

**ENERGIA – International Network on Gender and Sustainable Energy**  
**Regional Paper prepared for the 14<sup>th</sup> Session of the**  
**UN Commission on Sustainable Development**  
**May 2006**

## **THE RELATIONSHIP BETWEEN GENDER, ENERGY AND DEVELOPMENT IN LATIN AMERICA AND THE CARIBBEAN**

Leontine van den Hooven,  
Fundación Solar, Guatemala

This regional report is intended to help create greater awareness among national governments and the international community at CSD 14 and 15 concerning the importance of gender issues in energy planning and policies. It is hoped it will lead to new concrete commitments and actions on mainstreaming gender considerations into energy decision making.

During the CSD Regional Implementation Meeting for Latin America and the Caribbean, the representatives of Women as a Major Group had some success in conveying to government delegates the importance of introducing a gender perspective. However, the promotion of women's participation in decision-making processes related to energy still requires a lot of work. With enhanced participation, a more profound understanding of the different conditions in which men and women find themselves, will be gained.

By strengthening activities which incorporate a gender perspective into national and regional institutions and into the formulation and implementation of energy projects and programs, the integration of gender and energy policies can be realized, in this way stimulating sustainable development in Latin America and the Caribbean and promoting a culture based on equity and diversity principles.

It is important to develop and implement specific indicators to evaluate the impacts of energy policies and projects in terms of their satisfaction of people's basic needs and strategic interests, and to verify qualitative and quantitative changes in the relationships between men and women. In addition, documenting lessons learned during the implementation of energy projects as part of a systematized process will show the actions and programs taking place at the national and the local level in the Latin American countries.

### **Background**

In Latin America, as in most of the developing countries, improvements in access to energy services are essential for sustainable development. The sustainability of energy systems is related to economic indicators, equitable access to energy services and the environmental impacts of energy use and exploitation. In many Latin American countries, the implementation of open

markets and policies related to rural access to electricity have caused significant transformations in the energy sector. Latin American developing countries are facing the problem of having to compete in a global market, while the amount of energy consumed per capita, and its productivity, is relatively low. The condition of Latin American women is doubly difficult: they experience greater exploitation than the men because their unpaid labor is used to nurture the national economies. The “invisible” work that women perform every day provides indispensable energy inputs for the survival of their families and households, and because of that, for the economies of their countries.

There has been little concern about the impacts of the transition in the energy sector on rural and urban women. Savings of labor time in women’s domestic work has received little attention, since this unpaid expenditure of human energy is not registered in national accounts. Nor are women’s earnings in the ‘informal’ sector.

Energy needs have grown, in terms of production and consumption levels, simultaneously with increases in population and technological development. At the global level, there is a demonstrated relationship between energy use and economic development indexes. But this does not mean that there is a fair distribution of the opportunities and benefits from economic growth due to the use of energy technology for production purposes. Many people do not have access to energy in the quantity and form they need to satisfy their basic household and productivity needs, and so remain in poverty. Problems with access to energy are greatest in the rural areas where electrical power is insufficient. Governments face big challenges addressing issues of fairness and access among urban and rural populations, as well as high rates of population growth, and clear energy policies are needed with a vision of urban and rural sustainable development.

Widespread dependence on traditional biomass fuels is likely to continue in many of the developing countries. At the regional level, firewood continues to be the most common form of energy for cooking, and sustainability of its use is fundamental for environmental and social reasons. There is a need for sustainable management of firewood use, as well as reduction of its environmental impacts and the adverse conditions affecting rural women who use it.

In both urban and rural areas, women are engaged primarily in informal economic activities and domestic and reproductive tasks for the family and the household - preparing and processing the food supply, taking care of the children and older and sick people, and cleaning. Though unremunerated, these activities provide significant benefits to those working in the formal employment sector.

Women’s own income producing activities are generally informal and coordinated with their multiple household responsibilities. Even in regular jobs, women generally do not receive the same economic compensation as men do for the same effort, and women suffer more from increases in unemployment, since traditionally their access, permanency and promotion in the formal employment sector has been limited.

Thus women, in spite of their active participation and strong contribution to the economy, are always the poorest because of their disadvantageous position in relation to the men. It is important to emphasize that this condition of women is not ‘natural’, but the result of historical and cultural factors that have determined the roles of women.

## **Key Energy and Gender Issues Identified**

For Latin American women in particular, the lack of valuation and remuneration for their work keeps them in poverty and marginal conditions, with little political participation and input into decision-making processes. In addition, lack of access to credit, services and technology limits their participation in the development process in general. The legal and judicial frameworks in these countries still do not offer real support to women, regardless of ethnic, or class distinctions.

