Women Empowerment in South Asia – Advancing access to Clean Energy: A Case Example

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Abstract
Almost a third of the total energy consumed in South Asia is managed or administered by women. Yet there are no institutional arrangements available to prepare women for this task and there are few instances where women are given the training, information, knowledge, and skills to plan and manage the efficient utilization of energy, including the use of renewable energy sources in their daily lives. Women in Sustainable Energy Research (WISER) is set up to fulfill this need through the development of application oriented energy management programs and their dissemination to the women of South Asia. WISER will work in close partnership with the South Asia Women in Energy (SAWIE) network. WISER will be the training hub for SAWIE, showcasing clean energy technologies and incubating energy efficiency and renewable energy systems for women entrepreneurs in South Asia (SA). Through capacity building programs offered by WISER, women will be empowered, adopt sustainable development life styles and measures, and contribute to economic growth.

Keywords: Access to clean energy, capacity building, women empowerment, SAWIE, WISER

Introduction
The contributions that women make to the economic, social, and political lives of their countries, communities, and families make them key actors in effective development. Yet, all over the world, be it in the energy sector, health, education, and economics, statistics for women are truly grim, illustrating the need for interventions that emphasize women**.**

Women represent up to	70% of the rural poor
Women Earn	10% of world's income
Women Own	1% of world's property
Women account for	2/3rds of total no. of illiterate people

Figure 1 – Status of women across the world [1]

In South Asia, compared to men, women have significantly less access to and control over productive assets, land and other properties, education, employment, training opportunities, basic social services, information, and decision-making in their homes communities. Over 30% of rural women in South Asia do not have access to clean energy, and often energy in any form, making life extraordinarily difficult for them. Household chores become far more labor intensive, taking time from women that could be better spent on family life or income-generating activities. And daughters may be taken out of school to help their mothers with chores, virtually guaranteeing the perpetuation of poverty for future generations of women. Women are worst affected by energy scarcities. They rely heavily on energy inputs to undertake subsistence tasks (such as water collection, cooking) and their livelihood activities (such as education, small enterprises, etc.).

Progress requires the participation of all citizens. USAID has a special interest in the advancement of women worldwide and is working to improve women's equality and empowerment. USAID programs have specific activity components that focus on gender

mainstreaming, which goes through rigorous scrutiny. The USAID SARI/E program [2], through its activities for women in the energy sector, has taken up the challenge of advancing access to clean energy throughout the region. It has focused on gender sensitive energy access programs and training initiatives that bring women practitioners and users together to jointly address the issue of no access, inadequate access, or inefficient use of energy.

Background

Women and girls are key to the development of families, societies, and nations. As they make significant contributions to family subsistence, earnings, and family resource allocation, especially in poor households, increasing their access to efficient, affordable, and reliable energy services will help them make a difference in their lives. This concept led to the design of a unique women specific activity under the Clean Energy Component of SARI/Energy, "South Asia Women in Energy" (SAWIE), in April 2008 to promote energy efficiency, energy conservation, and application of renewable energy technologies, targeting rural women in South Asia. The key objective of SAWIE is the empowerment of rural women in South Asia, both socially and economically, through access to clean energy.

Methodology

(a) Women's Clean Energy Network in South Asia

USAID's SARI/Energy program has been working to change the situation of rural women in South Asia through the SAWIE Network by promoting access to renewable energy technologies, with special focus on solar energy systems enhancing their entrepreneurial skills and empowerment. Formed in April 2008, SAWIE brings together women in the energy sector, non-energy sector professionals, NGOs, academicians, activists, and entrepreneurs from Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka to understand, identify, and develop sustainable approaches to providing low cost efficient energy to poor women throughout the South Asia region. Currently SAWIE has around 100 female members and a few male members in the network. Four working groups are working under SAWIE to pursue specific activities on various thematic issues: (a) renewable energy technologies; (b) gender mainstreaming; (c) micro-finance/income generation; and (d) capacity building/best practices.

Picture 1 - Nepali Women getting trained as electrical house wiring technicians

Three application workshops were successfully completed under SAWIE for South Asia women on "Efficient Energy Management and Access to Renewable Energy" in Kerala/India, Dhaka/ Bangladesh, and in Washington D.C. All of these activities provided a showcase for women on the existing best practices in each of these countries in renewable energy applications including solar photo-voltic systems, solar thermal systems, biogas, biomas, improved cook stoves, solar cookers, thermal cookers, solar dryers, solar motor boats, wind energy, and green building concepts, etc.

