



Gender and Energy Capacity Building Workshop for South Asia
Pan Pacific Sonargaon Hotel | Dhaka, Bangladesh | June 15-17, 2010

Sponsored by the World Bank and ESMAP in partnership with the
Rural Electrification Board of Bangladesh

WORKSHOP PROCEEDINGS



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Workshop Proceedings, Presentations and an Overview Workshop Video can be found online at:
www.esmap.org/esmap/energyandgender

Partnering for Capacity Building | *ESMAP, World Bank Social Development Department & South Asia Energy Sector Unit, and the Bangladesh Rural Electrification Board*

Gender integration into the infrastructure and energy projects, activities, and business lines is increasingly recognized as critical for development effectiveness. In the **global context**, initiatives such as the 2006 World Bank Gender Action Plan, which focuses on achieving the Third Millennium Development Goal (MDG) on Gender Equality and Women’s Empowerment, the prioritization of Gender as one of the three priority areas for the upcoming 16th International Development Agency (IDA16) replenishment, and the 2012 World Development Report on Gender and Development stress the importance the WBG puts to mainstream gender equality in strategies, programs, and projects. In the **Energy Sector**, the forthcoming World Bank 2011 Energy Strategy is also an opportunity to identify key gender issues and strategic entry points for gender integration in the Bank’s forthcoming energy activities. This will also support client countries’ endeavors to promote welfare of both women and men, as well as unleash their productive potential, so as to ensure that development interventions in sustainable energy yield the highest possible social and economic returns.

Rationale for including Gender Equality in Energy

The lack of energy infrastructure and services, like most other infrastructure and services, is recognized as one of the major factors impeding enterprise and job creation, economic growth, and the socio-economic development of both women and men. Investments in energy are indispensable to enable poor women and men to access product and labor markets, to improve household welfare (lighting, appliance use, clean cooking solutions and time saving by women and girls), to increase the productivity and efficiency not only of agricultural, industrial or service enterprises, but also of other services such as water and sanitation, education, health, and ICT. In order to provide equal access to poor women and men to quality energy services, it is essential to understand the gender based differences in needs, constraints, priorities, and choices. In addition, energy investments and services provide significant employment and income creation opportunities, both within the energy sector and other areas. Understanding both the gender-differentiated demand for energy and the respective opportunities for women and men to participate in the development of the sector, will help incorporate gender dimensions into policies and project design, and help poor women and men benefit equally from development programs.

Gender inequality concerns in all infrastructure sectors range from issues related to project design and implementation, to decision making, and benefit distribution. Indeed, women are often under-represented in strategy formulation and project related consultations, design, implementation, and monitoring and evaluation processes, and therefore, unable to express their needs and choices in policy, strategy and investments.¹

Why Gender Matters in Energy

- *2006 Gender Equality is Smart Economics* – “The core of the World Bank’s mission is to promote economic growth and eradicate poverty”.
- Men and women have different roles and responsibilities in households and communities; and as such, their uses of, and benefits, from energy, differ.
- Women are both suppliers and consumers of household fuels.
- Over 2.5 billion households use biomass for cooking, exposing women and children to indoor air pollution and health risks.

¹ Welcome Address by Chair: Ms. Ellen Goldstein, Country Director, World Bank Dhaka Office

Gender & Energy in South Asia Region

In South Asia (SAR), improving access to clean, reliable, and sustainable modern energy services is of paramount importance to improve the welfare of the population and to sustain economic growth. The World Bank in the South Asia Region has a growing portfolio of energy activities; projects under supervision amount to close to \$5.0 billion of investment commitments. Consequently, there is a significant opportunity to mainstream gender in the South Asia Energy Portfolio, including in ESMAP-funded activities. As most of SAR countries are IDA recipients the energy sector can play a leadership role for the Region in fulfilling the Bank's gender commitments and IDA16 priorities.