It is important to emphasize that the energy consumption and productivity statistics of a country do not reveal the exclusion of women. Energy decision makers commonly assume that increased energy consumption automatically increases everyone's quality of life, and therefore emphasize energy projects and programs on a great scale, without taking into account the energy needs of the poor majorities, or the different roles and responsibilities of men and women.

Domestic energy is one of the most important sectors in Latin American countries, and it is primarily women who are responsible for supplying biomass fuels like firewood and crop residues. Given the environmental and social impacts of biomass use, it is important to take steps to reducing these impacts - conserving the soils of the region, maintaining a healthy atmosphere, and obtaining better time use.

The experience of women in the Latin American region is characterized by three fundamental elements:

- Conditions of life which, in general, are among the worst in Latin America, so we can speak of a "feminization of poverty"
- A remarkable difference in economic, social and political participation of men and women, with restricted citizenship rights for the women.
- A historically created socio-cultural situation characterized by discrimination against women in social practices and in the legislation of each country.

The poverty of women means, among other things, limited access to energy resources and options. Contrary to what is usually expressed when one speaks of the energy consumption of rural homes, the biggest energy source is not firewood and biomass, but the invisible unpaid time and work of the women, cooking and preparing food, gathering the firewood, and transporting water. Poverty in the Latin American countries is not only reflected in lack of access to basic services such as water and electricity, and education, but also in limitations on physical and mental development.

In general, since energy policies have been considered to be gender-neutral, there are not specific rules in the Latin American region that make explicit these relationships. Inequality of opportunities for women is related to historical conditions, and the effective participation of women therefore requires not neutral discourse, but a vision that integrates the specific needs of women, based on their own definitions.

For this reason, the impacts of the energy policies and strategies in Latin America need to be differentiated by gender, considering the practical and strategic energy needs of men and women so that they can be taken in account. To obtain gender equity for men and women in access to energy resources, a variety of related actions are needed, guided by a national strategy to eliminate the factors responsible for the inequities.

A gender perspective does not just refer to the incorporation of women in development projects, but also to the necessity of creating new concepts, methodologies and instruments that contribute to changing the existing structures of inequality among men and women, and the current unsustainable use of the environment.

- Involving men and women in influential roles at all levels can accelerate the achievement of sustainability in the management of the energy resources.
- Sustainable management of energy resources can contribute significantly to improving gender equity, because it increases the access of both women and men to energy resources services to meet their basic needs.

By means of better energy access and use, women can better satisfy their personal needs and collective interests. Through improvements in time use, women can also improve their education level and pursue employment and productive activities to increase their incomes and contribute to the economies of their homes.

Development initiatives that include women as protagonists can improve the efficiency and effectiveness of the promoted actions. Effective participation of women in all the decision-making spaces, from the local ambit to the international one, can be achieved through mechanisms like education, training, empowerment and financial assistance. Integration of gender perspectives into energy policies offers an opportunity for a new and responsible focus in policy development. An important role to be carried out on the part of the NGO's (non-governmental organizations), will be to support the participation and empowerment of sectors traditionally excluded from policy formulation processes.

Another essential aspect of considering energy resources from a gender perspective involves recognition of the management roles that women in the rural area have developed with regard to the natural environment. Women have valuable experience in managing energy resources and it is important to promote the use of this experience in energy projects, with the objective of building a more sustainable environment for the whole community. In this way a more equal distribution of benefits and services among the different groups of interest can also be assured, reducing the competition and the conflicts related to the energy resources. To recognize the contribution of the women in the administration of the energy resources and to economically value this contribution, it is necessary to use gender-sensitive concepts, methodologies and instruments.

In energy projects with a gender perspective, it is necessary to evaluate the long-term impacts generated in satisfaction of basic needs (such as drinkable water, domestic electrification, improved wood-burning stoves, corn mills, health centers with refrigeration, telecommunications, community illumination), as well as strategic gender interests (such as energy for education, increased political participation, participation in decision-making processes, and productive uses in small and medium enterprises).

It is important to ensure the equal engagement of men and women in organizational, technical, productive and administrative project activities, with the objective of verifying the qualitative and quantitative changes in relationships between men and women.

Gender indicators can:

- Make the invisible, visible. Indicators allow us to recognize, for example, the time women dedicate to gather firewood in areas of scarce energy sources, instead of dedicating their time to education, or to income-generating activities.
- Monitor advances made. The results obtained by applying the same indicators at different moments allow us to evaluate whether the situation and the quality of life of the men and women participating in an energy project have improved or worsened.
- Measure the overall impact of projects. Indicators allow us to evaluate if the implemented policies, programs or specific projects achieve gender-sensitive targets.

