widespread. Water and fuelwood are in short supply.

Residents purchase water from a tanker truck or hire transportation to retrieve it from a spring 7-8 kilometers away. Most families forage for fuelwood. The community considers themselves to be poor, though their standard of living is above neighboring communities in the interior or remote fishing communities along the coast.

### The Idea

Long before there was a Windpower for Islands and Nongovernmental Development (WIND) Project (see REPSO *urce* Vol. 2, No. 3), Project Manager Jeff Gucker had discussed income generation projects with the Chief of Makaminggit, his wife, and a few women in the village women's cooperative (Kelompok Namuangu) that sold food on the side of the road. At that time they had come to the conclusion that ice popsicles would sell "like hotcakes." Informal market surveys—interviews with people in Lewa and Waingapu about profit margins and with school children and travelers to see what they thought about the idea—supported their assertion.

(See *Popsicles*, page 4)



### Gender and Renewable Energy: A View from Winrock

By Sarah Tisch, Program Leader,  
WI Leadership and  
Human Development Division

In the past 30 years, development professionals, policymakers, and scientists have given great attention to assessing and improving the role of women. The contribution they make in rural areas, particularly in developing countries, has received increasing recognition.

This attention stems in large part from a paradigm-shifting book, *Woman's Role in Economic Development* by Esther Boserup, and the recognition by organizations such as the UN and World Bank that a concerted formal effort was needed to ensure that women participated in the development process.

Data analyzed by Boserup identified women's large contribution to the agricultural sector. However, it also showed that while donor projects were delivering progress, conditions of the poorest households were unchanged or were growing worse as a result of some development activities. Armed with new data and lessons learned from these projects, policymakers and donors began placing a special emphasis on women in socioeconomic development projects in the early 1970s.

The focus on women over this period emphasized the following:

- the recognition of a need for development projects specifically focused on women;
- an analysis and growing understanding of how culture and economics work to socially define gender; and

(See *Commentary*, page 12)



Making popsicles in Makaminggit, Sumba, Indonesia

# Interview

*Elizabeth Cecelski of Energy, Environment, and Development (Kurten, Germany) is one of the editors of ENERGIA News (see text box )*

## **Winrock: What is the gender perspective and why is it useful, even essential, to the development process?**

**EC:** The gender perspective recognizes that some issues related to project success are gender-specific and stem from the fact that men and women play different roles, have different needs, and face different constraints on a number of different levels.

Though there are many factors that influence success or failure, several examples can be given of development projects that have failed in their goals, due at least partially to ignoring women's needs, constraints, and contributions.

In the energy sector, the most spectacular example is the failure of early improved stoves. [See separate article on this subject in the centerfold.]

When household energy was first identified as a major energy sector in the 1970s, the response was to look for a "technical fix": the introduction of "improved" wood and charcoal stoves. Initially these improved cookstove interventions were not based on a prior analysis of local and national fuel use and supply conditions. The projects frequently relied on information supplied by men, with resulting poor fuel saving performance and limited acceptance of the new stoves.

Further compounding the failures was the fact that many "improved" stoves were actually less efficient than well-managed traditional fires and stoves.

## **Winrock: Can you briefly describe the energy, gender, and rural development axis?**

**EC:** Energy is a basic necessity for survival and a critical factor affecting economic development. Energy's important contribution to women's work and well-being is evident in women's roles as:

- users of both traditional biomass and modern fuels for subsistence and income-earning;
- producers of traditional biomass fuels and "human energy" services;
- victims of energy scarcity, technological changes in the energy sector, and environmental damage due to energy use and supply;
- workers and employees in the energy sector; and
- activists in energy and environmental debates and action.

## **Winrock: How has contemporary economics rendered women's participation in the developing world's energy crisis somewhat invisible?**

**EC:** Women's survival tasks have been largely invisible in the energy literature: an electric pump that transports water uses energy, but a woman carrying water does not. A water mill grinding grain falls within the energy sector, but a woman doing the same task with a mortar and pestle does not. Trucks transporting crops are consuming fossil fuels, but women carrying crops on their heads are outside the energy balance.

The result is that informal household production receives less energy policy attention than it deserves. Methodological difficulties have been widely cited as reasons for excluding human energy from analysis.

However, there was a similar problem with the valuation of environmental goods and impacts only a few years ago. The amazing progress in assessing hard-to-quantify and even intangible values in the environmental area is evidence that with the right political, institutional, and financial support these methodological constraints can be overcome with regard to women and their impact on the energy sector.

## **Winrock: What major changes have made a more favorable environment for a gender approach to energy planning?**

**EC:** First, energy policy and practice have shifted in the past two decades from a focus purely on technical and supply concerns to one that embraces a broad range of issues: demand analysis and management; transition to more efficient fuels and technologies; development, sustainability, privatization and globalization; and, most influentially, rising concern over the relationships between energy and the environment. This has led to more focus on the role of energy consumers. Now that people are more a part of the energy equation, women can become more visible too.

Second, gender paradigms have evolved. These have transformed from "women and development" in the 1970s, which focused on women in isolation (with limited success), to "gender and development" in the late 1980s, which tried to understand the culturally and socially-defined roles and tasks that women and men assume, both within the family and household system, and in the community.

Including women in projects is expected to have a positive influence on the needs of the poor, the South, and women. In this sense, both new energy-environment paradigms and current gender perspectives adopt a transformational approach, challenging conventional means to and ends of development.

## **Winrock: Do you see a link between women's use of energy in developing countries, and the commercialization of renewable energy technologies?**

**EC:** Women are the main users and often producers of energy. They are the primary users of household energy in developing countries; they also influence or make the many family purchases related to energy. Further,



## with Elizabeth Cecelski of ENERGIA News

women's organizations are effective and active lobbyists and promoters of new technologies.

Renewable energy manufacturers who do not pay attention to women's needs are missing a huge potential market.

### **Winrock: Are rural women really interested in renewable energy technologies?**

**EC:** Rural women are interested in renewable energy technologies that improve their quality of life, reduce their workload, and/or provide them with opportunities to increase their incomes.

This does not necessarily mean, however, that women have to work on energy projects as technologists. Women have had, and continue to have, various roles in renewable energy technology projects.

In a micro-hydro electric system installed by a peasant organization in Peru, for example, men, women and even children provided labor to construct the civil works: men designed the system and operate the electro-mechanical equipment.

Women's influence in the decision-making is evident in the choices made on how to use the electricity generated—a grain mill for wheat, maize, tarwi, and canihua, which alleviates grain-grinding, one of the most laborious tasks for women; and posts for public lighting which improve safety, a major concern of women involved in the project.

In fact, women were not only represented in the cooperative, but the president of the cooperative is a woman (see ENERGIA News Feb. 1998).

Women have proven themselves capable of undertaking renewable energy projects or related tasks when provided with the appropriate training and support. In Sonora, Mexico women's groups, with outside advice, built large commercial-sized solar ovens and established a bakery business that provides income to buy shoes and clothes for children going to school.