South Asia² has been growing steadily over the past 10 years with an average annual growth rate of 6% and is poised to grow to 8% in 2011. A high share of SAR's population relies on biomass for their basic cooking and heating needs; In India more than 2/3 of all households relied on biomass as their main source of cooking fuel and 1/3 of households on kerosene for lighting in 2004-2005. In other countries, non-commercial biomass is still dominant energy source. All SAR countries are still battling large electricity shortages with overall electricity deficit of up to 20% and peak shortages of 25% in some cases. Without scaled up investments, access to electricity levels in SAR are unlikely to change by much. Climate change will exacerbate existing vulnerabilities in South Asia given the poverty, high population density, and rainfall dependence, even though impacts may differ across the region and within countries. The Bank's work in India is an evolving program in context of the country's development challenges with the goal of expanding and improving energy services for growth and poverty alleviation. A focus on institutional and infrastructure development, combined with policy action, can potentially put India on a lower carbon path than business as usual. Selectivity and partnership remain the key ingredients for maximum impact as the Bank cannot be ubiquitous.

Modern Energy as the Driver of Growth, Achievement of MDGs and Sustainable Development

Energy has multiplier effects on all MDGs: clean household fuels and efficient appliances improve indoor air pollution, save time of women and girls; and reduce infant, child, and maternal mortality. Furthermore efficient energy services can reduce environmental and climate-related risks. Energy helps a country grow, by promoting industrialization and employment. Energy investments need to be efficient and fiscally sustainable, in order to help promote growth. The World Bank is ready to invest in the energy sector of South Asian countries, to assist countries in their development potential.

Opportunities for Women in Renewable Energy Technology (Bangladesh, 2000)

35 rural women were trained in renewable energy technology in a remote coastal island - Char Montaz, Bangladesh. Working together, these women formed a small enterprise; manufactured battery charged lamps initially and then moved to solar home systems and sold to thousands of households, shops, and boats outside the power grid. The project was also linked to microfinance institutions so that poor households are able to afford connection cost. The lessons of this project were taken into the larger Rural Electrification and Renewable Energy Development project. The training program has been duplicated and scaled up by Grameen Shakti. Currently nearly 500,000 households are using solar home systems. A large number of women have been trained as technicians, accountants and working in the energy sector.

² Workshop Presentation: The World Bank's Engagement in the South Asia Energy Sector. *Mr. Kwawu Gaba, Lead Energy Specialist, South Asia Region, the World Bank*

Capacity Building Workshop in South Asia

June 15-17, 2010 | Dhaka, Bangladesh

Given this context, the World Bank's Social Development Department, ESMAP, and the South Asia Energy Unit hosted a Regional Workshop on *Energy and Gender Capacity Building for South Asia*, in partnership with the Bangladesh Rural Electrification Board (REB).

The main objectives of the workshop were:

1. Develop a common understanding on why gender matters in energy sectors, especially the value added and development effectiveness of investments by addressing gender dimensions in design, implementation and monitoring.
2. Increase the capacity of Country Project Counterparts, Bank Staff, and other stakeholders in identifying, addressing, and monitoring gender issues in energy policies, programs, and projects.
3. Assist governments and Bank staff to develop a program of activities on gender and energy in South Asia.
4. Pilot an approach for "Training for Action" which could be replicated in other regions' energy sector and/or in other sectors.

From experience with previous gender capacity building workshops, in particular with the two Regional Workshops on Mainstreaming Gender in Infrastructure Projects for Asia and Latin America, co-sponsored by Multilateral Development Banks (MDB)³, the workshop recognized the merit in training concomitantly government counterparts *and* World Bank staff as "one team". This facilitates the development of a common platform on how to identify and address gender issues. It is also cost effective. Taking into account the Bank's portfolio, the workshop was therefore designed for about 50 participants, including:

- World Bank's Task Team Leaders (TTLs) and staff from energy and social development teams;
- Counterpart energy staff from Bangladesh, Afghanistan⁴, Nepal, India, Pakistan, and Sri Lanka. The counterparts were from government agencies, NGOs, and private sector companies; and,
- Interested donors.

A complete list of participants is given in Annex --.

The workshop took the 'training of the trainers' approach, so that counterpart staff can continue to enhance capacity of other project implementers after the workshop. The workshop aimed to be interactive and to capitalize on participants' knowledge and experience; it combined case studies presentations, interactive working groups, and debates in plenary sessions.

ESMAP: A Program Committed to Gender

The Energy Sector Management Assistance Program is a global knowledge and technical assistance partnership administered by the World Bank and sponsored by bilateral official donors since 1983. ESMAP's mission is to assist clients from low-income, emerging, and transition economies to secure energy requirements for equitable economic growth and poverty reduction in an environmentally sustainable way. ESMAP relies on a cadre of engineers, energy planners, and economists from the World Bank, and from the energy and development community at large, to conduct its activities.