The inclusion of a gender perspective in the design and the implementation of energy initiatives is a relatively recent phenomenon. However, when programs or projects recognize the differences between men and women inside the families, groups of interest or communities, important benefits have been obtained (IUCN and UNDP 2004):

- The decisions that have recognized the gender differences in the energy sector have visualized and taken into account more diverse perspectives and needs.
- When energy has been related to social topics, like poverty, health, security and empowerment, the gender aspect has been more successful.
- When household energy programs have been focused on women, their energy consumption has been directly or indirectly diminished. Alternative energy programs have proven to be more effective since women are more involved in these types of decisions.
- The nutrition of the family has been improved by the alternative energy technologies.
- Most women consider the time and effort reduction in domestic and reproductive tasks one of the most important results from the access to alternative and sustainable energy resources.
- It is important to recognize in the Latin American countries the quantity of homes under conditions of poverty which have female leadership. The promotion and the participation of these women in the planning and decision-making processes on energy resources, has had a significant impact in poverty reduction.
- Illumination is one of the most important benefits for women, since it contributes to security, convenience and recreation possibilities at night.

- The electrification process increases the value of land and other communal properties.
- Health impacts are important for women and the children when energy improvements reduce the quantity of smoke and other polluting agents inside the home. Also, foods can be conserved longer in those homes that can have cooling systems.
- The use of alternative technologies for energy production, like small hydroelectric plants, solar systems and wind mills, are viable solutions for isolated areas. Involving women in these projects has been shown to be successful in many of the initiatives that have introduced these new types of technologies.
- The education programs linked to energy which have been focused on women have had more impact on future conservation and responsible energy consumption, since women are responsible for educating the children.
- Information differentiated for sex allows more effective supervising and evaluating of the negative and positive impacts of projects.

### **Recommendations for Regional, National and International Actions:**

#### Recommendations for policy formulation

- Motivate the decision makers of the energy sector to understand the importance of the gender topic in the national politics.
- Develop an energy policy which includes a vision of sustainable development. This policy should not just be dedicated to an increase in electrical coverage, but should also include topics like providing for basic needs, social services and appropriate access, which allows for explicit gender perspectives.
- Incorporate the topic of rural energy development into national politics, including domestic energy, income generation and biomass management at the rural level.
- Strengthen activities which include a gender perspective in national and regional institutions. The promotion of gender action networks can be an important approach at different levels, like ministries and NGO's.

#### Recommendations for program and project formulation

- Incorporate a gender perspective in the different formulation and implementation levels of energy projects, using existing methodologies.
- Strengthen the development of case studies to be able to disseminate experiences and lessons learned from energy and development programs and projects in the region.
- Propose, develop and use relevant indicators which include a gender perspective, in this way supporting valuation of the relationship between energy and gender.
- Promote alliances between programs and projects which have a social impact, a gender perspective and energy components, in this way integrating a wider social intervention dynamic, which can strengthen the work with women's groups on their different roles and energy needs.
- Develop and implement supervision and evaluation systems that integrate a gender perspective.

### Recommendations for training and institutional mainstreaming

- Evaluate organizations and institutions from a gender perspective at all levels, from their responsibilities to their development impact.
- Strengthen critical institutional capacities to implement institutional programs with gender perspectives.
- Promote the development of training programs in gender and energy which respond to the realities of the region. Consider the promotion of institutional exchanges which contribute to sharing experiences in the Latin American countries.
- Support training programs for women in alternative technologies.

### Recommendations for information and participation processes

- Complete the identification and evaluation process regarding gender barriers.
- Promote the participation of women in the energy sector at all levels.
- Undertake organizational and institutional studies, including systematization of information and the creation of statistical data and indicators that consider the gender situation in the institutions, as well as those that indicate the general trends in energy use, management and demand.
- Promote equal access of men and women to alternative technologies to reduce contamination of air in the home.
- Support the access of men and women to information on clean energy technologies and the efficient use of the energy.
- Promote the equal access to the information on alternative energy markets.

### **Conclusion:**

The energy situation in Latin America presents very important challenges to energy decision-makers. The dilemmas posed by market transformations in societies with structural access problems will be a sustainability topic that will have to be analyzed and discussed in coming years.

To improve the development conditions related to energy and sustainability, a new debate will be needed on topics like investment attraction, management of the social effects of energy use, stimulation of energy access, and environmental effects.

At the regional level, it is important to address the topic of rural energy in isolated communities that won't be covered by current energy markets. This equity topic is fundamental and will need to be approached from a multidimensional perspective of equity and development.