If we look at the extensive experience with women in maintenance roles in water and sanitation we see that their effectiveness in regular and preventive maintenance is better than men's, and that the costs of repair are lower. Similar results are expected with PV systems.

### **Winrock: What conclusions can be drawn from past work on women and energy?**

**EC:** While many advances have been made, policy and practice still do not reflect the fact that:

1) Reduction of women's drudgery is a major goal. However, human energy is defined as outside the scope of the energy sector. Thus, saving labor in informal household production has not received the attention it deserves.

2) Lessons about involving women have been learned but do not seem to have been transferred to newer renewable energy projects. Thus, there is a risk that mistakes from other sectors will be repeated and the same failures experienced.

3) The linkages between energy and the role for women have not been sufficiently explored, particularly in the areas of rural and urban incomes, livelihoods, and inter-fuel substitution, and in the urban commercialized energy sector.

4) Women's roles as active participants in the innovation process, their proven innovative capacities, and their vast stores of indigenous knowledge have not been really explored in the energy sector.

5) Women continue to be woefully under-represented in mainstream energy institutions, and they are frequently excluded from decision-making and management at all levels in energy policy.

6) Linkages between gender studies and energy policy and research have been weak. Dialogue has been constrained by the absence of a common language and concepts. There is a lack of relevant case studies that could provide models of methodologies and implementation, though this is improving rapidly.

Even well-intentioned donors and energy programs that use alternative energy paradigms aimed at benefiting the poor have, for the most part, not been successful in moving beyond rhetoric and placing gender issues in the context of energy policy concerns. Nor have they adequately assessed the impacts of women on large-scale energy developments, macro policies, and alternative energy strategies. ❏

### **About ENERGIA:**

ENERGIA is an international network on women and sustainable energy which 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 women involved in energy at 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 Harare in 1995, Women for Sustainable Energy (WISE) in the U.S., and the Women and Energy Group (WEG) of South Africa.

ENERGIA has more than 800 members in Africa, Asia, Latin America, Europe, and North America. ENERGIA's approach is to identify needed activities and then to encourage and assist members and their institutions to undertake them.

ENERGIA News is the principal vehicle for the Network. It is produced jointly by Elizabeth Cecelski at Energy, Environment, and Development (Kurtén, Germany), Margaret Skutsch and Joy Clancy at the Technology and Development Group, University of Twente, and Margaret Karsens at the ETC Foundation, Leusden. To receive the newsletter, contact: ENERGIA Secretariat; c/o ETC; PO Box 64; 3830 AB Leusden; The Netherlands; Tel. +31-33-4943086; Fax +31-33-4940791

## Popsicles *(continued from page 1)*

### WIND

The technical focus of the WIND Project was to demonstrate and evaluate wind power, a renewable energy source, as a socially and economically attractive tool for rural development and to offset the use of fossil fuels.

The village's average wind speed of 5.7 meters per second (mps) made it a prime site for a wind turbine. In addition, a development impact that project sponsors USAID-Indonesia and Winrock International wanted to make with the program was to assure that gender issues received full consideration during project implementation.

---

### Women keep the money they make.

---

Because of their long-standing experience with the culture in which they were working, Winrock project staff made a proposal to the village to work with the women's cooperative to produce popsicles to be sold to travellers.

From his own experience Project Manager Jeff Gucker was interested in working with women's enterprises in Indonesia, because he believes, "the women are conscientious and give great attention to detail. Also, women tend to invest their earnings back into the family."

The WIND project partnered with non-government organizations (NGOs) that had established relationships with local communities. In Makaminggit the project worked with Yayasan Mbaha Eti, a major yayasan (NGO) located in Waingapu that provides management and maintenance assistance to the community group. Mbaha Eti has women staff members and focuses on women in development (WID) projects. WID projects are appropriate on Sumba because in NTT cultures men usually do not talk to women for any length of time other than in a formal, official manner. Women motivators are much more effective in overseeing projects like that of producing and selling popsicles.

The wind power made electricity available to run the freezers essential to making ice pops, or popsicles. As

beneficiaries, the 26 women of Kelompok Namuangu provide the operation and maintenance for the wind tower and the power installation. Male WI staff were allowed to train the women of the coop because as outsiders, WI staff are not a part of the group's societal values and norms. The staff also trained a young man to crank up the backup generator as necessary (this occurs about twice a week during the rainy season and almost never during the dry season). Members of both the community group and the NGO have received training in maintenance and operation of the system. The system works very well.

### Results

- The business of selling popsicles produced using wind power has been successful and profitable in increasing income and raising living standards in Makaminggit.
- The coop has been able to employ more villagers as a result of the windpower.
- The women keep the money they make and spend it primarily on school fees. This is a different decision about use of income than the men of the village would make.

- More children can go to school because their school fees can be paid.
- Yayasan Mbaha Eti was able to increase the number of communities it works with and their effectiveness in the communities because, as a result of their training, they now have more to offer villages. In addition, they now have a higher profile with local governments.

- The WIND Project was designed to offset the use of fossil fuels with renewable pollutant-free wind energy. It is a clean energy project and no major adverse environmental impacts were experienced during the project. On the contrary, the project made some direct and indirect positive environmental impacts because the women's micro-enterprise helped mitigate the degradation of surrounding land by making income available through means other than direct land use.


- The power is a major asset to the community as it provides lights at the site and at the village chief's house where the children can study, the men can play cards, and people can gather.

### Marketing the Product

When the villagers collect enough revenues from the system they will buy cable to connect the rest of the pasar (marketplace where the busses stop)

and perhaps expand the power system to light up food stalls.

Initially the community group felt that its sales were restricted by market size. In roughly six months of operation the community group made a profit of Rp. 325,000—reasonable considering the monthly financial inputs, but low considering the size of their community group and the capital investment costs of the wind turbine.

What was actually occurring was that ethnic Chinese in Sumba were sending popsicles up from Waingapu and down from Lewa to the five or six local elementary schools (a large part of the market) and outselling the Makaminggit popsicles because they use better ingredients and better recipes. Once the coop improved its recipes, began buying better ingredients, and began getting more popsicles to the schools, their sales began to expand. 

### One Practitioner's View of Women's Leadership Opportunities in the Eastern Islands (Nusa Tenggara Timor)

- ♦ Women can assume high leadership roles in NTT societies after a certain age, especially if they are from royal families.
- ♦ A widow may easily assume the same authority as her late husband.
- ♦ Motherhood is honored: women are generally not accepted as leaders until they have had children.
- ♦ Both men and women can hold government positions but men generally hold higher positions.
- ♦ Women seldom hold high-level, government-appointed positions in villages unless the position involves health work.
- ♦ Women can hold higher-level government positions in larger cities.
- ♦ Because some of the tribes on the islands are matriarchal, Indonesian culture appears to put less importance on male domination. This may influence the Indonesian Government's acceptance of women in leadership.