Impact of SAWIE: (a) A few SAWIE members have been instrumental in spearheading gender and energy activities in their own countries. For example, a delegate from Pakistan, inspired by the concept of the energy clinics [3] of the Energy Management Centre, India, has started a

similar project through Pakistan universities in collaboration with the Ministry of Environment, Government of Pakistan. She has also been instrumental in initiating a pilot project to install solar photo-voltic lighting systems at 55 locations in Pakistan. More importantly, inspired by her participation in SAWIE activities, she initiated a "Pakistan Women in Energy Center [4]," which will be launched in early November 2010, to empower the rural women of Pakistan, (b) Another SAWIE member from Bangladesh has undertaken a gender impact assessment of the Bangladesh Power Development Board (BPDB) renewable energy technology project, and (c) Yet another SAWIE member from Bhutan encouraged several Bhutanese NGOs to apply for the SARI/Energy Small Grants Program [5] for gender-related energy activities.

By exposing women to opportunities available in pursuing a "green" agenda, such as clean energy production, through renewable and energy efficiency practices and techniques in homes and communities, the SAWIE network encourages women entrepreneurs to participate in the industrial and economic activities that are involved in the management and delivery of clean energy products and services.

(b) Women in Sustainable Energy Research (WISER)

Even though a third of the total energy consumed in South Asia is managed or administered by women, there is no institutional arrangement either at the country or the regional level to prepare women for this task. It is with this objective that a Center of Excellence for SAWIE was instituted in March 2010. The Women Institute for Sustainable Energy Research (WISER) fulfills this need through the development of application oriented energy management programs and their dissemination to women in South Asia. WISER was set up with the joint collaboration of the Energy Management Center (EMC), State Government of Kerala, India.

WISER will be the training hub for SAWIE, showcasing clean energy technologies and incubating energy efficiency and renewable energy systems for women entrepreneurs in South Asia. It will act as an automated resource center for knowledge management.

Key Objectives of WISER

- Build rural women's capacity to support energy development in South Asian countries, where women's leadership improves the lives and livelihoods of their families through expanded access to clean and efficient energy.
- Create awareness among rural women on the negative impacts of using conventional sources of energy, such as kerosene, firewood etc., on the environment, global warming, and climate change.
- Collaborate with private sector entities to promote, manufacture, and use appropriate and efficient domestic energy products and design services.
- Promote micro-finance activities and help women become socially and economically independent and empowered and better able to contribute to the GDP in the region.

Picture 2 - Afghan women delegates attend "Energy Clinic

Major Functions of WISER

- Work in close partnership with SAWIE network.
- Serve as the regional training hub for South Asian women.
- Set up a lab to showcase renewable energy technologies from the region, facilities for testing and certification, and maintenance of various renewable energy appliances.
- Organize capacity-building programs, trainings, workshops, lectures by eminent academicians, and technical experts on subjects related to access to clean energy and empowerment of women through micro enterprise, micro financing, etc.
- Develop a full fledged resource center, documenting SAWIE activities, maintaining a list serve of stakeholders in South Asia, and maintaining a library of outreach materials, including CDs, DVDs, brochures, newsletters, case studies, project reports, and other relevant materials.
- Use modern and cost effective technologies, like webinars, video conferencing, multi-line conference calls, etc. for long distance participation in WISER activities.

Activities under WISER

Capacity Development Program for Afghan Women: The first activity under WISER was successfully completed with a nine-day capacity building program for 20 women delegates from Afghanistan. The participants included government employees, solar engineers, teachers, community leaders, entrepreneurs, social activists, and recent engineering graduates. They benefited from a mix of classroom training and hands-on skills training about renewable energy and energy efficiency technologies, financing mechanisms for clean energy, and gender considerations in energy policy development.

Picture 3 - Afghan women learns Solar Thermal System.

Outcome of the Capacity Building Program for Afghan women

- Increased awareness of renewable energy technologies;
- Knowledge of best practices in the region;
- Opportunities for transition to renewable energy in Afghanistan; and
- Increased awareness of the need for women's empowerment in Afghanistan

Several other programs are planned under WISER, including a capacity development program for women in Pakistan.