The integration of gender perspectives into emergent energy policies offers an opportunity toward a new and responsible focus in the development of policies, and therefore it is important to realize its integration in the short run.

## **Case Studies:**

Case Study 1. Construction of a micro-hydro plant (110 kW) for supplying energy services to isolated communities in an eco-region which suffers the consequences of a 36-year civil war – Fundación Solar, Guatemala.

### Background

Guatemala was affected by a severe civil war for 36 years. The communities affected were either abandoned or destroyed. People fled up to the mountains and lived in precarious conditions for many years. The area of Chel, located in the northern department of Quiché, was one of the areas severely affected by the armed conflict.

Indigenous communities live in houses mostly made of wood. Their families range from 7 – 9 members, and the land is not always fertile. This creates problems for their agricultural practice, because most families consume what they produce. The families' income, on average, is \$25.00 a month and access to basic services is very poor.

### Problem Statement and Development Objectives

The Guatemalan civil war (1960-1996) was heavily fought in rural areas, most of which lacked basic services. Peace Accords were signed in 1996, allowing various organizations, both national and international, the opportunity to support the peace process in the area. The intervention by Fundación Solar came as an opportunity for the area to gain access to energy.

As Fundación Solar came into contact with the Chel leaders, it was realized that much more was needed than just energy services. Although their main objective was to introduce renewable energy technology and train community members about its productive uses, a new aspect was introduced to the intervention. After visiting the community and understanding their needs, the main objective of the project was to contribute to the development of men and women in the communities through the removal of organizational, technical and financial barriers for the dissemination of renewable energy. The project received financial support from the United Nations Development Programme (UNDP) and the Global Environment Facility (GEF).

### Activities Undertaken

Leaders of the Chel community had thought that micro-hydro was the only option for their isolated community. The observation of such plants was made when the community was moving throughout the sierra while escaping the armed conflict. By the time they resettled, they made a request to local authorities for energy services, and through this request met Fundación Solar's executive director. Fundación Solar used GEF funds to finance the technical studies needed to bring renewable energy to Chel. From the social point of view, the unique social situation under which the community of Chel was living called for the design of a development plan. This plan was to bring rural, technologically- limited communities technology they could use for development.

This process was complicated by the difficult access to Chel, which took the Fundación Solar staff 7 hours to reach by foot. Some members of the community were skeptical about the realization of such a project. Fundación Solar staff began with technical studies to see what possibilities there were for renewable energy in the area. Their multidisciplinary group included sociologists, lawyers, engineers, business administrators, gender specialists and local Ixil-speaking technicians. Understanding the needs, fears, cosmic vision, and internal power conflicts of the indigenous Ixil people took much the time and effort, but produced a community that was willing, for the first time in 40 years, to put aside their fears and work together on a development process, rather than pure survival, like in the past.

### Community Participation and Gender Balance

The approach with which Fundación Solar enters communities is based on a strong promotion of consensus building, conflict management and participatory processes rooted in a gender-sensitive methodology. For Fundación Solar it is very important not only to obtain the consent of the population, but also to reinforce the importance of women's participation in the political, economical, and social activities of the community. In the case of Chel, it was a great challenge to undertake, because both men and women were afraid to participate due to years of military oppression which created tremendous insecurity in the region.

The ethnic composition of the local population, language (very little Spanish is spoken, especially among women) and the isolation were familiar to Fundación Solar's team, but their complex political and social characteristics presented a challenge for the staff. Fundación Solar had a great responsibility in the region, not only to meet the community's energy demands but also to bring the community together for a project involving technology transfer, development of local management skills, basic accounting, labor contribution, service charges, and watershed management. For Fundación Solar, it is imperative that the community play a strong role in the development of any project they do.

In the 10 year experience of Fundación Solar, the policy has been to create a local association, or name an existing one, for the operation and maintenance of the technology, and the productive uses, and services that the energy provides. Chel, with guidance from Fundación Solar, created the Chelense Hydroelectric Association. The association gives the community a sense of identity with the project, and so creates support among the energy consumers.

### Outcomes

The Chel project has had more of a social than a technological impact on the community. Due to the strong ideological, social and political division of Chel, Fundación Solar created a Rural Development Program to help the polarized community work towards a common goal

Working with the Chel population had many purposes, but one of the most important was developing their understanding of the value renewable energy represents to them, and how technology incorporates their community into a formal system. As time went along, trust grew within the Chel community. In a community where trust was heavily damaged by the armed conflict, it was amazing when they obtained a solar telephone, by credit. Understanding the success of micro-enterprises based on modern technology, Chel decided to acquire other communication systems such as a fax, and they obtained a computer. Community services were

also benefited through solar energy. The next acquisition they have planned, using credit is a pick up truck, to facilitate transportation for the construction of the micro-hydro plant. They have taken the first step towards minimizing their isolation and trusting institutions, such as credit, that were unfamiliar to them.