# Changing Community Roles: One Success Story

An Interview by Constanza von der Pahlen with Emerentina Costa e Silva of Jupará, edited by Winrock



Consultant Constanza von der Pahlen (l) and members of Jupará

Jupará is an NGO based in Ilheus in the south of Bahia, Brazil. Jupará works with 35 communities in 17 municipalities in rural communities in the cacau (cocoa) production regions.

Many of the communities Jupará works with belong to the Landless People Movement. Jupará's approach is to work with the family unit to promote sustainable practices, including management of natural resources, the strengthening of participatory mechanisms, and enhancement of the economic viability of the cacau-based communities accustomed to slash and burn practices.

Included on Jupará's staff are local technicians who have extensive experience working with farmers and who are well acquainted with the reality related to the cacau crisis, both from an environmental and a social perspective.

Cocoa is one of the main economic bases in the region. The cocoa plantations are inside the Atlantic Forests. Since a disease, called "witches-broom" spread dramatically and devastated entire plantations, the land has been converted to other land uses such as animal husbandry. The few remains of the Atlantic Forests, presently 8% of the original forest, are being erased.

Jupará participated in the Renewable Energy and Gender Workshop organized by Winrock and the Institute of Sustainable Development and Renewable Energy (IDER) in Fortaleza (see box Page 6 and REPSO Source Vol. 1 No. 4). Working with Winrock, Jupará has since initiated the Demonstrative Renewable Energy Project (PRODER) for the installation of several solar panels in two communities. These include a solar panel in a school/community assembly and health center; one in a bodega cooperative; and one for the establishment of a chicken farm.

*Below Constanza von der Pahlen, a consultant for REPSO-Brazil, discusses the impact of the gender workshop with Emerentina Costa e Silva of Jupará. (Ms. von der Pahlen's questions are in bold type.)*

## **When did work with women become an issue for Jupará?**

We understood that if we wanted to bring development to the communities, we had to involve the community as a whole. That meant working with the men, women, and young people.

It wasn't easy because it was a region where women traditionally did not work outside the home: the men did not want their women receiving orders from another man or working in another place.

## **How did Jupará start the discussions about renewable energy projects with the communities?**

As we were discussing family development, energy was mentioned as an important element. The cost of bringing energy to remote areas has always been a barrier, but we were certain that access to electricity was a necessity for a family.

## **And you needed to involve the whole community?**

Yes, this was a crucial point. We always knew about renewable energy technologies, but they seemed an impossible dream for our communities.

But then we found out about Winrock's work through our participation in the Gender Workshop in Fortaleza. We have been able to develop energy solutions for the community—something we have been seeking for a long, long time.

## **How did women get involved in the renewable energy project?**

As a result of many discussions, it has become clear that one of the most important aspects of a women's organization is the autonomy to seek solutions. Another aspect is that women must be continually aware of

their responsibility for family development.

There was a lot of discussion about the role energy plays in keeping the community healthy. From that discussion we realized the urgency for an immediate energy project.

One of the first issues addressed by the women was becoming "rural workers" and getting working papers to qualify for a pension when they reach retirement age. To do this one must work somewhere other than on the family farm, because work at home is not recognized as work toward a pension.

---

## **We had to involve the community as a whole.**

---

An animal farm, owned by both husbands and wives, was one solution to this problem. Jupará has specific funds for projects with women, and some funds had been set aside for an animal farm project. Involving the husbands would make this a family project rather than uniquely a woman's matter. The women started to discuss including an energy component in their animal production project. The use of electric lighting would accelerate the chickens' maturity and allow the group to have faster returns on the money invested. This, in turn, would pay for the project faster and help to establish a revolving fund more quickly. Such a fund would permit other women in the group and their families to receive and pay for energy panels.

## **How are the women's renewable energy work and the chicken production farm project advancing?**

(See *Changing*, page 6)

## Changing *(continued from page 5)*

There was a very bad moment with some violent episodes which affected the project. Some women asked to leave the group because of the pressure.

### **What violent episodes?**

Several of the women were being hit for being part of the movement. It was a difficult time, but the women reacted with maturity. They got together and initiated a discussion in the community assembly.

Despite the cultural norm—that differences between a husband and wife are solved at home—the women banded together, told the assembly that they were suffering violence because of their community work, and demanded a response from the community as a whole.

The community put together a committee to identify the responsible people and punish them, which not only stopped the violence but also increased the value of the women's movement.

As a result, the women are now seeking outside assistance to reform agro-ecological and health practices. The women's organization has become even stronger by facing up to the turbulence.

But the incident did have an impact, and the work stopped while this was going on. But since the women are harvesting manioc and other products from their collective farms they have their

own means to buy additional food. And now the group can turn their attention to the animal production project.

One useful outcome of the situation was that we have started meetings to discuss gender issues with couples. Bringing the discussion into another environment emphasizes further the need for family involvement, including youth groups, the children, and the community theater.

As a result of these initial demonstration projects, several communities have expressed an interest in acquiring solar panels for their homes. Most of these communities are at least 12 or more kilometers from the grid, and it is unlikely that they will be connected to the traditional grid soon, because they either belong to the political opposition or some social minority. Since their is

limited income in these communities, a long-term financial payment/credit system which will permit them to pay in a few years will have to be created. ❏



*Jupará introduces solar power to Cajueiro I*

*Jupará also works with the rural theater movement for cultural events and environmental education which invites the participation of young people, including girls; capacity building for natural resource management; and capacity building for teachers and educators on environmental issues. For more information, contact REPSO/Brazil, which supplied the photos accompanying this article.*

## **Workshop on Gender and Productive Uses of Renewable Energy**

Funded by USAID, Winrock's Renewable Energy Project Support Office (REPSO) in Salvador, Brazil conducted a seminar on gender, rural development, and renewable energy in Fortaleza, Ceará, in May 1997. Fifty-four representatives from the private sector, financing institutions, NGOs, and government agencies attended. Seminar topics included steps for developing off-grid renewable energy projects, development methods and indicators, and elements essential for the sustainability of off-grid energy projects. Participants also visited a nearby solar PV water pumping site and interviewed project implementers.

An important result of the seminar has been the formation of Rede Amazonica de Energia Renovavel (RAER), the Amazon Network for Renewable Energy, made up of NGOs from the Amazon region that were represented at the Seminar. These organizations include Pesacre; Acre Research and Extension Group of Agricultural and Forests System; Vitoria Amazonica Foundation; The Health and Happiness Project; and the Mamirauá Civil Society. In order to be successful, RAER member-NGOs have been trained in new technologies and work methods, and sensitized to a participatory management process. RAER's method: present renewable energy technologies to committees of villagers who choose projects and decide about maintenance and replication systems. Community members will implement the projects with the assistance of consultants.

# Women are a Major Factor in the Success of One Indian Village

By REPSO-India

*Two solar lights in each house in the tribal village of Pavur, Kerala, can change the life of these rural poor immensely.* These are the words of Father George Arimpoor sdb, Secretary of The Bangalore Salesian Society,



Don Bosco, a charitable institution registered in Karnataka.