Small Grants for SAWIE - Best Practices:

The level of interest and engagement among the SAWIE members is also reflected in the high number of proposals that have been received from SAWIE network members for the small grants program under SARI/Energy. The SAWIE network has been awarded small grants for implementing innovative women specific activities at the grass root level, such as:

(a) An improved cook stoves (ICS) program in Bangladesh to spread awareness among rural women on the importance of ICS and train them in the manufacture and maintenance of ICS. The trained women will then be employed by different organizations for ICS manufacture and thus give them sustainable income generation. Grantee: Shubashati

(b) A Women's Entrepreneurship for Domestic Lighting Systems program in India, which aims to build the capacity of rural women to run micro-enterprises that supply energy efficient lighting systems in rural households, and foster linkages with commercial suppliers to develop a steady supply of lighting systems. Grantee: Technology Informatics Design Endeavor (TIDE)

(c) An Electricity House Wiring Training for Women in rural Nepal, which trains rural women as electricity house wiring technicians, who are capable of installation, maintenance, and repair of electrical house wiring systems. Once fully trained, these women are capable of earning sustainable income. Grantee: National Association of Community Electricity users-Nepal (NACEUN).

(d) Creating Clean Energy Options for Pakistan – this project trains rural women in Pakistan on the construction, setting up, and maintenance of biogas plants to meet domestic energy demands. Grantee: Society for Conservation and Protection of Environment (SCOPE)

Outreach activities:
SAWIE was represented at different national and international forums, including: (a) conference on "Beyond Firewood: Exploring Alternative Fuels and Energy Technologies," organized in New Delhi/India by the U.S. Women's Council; (b) The SAARC Women's Conference on "Partners in Development," organized by Jamia Milia University in New Delhi/India; and (c) a conference on Women in Energy and Finance held in Singapore. SAWIE also contributed to a survey conducted by students of the Rollins School of Public Health, Emory University, Atlanta, Georgia on community needs assessments of organizations working in fuel efficient cook stove programs.

Knowledge Partners:
WISER also promotes targeted technical assistance from experts and institutions in the region and from the United States, including the National Renewable Energy Laboratory (NREL), U.S. Department of Energy; the Energy Management Center, Kerala, India; and Tata BP Solar Co. Bangalore, India.

Conclusion:
Through WISER activities the significance of access to clean energy is reinforced, which will in turn enhance women's empowerment, reduce poverty, and spur economic growth among rural women across South Asia and will lead to increased GDP growth in the region.

References:
[1] The gender-energy-poverty linkage (adapted from World Bank 2005)
[2] The USAID SARI/Energy program promotes energy security in South Asia through (a) cross border energy trade, (b) energy market formation, and (c) regional clean energy development. Through these activities, SARI/Energy facilitates more efficient regional energy resource utilization, works toward transparent and profitable energy practices, mitigates the environmental impacts of energy production, and increases regional access to energy. SARI/Energy countries include Afghanistan, Bangladesh, Bhutan, India, Nepal, Maldives, Pakistan, and Sri Lanka. Website: www.sari-energy.org
[3] The energy clinic is a unique and powerful awareness-building program, of the Energy Management Centre (EMC), Kerala/India on energy efficiency and energy conservation at the household energy sector.

Women volunteers are trained by EMC to create awareness of energy efficiency and energy conservation among housewives. These trained volunteers in turn take classes for a group of women in a Panchayat and train them how substantial amount of energy can be saved through the prudent selection and use of household appliances, such as CFLs, tube lights, thermal cookers, refrigerators, mixers, washing machines, electric irons, etc. Website: www.keralaenergy.gov.in/emc_energy_efficiency

[4] Pakistan Women in Energy attempts to achieve goals for employment, education, energy, environment, and equality (the 5Es) by targeting information and communication technology and energy conservation training; and to achieve millennium development goals, as energy is now recognized as the most significant development objective. Website: www.womeninenergy.org.pk

[5] This small grants program is set up by SARI/Energy so that eligible South Asian organizations have an opportunity to implement projects which complement SARI/E objectives. Several SAWIE organizations have been awarded small grants. Website: www.sari-energy.org

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