Case Study 2. Installation of solar photovoltaic systems for the provision of rural energy services in the context of integrated development of the Cancuén Archeological Park and nearby communities, Fundación Solar, Guatemala

### Background

The area of Cancuén is located on the border of two northern Guatemalan departments: Alta Verapáz and Petén. This area unites volcanic highlands with tropical lowlands, creating a transitional eco-region of unique value for conservation. Almost 75% of the population is made up of Q'eqchi' Maya villages mostly dedicated to subsistence agricultural practices, with very little access to basic infrastructure services and education. The region has very limited access to grid-connected energy services. The traditional energy services are mostly supplied by very inefficient fuel wood stoves, kerosene lanterns and dry cell batteries.

The discovery of a Mayan archaeological site in this eco-region has the potential to impact not only the preservation of the cultural heritage of the Mayan civilization, but also conservation efforts, and to create synergies for the sustainable development of local communities in the area.

The Cancuén Archeological Park (CAP) is managed by a consortium assembled by Universidad del Valle Guatemala and Vanderbilt University, in the USA, that seeks to develop the Cancuén Area as an archeological park creating enabling environments in support of local community development processes, while concentrating on archeological research and preservation. The project received financial support from the US Agency for International Development (USAID).

### Problem Statement and Development Objectives

The Cancuén Archeological Park is located in a Guatemalan area that lacks access to modern energy services, both for the direct archeological site (and its associated infrastructures), as well as for surrounding communities. With the basic philosophy of local participation and sharing of the benefits created by the development of the archeological site, access to “modernized” energy services for targeted end uses, like illumination, communication and income generation, was identified as an important goal of the project.

As in many other rural energy initiatives, several development objectives, like improvement of quality of life, promotion of sustainable infrastructures and catalytic assistance to facilitate the development of productive uses of energy needed to be balanced in response to local concerns. Fundación Solar facilitated coordination of local village organizations, a grassroots NGO, the consortium of universities and the international donor to develop a project aiming at the provision of rural energy services responding to the following objectives:

- Using multiple technological interventions to meet identified needs, including communications, lighting and energy services for community centers, schools, and park infrastructures, water pumping, and other productive use applications
- Providing technical services for the design, implementation, installation and commissioning of systems in the field
- Capacity building for the participating organizations regarding potential applications of renewable energy in the rural context, basic issues on selection and transfer of renewable energy technologies, models for sustainable project operation, management of solar photovoltaic applications, and monitoring of rural energy service projects
- Training of system users in the installation, operation and maintenance of photovoltaic technologies.

#### Activities Undertaken

- Installation of demonstrative systems in two key locations in order to assist communities and participating organizations on the understanding of relevant issues associated to the use and O&M of p.v technology.
- Provision of technical service to determine system specifications, procurement, installation and commissioning of systems.
- Provision of training and technology transfer related to O&M, development of monitoring programs as well as management of infrastructure related to control of community savings accounts that can assist system sustainability in time.
- Provision of grass roots training to systems users at the community level
- Provision of assistance to the local organizations on the development of appropriate documentation to be used for the correct monitoring and management of the project
- 

#### Community Participation and Gender Balance

To integrate the gender perspective with the technical tasks, the following activities have been carried out:

- Inclusion of men and women in the dissemination of information about the possibilities of the project.
- Inclusion of men and women in the demonstration of the technical equipments.
- Inclusion of men and women in training on the operation and the maintenance of the technical equipment.
- Inclusion of men and women in the administrative training for the sustainability of the technical equipment.
- Stimulation of the active participation of women in the present project and in future actions.

The systems installed in the schools benefit boys and girls. An illumination system was installed at the local maize mill, to benefit the women that have to visit the mill in the darkness. The same women will take charge of the operation, maintenance and administration.

**References/Additional Reading:**

UNDP (United Nations Development Programme)  
[www.undp.org/regions/latinamerica/](http://www.undp.org/regions/latinamerica/)

IUCN (The World Conservation Union) Central America  
[www.iucn.org/en/projects/camerica\\_pa.htm](http://www.iucn.org/en/projects/camerica_pa.htm)

Fundación Solar  
[www.fundacionsolar.org.gt](http://www.fundacionsolar.org.gt)