The Society had begun helping the tribals of the rural village of Pavur market their handmade baskets in urban areas. Tribals are primarily composed of impoverished ethnic groups who tend not to mix or intermarry with other segments of Indian society.

As women are the main breadwinners in the tribal families, through their cottage industry, basket weaving, etc., Don Bosco decided to aim for better life conditions for the village by increasing the economic stability of its women.

## Low Productivity

Although there was a market for large baskets, after gathering wild



creepers from the nearby forest all day, the women of the village did not have enough daylight hours left to make them. Kerosene lamps were the only lighting in the village and the women

were forced to engage in the less profitable industry of rolling raw tobacco cigarettes, which could be accomplished under the inadequate lighting. Many of the older women's eyesight was very poor after being exposed to the kerosene lights for years. Rev. Fr. Thomas Mylador observed that the main cause of this problem and a number of other socio-economic problems in the village was the fact that the village was essentially unelectrified (see "Grid connected and Powerless," page 10).

The women's low incomes precluded sending their children to school. Even if the children had schooling, the quality of kerosene



lighting made it extremely difficult for children to study at home. The villagers also had health problems due to inhalation of the smoke from kerosene lamps used at night; and most of the older women suffered from severe eye problems, as they had been working under poor lighting conditions for decades.

Don Bosco was familiar with PV electrification. But the tribals, with annual household incomes range from US\$ 46-460 could not afford solar home systems at US\$ 265 (outright-purchase basis). With appropriate credit mechanisms, the Pavur tribals could afford previously unaffordable PV systems.

## The Solar Basket Fund

Although Don Bosco could not act as a purely commercial entity, borrowing money and lending it for PV system financing, it was able to create a revolving fund—Basket Solar Fund



(BSF)—which could be used to finance PV systems on a commercial credit basis.

With the fund in place Don Bosco, partnering with the Solar Electric Light Company (SELCO), and using its own money and seed funds provided by REPSO India, was able to offer villagers PV systems that could be installed on a commercially sustainable basis.

The SELCO model utilized, now commonly known as the "Energy Services Model," depends on the concept of providing added value to the customers through quality product supply and installation, and effective after-sale service.

After understanding the potential benefits of the proposed PV lighting systems, the tribals authorized the society to supply them with the lighting



systems and deduct the monthly installments from the sale proceeds.

## Women's Influence

When the project began there were no special efforts made to involve

(See Women, page 10)

# Gender and Renewable Energy

## A Brief List of Renewable Energy and Women Web Sites

**ECOWOMAN**, a loose collective of professional women scientists and technologists and grassroots women doing science in the Pacific, including activities related to women and renewable energy (solar ovens, cement stoves, and solar lanterns). <http://www.wigsat.org/ofan/activities/ecowoman.html>

**ENERGIA Network, the Network for Women and Sustainable Energy**, is also on-line. Although the site is still under construction, ENERGIA News can be visited and downloaded. The Network thanks WIRE and ISES, who host the ENERGIA web page for their work and support. In the future The Network hopes to add a who's who directory of its members, a forum discussion, and links to other resources. Check it out and log on at <http://www.energia.org>

**Indian Ministry of Non-conventional Energy Sources** conducts a number of programs on women and renewable energy that involve women as end-users, installers, and energy entrepreneurs. The site is not comprehensive but it does include contact information for specific projects. Also accessible at this site is contact information for the All India Women's conference, an Indian Government nodal agency to propagate improved stoves and implement the National Project on Biogas Development. <http://www.nic.in/mnes/about.htm#ecat>

**The FAO Sustainable Development Dimensions** of the Food and Agricultural Organization of the United Nations site has interesting links to other renewable energy and women's sites. Log on at: <http://www.fao.org/WAICent/FAOINFO/SUSTDEV/Welcome.htm>

**HORIZON Communications Solutions Site Case Study** site which displays renewable energy case studies, including two from Nepal and Sudan that have a gender focus. <http://www.solutions-site.org/default.htm>

**INCITA, Inventing Accessible Science and Technology** is in Spanish. It will be linked to the central OFAN site. <http://www.laneta.apc.org/incita>, for the Spanish OFAN site or <http://www.wigsat.org/ofan/ofan.html> for the OFAN site.

**The International Forum for Rural Transport and Development (IFRTD)** is a network interested in promoting a broader approach to meeting the transport needs of rural people. This site provides information on publications, an annotated bibliography, transport events, interesting links, and the possibility to download pictures about transport. <http://www.gn.apc.org/ifrtd>

**ITPubs, Intermediate Technologies London's** publishing arm, provides the opportunity to order books and gives access to their quarterly periodicals. <http://www.oneworld.org/itdg/publications.html>

**SD Dimensions**, a service of the Sustainable Development Department (SD) of the Food and Agriculture Organization of the United Nations (FAO). Search on energy. Only some of the articles incorporate gender into their perspective but the ones that do are useful. Look for "Gender and Wood Energy" and "Gender and Energy Planning." <http://www.fao.org/WAICENT/FAOINFO/SUSTDEV/Welcome.HTM>

**Solar Energy International (SEI)** is a non-profit organization whose mission is to empower others to use renewable energy and environmental building technologies through education and technical assistance. SEI also has a "Woman and Renewable Energy Program" to facilitate technology transfer and project development for women in less developed countries. <http://www.solarenergy.org>

**Solar Sisters:** On the web site of the Himalayan Light Foundation, makes solar technology available to people who are involved in income generating activities and educational programs that benefit the community and the poor by focusing on bringing solar power to Nepali women. <http://www.panasia.org.sg/nepalnet/hlf/home.htm>

**Southern African Sustainable Energy Web** has many interesting links to other renewable energy organizations on the web. <http://www.edr.uct.ac.za/>

**United Nations Development Fund for Women (UNIFEM)** which promotes women's rights, opportunities and capacities, is full of statistics including statistics on women and energy. <http://www.unifem.undp.org/index.htm>

**WIRE (Worldwide Information System for Renewable Energy)** is an initiative supported by ISES. WIRE aims at providing a rich suite of information resources and tools for the Renewable Energy community. It contains a broad spectrum of information on various aspects of renewable energy, and includes conferences and internet resources, proceedings, discussion groups, publications, and more. <http://wire.ises.org>

# Renewable Energy

## Gender Impact: Cookstoves Failure



REPSO-Central America

Improved stove used in Central America

In the energy sector, perhaps the most spectacular example of a gender-related failure is the early improved stoves projects. When household energy was first identified as a major energy sector in the 1970s, the response was to look for a “technical fix”—the introduction of “improved” wood and charcoal stoves.

Initially, most improved cookstove interventions were not based on a prior analysis of local and national fuel use and supply conditions. Where data were collected, projects frequently relied on the information base of men, even though women, as major actors in cooking fuel use and supply, often had knowledge about energy uses that men did not.

Engineers puzzled over why women frequently rejected the new fuel-saving stoves. Eventually it was found that even where fuel is costly, other interests such as food taste, reduced cooking time, reduced smoke in the kitchen, space heating, and child safety were of equal or greater concern to women than fuel saving.

Even worse, when testing moved from the laboratory to the kitchen, many so-called improved stoves were shown to be less efficient than well-managed traditional fires and stoves! The focus on stoves as an engineering improvement had neglected women’s stove-building experience, how stoves and fuel fit into women’s work, cooking schedules and priorities, and improved possibilities for cooking efficiency by analyzing and improving the coping strategies already used by women in the context of the entire food and cooking system.

The failure of so many improved stoves projects to save fuel or disseminate large numbers of stoves led to a re-examination and in many cases a reorientation of this strategy. Today, although types of participation vary, it would be difficult to find an improved stove program in which women did not play an important role.



AWLAE (SM) Project

Traditional stove used in Africa

**What is Gender Analysis?**  
by  
**Elizabeth Cecelski**

Gender analysis is a methodology that seeks to understand the distinct culturally and socially defined roles and tasks that men and women assume within the family and household system and in the community outside of the home. Because the tasks that men and women are responsible for in different cultures can vary (e.g. in some cultures men make charcoal, in others, women do), we need to know who does what and how in order to plan development activities. A number of texts and training manuals are available on gender analysis. Most of these draw on the Harvard Analytical Framework developed by The Harvard Institute for International Development. This framework has four parts:

- an activities profile
- a profile of access to and control over resources and benefits
- a profile of factors influencing the first two profiles
- a project cycle analysis

Each of the three profiles provide information for gender. In the last step—project cycle analysis—data is input from the three project profiles.

## Women *(continued from page 7)*

women because the project initiators perceived no cultural barriers that would influence women's and men's participation in the project. But the women's perceptions of the benefits of the project differed from the men's, and women's leadership became the key factor in project success. Women speak out most about the benefits, and they take a leadership role in popularizing the technology.

---

### More women are putting their children in schools.


---

In addition, women who do not presently own systems are influencing cost recovery through what project implementers call the "social pressure" factor. Non-owners of systems believe that unless the existing owners repay their loans, there will be no money in the fund to finance additional systems. The women are applying this pressure very publicly because the benefits will most directly affect them.

#### Preliminary Project Results

- The project has clearly established social and economic impacts, both expected and unexpected.
- The average household income has increased from Rs. 900/month to Rs. 1,500/month.
- According to Father Thomas Mylador, more and more women are putting their children in schools. The women themselves pay the fees, which was never done before, indicating that the women have significant new financial independence.
- According to project follow-up reports, the women have "heaved a sigh of relief" because the PV lights (equivalent to a 45 W incandescent bulb) have turned out to be the ideal solution to their children's inability to study.
- The village is experiencing better health conditions.
- Most important for The Solar Basket Fund, beneficiaries are able to pay monthly installments of Rs. 150 out of their increased income. The recovery in the initial three months of the project was 94%. The non-recovery from a few households was due to the drinking habits of the men in these households.
- Lastly, although hard to directly quantify, one unexpected result of the project is that a large social problem—the overall drinking habits of the men in the village—has decreased due to productive activity during evening hours.

#### Other Lessons Learned

- User perception of a project's benefits is the driving force behind the project success.
- Offer financing that is suitable to potential users needs and conditions.
- Involve users in the pre-planning stage of a project.
- Economic benefits are essential to the commercialization of PV products.
- Appropriate use of product/service delivery, financing and recovery, etc., induces trial purchases and allows for early adoption of products and large-scale use of renewable energy products. 



#### TECHNICAL SPECIFICATIONS AND COST OF SOLAR PV SYSTEMS (SUPPLIED BY SELCO)

Compact Fluorescent Lamps	18 W p
Compact Fluorescent Lamps	2 Nos. of 9 W each
Battery Size	12 V/40 AH
Autonomy	2.7 days

*Cost of the Two Lights PV system: US\$ 265*

*Photos on Page 7 courtesy of REPSO-India.  
Photo at left and technical specifications are from SELCO.*

### Grid-connected and Powerless in Pavor

Pavor is a small village, inhabited by the tribals in the Kasargod Taluk of Kerala State bordering Karnataka. Many of the houses in Pavor are connected to the grid and are officially declared an electrified area; however they have no power as it is not supplied to the area.

Household electrification in this village under the Bhagya Jyoti scheme of the Government has proved futile since a heavy power-cut is experienced in rural feeders and the voltage dip is very high (120 V against 220 V). Relatively rich families using voltage boosters in their houses further compound the problem.

As a result, people living in the tribal areas spend enormous amounts of money on radio batteries, car batteries for TVs, kerosene lamps, and kerosene.

# Central America Network Formed

*A new network has been established in Central America to address the role of gender in energy, from needs assessment to program and project planning. Responding to a perceived need—and opportunity—to increase understanding of the impact that gender roles have on energy use and management, the Gender in Sustainable Energy (GENES) network aspires to improve the effectiveness, longevity, and equity with which energy projects address priority development needs. Over 50 organizations and institutions from across the region have joined the GENES network, providing opportunities for regional exchanges, workshops, and pilot projects, as well as linkages with affinity networks around the world.*



*Participants in Managua meeting May 1999, including GENES country coordinators from Guatemala, Honduras, El Salvador, Nicaragua, Panama, and Costa Rica.*

The idea of building a network focused on gender and sustainable energy emerged in the context of the renewable energy-related activities being implemented by Winrock and the Central American REPSO, Fundación Solar, in Guatemala, and similar efforts in Brazil. A principal tenet supporting the network is the notion that rational use of energy resources can catalyze the process of sustainable development, particularly when gender distinctions in energy use and management are addressed, and women as well as men participate in planning and implementation.

Recognition is growing in the international renewable energy arena that gender roles can have a significant impact on the effectiveness and equity of energy-related projects. However, practical experience with applying this concept to the field is minimal, and that which exists is slow in changing hands. This situation has spurred several groups to push for

greater exchange of case studies, lessons, and overall awareness, most notably learned in the formation of the ENERGIA network (see page 3).

To complement these efforts and give a forum specifically for Latin America, Winrock has worked through its Brazil and Central America REPSOs to build networks aimed at fostering regional exchanges focused on the gender-energy nexus. Workshops in Guatemala in 1996 and Brazil in 1997 initiated a process of awareness-building from grassroots organizers and NGOs to government decision-makers and donors, laying the groundwork for establishing an NGO network in the Brazilian Amazon (see REPSO Vol. 2 No. 4) and a multi-institutional, cross-sectoral network in Central America.

In October 1998, the Central America Gender in Sustainable Energy (GENES) Network was formed through the consensus of over 50 organizations. This network resulted from a workshop held in Antigua, Guatemala, that was coordinated by Winrock and the Fundación Solar (supported by USAID and the Dutch HIVOS) to address the gender-energy nexus. Participation was very active and broad-based, with representatives from women's and other NGOs, producer associations and cooperatives, academic and technical institutions, renewable energy experts, and rural electrification planning agencies. In closing the workshop, all organizations signed a "Declaración de Antigua" that established the regional network, and appointed the Fundación Solar as the acting Technical Secretary. One organization from each of the countries agreed to participate and to serve as National Coordinators.

The National Coordinators met in Managua, Nicaragua, in May, 1999, to discuss the goals of the network and to produce a strategy for advancing its primary objectives. Given the devastation wrecked by Hurricane Mitch shortly following the initial workshop, the agenda for the meeting included identifying priority needs that have been exacerbated in the region, such as the need for clean water delivery and reconstruction of health clinics and schools, as well as reestablishment of agricultural productivity.

Primary activities for the GENES network, as outlined in the draft strategy, include:

- Identifying needs and capabilities among GENES members, to be included in a database accessible to all, and to serve as a basis of internal exchanges.

## PV Project Evaluation in Guatemala

In order to learn from past experiences, the **Fundación Solar** has performed an assessment of its PV domestic illumination projects implemented in cooperation with Plan International in rural Zacapa, Guatemala. The data collected included gender-disaggregated indicators that raise questions about who should receive training in system operation and maintenance—and how. Among the study findings are that women are the principal users of the PV systems, yet they are rarely found to be the ones maintaining the systems. These results underscore the need for a gender approach to energy projects.

- Exchanging information among members and with other networks, including ongoing activities and events, and lessons-learned, through an electronic bulletin, translations of key documents, etc.
- Building capacity in gender approaches and sustainable energy technologies and applications.
- Assessing and prioritizing development needs in each country and according to member focus areas.
- Accessing technical assistance for development of pilot projects that apply a gender perspective in meeting energy needs.
- Raising awareness among policy-makers of the importance of gender in energy and development planning.

During the meeting in Managua, the National Coordinators unanimously expressed the need for greater gender awareness—among themselves and fellow GENES network members. The Coordinators believe that a general misconception exists among NGOs as well as government entities in what "gender" means, why it is important to understand, and how it can be applied to increase overall project success.

Priority activities for GENES members will therefore include training in gender sensitivity and practical analysis techniques, as well as more technical training in sustainable energy technologies, applications, and economics. Local resources will be utilized, wherever possible, through exchanges among network members and by tapping into other local experts.

*(See Network, page 16)*

## Commentary (continued from page 1)

- a recognition of the impact that gender has on how new chronologies are introduced and accepted within the culture of a community.

The phenomena of women in development and gender analysis are fundamentally different—the first represents a type of project and the other a concept. Women in development (WID) projects focus exclusively on the improvement of the status of women, or the delivery of goods, services, or technology to women.

Gender analysis is a methodology used to better understand gender roles. The results of gender analysis can be used to lower the risk of project failure by identifying the interactions between men and women that can affect the success of an activity or technology in a specific context.

WID projects and gender analysis are crosscutting themes in four of Winrock's programs: Clean Energy, Leadership and Human Development, Agriculture, and Forestry and Natural Resource Management. In addition, Winrock has distinguished itself over the past 10 years by developing a fifth program, the Global Women's Leadership and Gender Program, which focuses on stimulating women's leadership, strengthening women's groups, increasing job skills, and promoting the use of gender analysis.

While there is little precedent for applying gender analysis to the energy sector, Winrock has begun to incorporate a gender approach into its renewable energy work. Two examples are with the Amazonian Network for Renewable Energy in Brazil (RAER, see REPSource Vol. 2 No. 4), and the Central America Network on Gender in Sustainable Energy (GENES, see page 11). Through these networks, gender awareness is explicitly addressed in the project approach, beginning with needs identification, and continuing forward through project design and implementation.

---

### Winrock promotes consideration of gender.

---

Through the projects above and other experiences in the LAC and Asian regions, Winrock's renewable energy program staff have learned that at the community level women are effective and efficient managers of renewable energy systems. Once these alternatives to ecologically damaging energy resources are made available, rural women are eager to utilize renewable energy technologies and benefit from the improved standards of living, enhanced economic opportunities, and cleaner and more sustainable environments they offer.

Within its projects, Winrock promotes gender consideration by using a variety of methods—participatory development, participatory rural appraisal, women's programs, and programs that are open to a variety of participants, including women. By learning from and building on its experience, Winrock has and will continue to provide not only new sources of energy but also opportunities which unleash the creative power of women to work in agriculture, rural enterprise, and

forestry and natural resource management. Most importantly, Winrock seeks to provide women the opportunity to see themselves as leaders who can contribute to the welfare of the



### W's Global Women's Leadership Program: A Decade-Old Force for Change

Winrock programs that target women have had dramatic and sustainable results that have empowered women within the context of their own cultures and perspectives. This is best seen by the large numbers of women who are active participants in agricultural, forestry, and energy-related projects.

While each of the five global programs of Winrock integrate a concern for gender into their projects, the 10-year-old Global Women's Leadership and Gender Program has gender as a specific and separate effort.

This program focuses on the need for women's leadership and the importance of examining the issue of gender in project management, implementation, and evaluation. The work is conducted in two regions: in Africa, via the African Women Leaders in Agriculture and the Environment (**AWLAE(SM)**) Program, and in the former Soviet Union (NIS), through the NIS-United States Women's Consortium.

#### **AWLAE(SM)**

Established in 1990, the **AWLAE(SM)** was developed to promote women's leadership in agricultural and environmental fields in an effort to address the severe problems of hunger and poverty facing the continent. Over the past nine years **AWLAE(SM)** has prepared a critical mass of self-confident, risk-taking pioneering African leaders who are changing the policies, programs, and practices that affect the often-neglected female farmers in Africa—a network of African women scientists and leaders committed to building the skills and capacity of development professionals and institutions.

The ultimate targets are women farmers, who produce more than 80% of the food consumed but are often overlooked by researchers, agricultural universities, extension programs and policy makers. **AWLAE(SM)** works via three key components preparing women leaders, building an enabling professional environment, and creating sustainable mechanisms.

(See Leadership, Page 13)

## Leadership *(continued from page 12)*


The Winrock West Africa office administers the **AWLAE(SM)** program in Benin, Côte d'Ivoire, Mali and Senegal. The Winrock East Africa office administers the **AWLAE(SM)** program in Ethiopia, Kenya, Tanzania, and Uganda. Since 1989 AWLAE has funded more than 90 academic scholarships, over half at the M.Sc. and Ph.D. levels; conducted nine sets of *Leadership for Change* training, producing a cadre of nearly 300 women leaders who spearhead the program activities in Africa while the scholars are studying; helped establish nine fully-registered African NGOs and professional associations; and collaborated with major ministries, research institutes and agricultural and environmental organizations through gender analysis task forces, training, and other activities.

### **The Newly Independent States-United States Women's Consortium**

The NIS-US Women's Consortium, a membership organization of women's NGOs in Russia, Ukraine and the United States, was established in 1992 to foster collaborative activities to improve the status of women in the New Independent States (NIS) of the former Soviet Union. The Consortium increases women's participation in democracy building by strengthening the organizational capacity of NIS women's NGOs and the leadership skills of women activists.

The planning and implementation of Consortium activities are guided by the following commitments to action: encouraging and taking part in participatory decision-making; achieving equality for women of all cultures; respecting the diversity of perspectives and methods of operation of other women's organizations and Consortium members as a source of strength and creativity; focusing on the issues of women's rights, women's economic development and progress toward women's social development; helping women to help themselves; and increasing visibility for women's full participation within the sector of the organization's activities.

The NIS-US Women's Consortium offers technical assistance, leadership training, grants, and information to women's NGOs. The Consortium also provides a model for participatory decision-making and program development. The Consortium has offices in Russia and Ukraine, and has activities in Belarus, Moldova, the Caucasus and Central Asia.

Whether men or women, gender roles and responsibilities shape the way people respond to new technology and the need to change old habits. Winrock staff are constantly seeking new ways to be more responsive to these challenges to ensure that life does improve through our project activities. 

### **AWLAE(SM) East Africa Office**

Charity Kabutha  
East Africa Regional Coordinator  
Winrock International  
Liaison House, State House Avenue  
PO Box 60745  
Nairobi, KENYA  
011-254-2-711-590 tel  
011-254-2-712-839 fax  
winrock@africaonline.co.ke

### **U.S.-Based AWLAE(SM) Coordinators**

Maggie Range, East Africa  
Vicki Walker, West Africa  
Winrock International  
1611 North Kent St., Ste 600 Arlington,  
VA 22209  
(703) 525-9430 tel  
(703) 525-1744 fax  
[mrange@winrock.org](mailto:mrange@winrock.org)  
[vwalker@winrock.org](mailto:vwalker@winrock.org)

### **NIS-U.S. Women's Consortium**

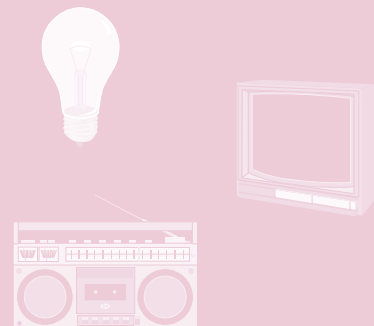
Olimpiyskiy prospekt 16 Room 2383  
Moscow, Russia  
(7 095) 288-9633 tel/fax  
(7 095) 288-7066 tel/fax  
[wcons@com2com.ru](mailto:wcons@com2com.ru)

### **NIS-U.S. Women's Consortium**

Vul. Zankovetska 5-2, No. 49  
Kyiv, Ukraine 252001  
(38 044) 229-6543 tel  
(38 044) 228-0685 tel/fax  
[consort@winrock.kiev.ua](mailto:consort@winrock.kiev.ua)

## Why Involve Women in Renewable Energy Projects?

- It makes sense commercially to know your customer
- Women are major energy users, often in the home
- Women are a good credit risks
- Women are the adult member of the household spending the most money on the children
- Women are increasingly heads of households
- Women bridge the family/community gap
- Renewable energy can help address equity concerns



# What's New in REPSO?

## Central America...

### Renewable Energy Trade Associations Formed in Guatemala

REPSO Central America supported the creation of two new Guatemalan renewable energy trade associations. The Private Sector Association of Renewable Energy Generation (Asociación Gremial de Generadores de Energía Renovable—Gregonable), whose membership consists of medium-to-large power producers from the hydro sector and other non-biomass energy sectors and The Private Association of Cogeneration (Asociación de Cogeneradores Independientes), an association devoted to sugar cane cogenerators. Both received government approval and were legally adopted in 1998.

Prior to the institution of the two trade associations above, Fundación Solar facilitated the creation of The Association of Renewable Energy, whose membership consists of private sector vendors of renewable energy equipment (primarily solar PV, small hydro, and small wind).

The impetus for starting all three associations was the deregulation and restructuring of the energy sector in Guatemala. With this restructuring came the opportunity for private sector renewable energy producers and vendors to sit in the regulatory bodies as representatives of the private renewable energy industry and move forward the agenda of renewable energy on a free market basis. The associations will also facilitate participation in renewable energy-related activities, conduct outreach efforts, and conduct policy articulation for renewable energy.

## Brazil...

### APAEB to Include Rural Energy Service Company

Associação dos Pequenos Agricultores do Município de Valente (APAEB) is a 19-year-old nonprofit association of small farmers in the state of Bahia in Brazil.

Recently REPSO/Brazil, supported by the Brazil USAID mission, USAID's Bureau for Global Programs/Center for Environment (USAID/G/ENV), and WI, met with APAEB and seven local mayors and began work on a permissionaire to supply energy to remote areas in Bahia. Winrock is providing

technical expertise and funding to allow APAEB to assume the operation and maintenance of 100 initial systems in the seven municipalities (equipment provided by Prodeem). The governments will pay a monthly fee to APAEB to operate and maintain the systems.

APAEB began work in solar energy in 1993 to assist local agriculture in sisal production (REPSO Source, Vol. 3 No. 3). APAEB also launched a revolving fund that installed 20 new PV systems per year. Following that success APAEB decided to sell solar home systems (SHS) on a cash basis using funds from the Banco do Nordeste do Brasil to finance the installation of new systems (over 300 to date). The success extends ABAEB's goals for local agriculture and its goal to generate income to finance the organization's educational and social programs.

## India...

### Winrock Partners with IREDA

Winrock International India (WII) and the Indian Renewable Energy Development Agency (IREDA) entered into an agreement earlier this year whereby WII will serve as a Business Development Associate of IREDA. Under this agreement, WII will identify and promote new renewable sources of energy, in particular solar PV, in exchange for which IREDA will provide business-linked incentives. WII is the first non-governmental organization to participate in this program.

## Indonesia...

### RENI Facilitates Formation of METI

YBUL/RENI (REPSO-Indonesia) facilitated the establishment and visibility of the newly formed Masyarakat Energi Terbarukan Indonesia or the Indonesian Renewable Energy Society (METI).

For some time both the private renewable energy companies and the Government had realized the need for an association that could respond to the opportunities presented by the economic reformation and restructuring of Indonesia's power utilities, but they could not find a proper agent to do it. RENI, because of its status as an NGO, was considered "neutral" for the purposes of bringing together the two sectors. Formerly, institutions that were involved in renewable energy were primarily government institutions.

METI has a greater constituent base than APETINDO, the Indonesian Private Sector Renewable Energy Association facilitated by RENI and established in 1997. (METI includes active participation from APETINDO representatives.) Through YBUL/RENI both APETINDO and METI have gained access to the Minister of Mines and Energy via invitations to regular coffee meetings held with Minister Kuntoro. In the Minister's Wednesday morning coffees, groups of energy businessman can have open discussions with the Minister about problems they are facing in the energy sector. Further, Minister Kuntoro, for the first time, has an



(See What's New, Page 15)

## What's New *(continued from page 14)*

opportunity to understand renewable energy from the perspective of the private sector.

### Nepal...

#### *South Asia REPSO Facilitates Hydro Policy Change in Nepal*

Winrock's South Asia REPSO, sponsored by USAID/G/ENV, USAID Nepal, and WI was able to help facilitate a change in the Nepal Electricity Authority's (NEA) buy-back rate (rate at which the national power grid will buy power) for small hydro independent power producers (IPPs). The price that the NEA will pay to small private power producers has increased from US 4 cents per kWh to US 4.4 cents for the duration of the wet season in Nepal (eight months of the year) and from US 5.8 cents per kWh to 6.25 cents for the four dry months.


One of the mandates of REPSO Nepal is to work to increase private sector investments in renewable energy technologies, mainly hydropower and solar energy. The increase in the price that NEA will pay to independent power producers has already encouraged private producers to consider new investments. As a result, the REPSO has been approached by entrepreneurs and has awarded to three private entrepreneurs feasibility study funding for small (10 MW, 2.6 MW, and .5 MW) hydropower

projects to supply power to the grid. REPSO Manager Bikash Pandey expects that the increased buy-back rate will bring in many more developers in the next few months.

In the past, the Government of Nepal has relied on public sector projects to meet the increasing power demand in the country. The policy success described above will enhance the commercial viability of small hydropower and bring much needed private investment into the power sector.

### Philippines...

#### *Windmapping*

REPSO Philippines/PEI organized and hosted a Wind Resource Mapping Seminar on March 10, 1999 wherein results of the recently completed "Wind Energy Resource Atlas of the Philippines" were released. The news that significant potential for wind energy production exists in the Philippines was enthusiastically received by the more than 70 participants and by print and television media attending the seminar. The study, funded jointly by U.S. and Philippines government agencies, has strengthened interest in wind energy development in the Philippines. The National Renewable Energy Laboratory (NREL) produced the Atlas, under contract to Winrock. 

**Winrock International** is a private, nonprofit organization that works with people to build a better world—increasing agricultural productivity and rural employment while protecting the environment. Winrock's staff of more than 200 implements projects in 40 countries. Activities are funded by grants, contracts, and contributions from public and private sources. Winrock is headquartered on Petit Jean Mountain near Morrilton, Arkansas, and has offices in Arlington, Virginia, and around the world.

# Contacts

#### **Brazil**

Dr. Osvaldo Soliano Pereira  
Av. Luiz Tarquinio Fontes no. 2580  
Villas Trade Center  
Edf. Villas Empresarial S. 106/107  
42.700-000 Lauro de Freitas  
Bahia, Brazil  
Phone/Fax: 55-71-379-1759  
E-mail: mail@winrock.org.br

#### **Guatemala**

Mr. Ivan Azurdia  
Mr. Hugo E. Beteta  
Fundación Solar  
15 Avenida 18 - 78, Zona 13  
Ciudad Guatemala, Guatemala  
Phone/Fax: 502-332-2548  
E-Mail: funsolar@ns.guate.net

#### **India**

Dr. Venkata V. Ramana  
No. 7 Poorvi Marg  
Vasant Vihar  
New Delhi 110 057  
India  
Phone: 91-11-614-2965  
Fax: 91-11-687-6004  
E-mail: winrock-delhi@cgnet.com

#### **Indonesia — RENI**

Dr. Lolo Panggabean  
YBUL  
Jln. Mendawai III No. 2  
Kebayoran Baru  
Jakarta Selatan, Indonesia  
Phone/Fax: 62-21-739-6481  
E-mail: ybul@indo.net.id


#### **Nepal**

Mr. Bikash Pandey  
Winrock International  
APROSC Building  
Ram Shah Path, P.O. Box 1312  
Kathmandu, Nepal  
Phone: 011-9771-254-687  
Fax: 011-9771-262-904  
E-mail: bpandey@mos.com.np

#### **Philippines**

Ms. Grace Yeneza  
Preferred Energy, Inc.  
10/F, Strata 100 Building  
Emerald Avenue, Ortigas Center  
1600 Pasig, Metro Manila  
Philippines  
Phone: 632-631-2826  
Fax: 632-632-7097  
E-mail: repso@cni.net

## Network *(continued from page 11)*

Next steps for the GENES network include establishing a combination of electronic and printed means of communication in the form of a dynamic "Boletín", to serve as a forum for updating members; addressing issues of common interest and concern; developing calendars of key events; and exchanging information with other networks worldwide. A fund-raising effort, led by Winrock, is also in process to secure a base of support for initial network activities. 

### GENES Network Member Update

- ◆ **Fundación Solar** has initiated internal gender training activities, with the objective of incorporating a gender perspective into the organization's internal structure. This training will increase the possibility of applying gender principles into ongoing and planned fieldwork. Two gender workshops, given by local Guatemalan (female) facilitators, have advanced the process of awareness-raising.
- ◆ In June, **Asociación ANDAR Costa Rica** sent four technicians to receive a one-week training course from **Adesol Honduras** in photovoltaic (PV) system design and installation. ANDAR-CR will in turn receive ADESOL staff for gender training. This exchange, in discussion for some time, is an example of the kind of internal exchange from which all members could benefit. Both ANDAR-CR and Adesol are national coordinating members of the GENES network.
- ◆ The inventors of a methanol stove visited GENES network members in Guatemala, Honduras, and Nicaragua to promote the technology as an alternative to fuelwood stoves. If the promoters can demonstrate the economics of methanol in Central America, such a stove could provide an efficient and clean alternative that could reduce deforestation pressures. It is expected that the GENES network will continue to provide industry with useful links throughout the region.

## REPSOource

Newsletter of the International  
Network of Renewable Energy  
Project Support Offices of  
Winrock International

**Publisher:**

Winrock International  
Renewable Energy Division  
1611 N. Kent Street  
Arlington, VA 22209 U.S.A.  
Phone: (703) 525-9430  
Fax: (703) 243-1175  
E-mail: fe@winrock.org

**Editor:** Judy Siegel

**Contributors:**

Iván Azurdia  
Lisa Büttner  
Elizabeth Cecelski  
Andrea Collins  
W. Jefferson Gucker  
Anita Khuller  
Adi Lugur  
Constanza von der Pahlen  
Bikash Pandey  
Lolo Panggabean  
Mayka Puente  
PJ Saliterman  
Emerentina Costa e Silva  
Sarah Tisch  
Katja Winkler

**Layout:** Fay Ellis

---

---

### REPSOource

Winrock International  
Renewable Energy Division  
1611 N. Kent Street  
Arlington, VA 22209 U.S.A.



Printed on recycled paper