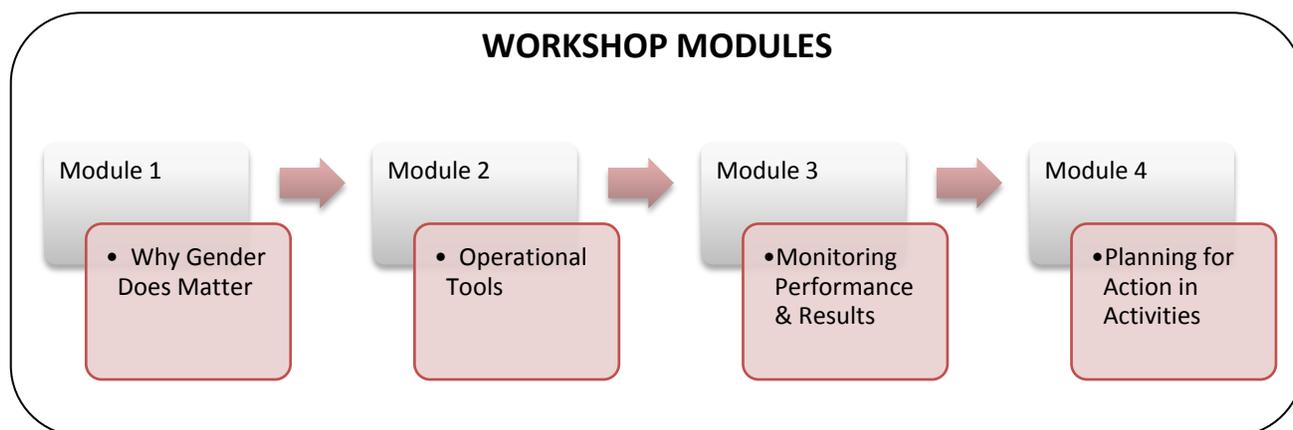
ESMAP's Commitment to Action on Gender has been shown through various research and reports published over the years focusing on indoor air pollution, rural electrification and gender. ESMAP's continued commitment remains in the FY2008-2013 Strategic Business Plan where the Gender and Energy Development Strategies Program (GEDS) has been created. GEDS has a thematic and regional focus, working with a SWAT team of gender and energy expertise to do conventional and innovative research, build partnerships and conduct action research, with a "learning by doing" approach. As part of its focus on capacity building and knowledge exchange, ESMAP, partnered with South Asia Energy and Social Development Units to support this workshop and dialogue on action on gender within the energy sector in South Asia.

³ Respectively held in Manila, the Philippines, in November 2008, and in Lima, Peru, in December 2009.

⁴ Participants from Afghanistan were not able to participate

The three-day event was broken into four modules (see graph below) with field visits taking place on the second day of the workshop. The modules focused on learning from experience, acquiring and using practical tools, focusing on results and action on mainstreaming gender. The field trip was considered an important element to get participants to test their views with the realities on the ground, see “gender in action”, and learn from the experience of Bangladesh.

The workshop proceedings provides an overview of each session and module, with the full agenda and supporting documents in the annexes and a CD which includes all the presentations given during the workshop; a short video covering the workshop is being produced for further dissemination.



Inaugural session:

The inaugural session was opened by the Chief Guest, H. E. Dr. Tawfiq-e-Elahi Chowdhury, BB, Adviser to the Honorable Prime Minister, Government of Bangladesh. Ms. Ellen Goldstein, Country Director, World Bank Office Dhaka, chaired the session, while Mr. Kwawu Gaba, Lead Energy Specialist, South Asia Region, the World Bank, presented the World Bank’s Engagement in South Asia Energy Sector and Mr. Bhuiyan Shafiqul Islam, Chairman, Rural Electrification Board (REB), Bangladesh gave closing remarks.

Ms. Ellen Goldstein welcomed delegates from Bangladesh, Nepal, India, Pakistan and Sri Lanka, noting that their presence and participation confirmed their commitment to the Third Millennium Development Goal, “Promoting Gender Equality and Women’s Empowerment” as well as to the main objective of this workshop “enhance gender equality and promote opportunities for women and men in the energy sector”. Ms. Goldstein noted that this workshop also aimed to promote partnership and knowledge sharing amongst South Asian countries, on gender mainstreaming in the energy sector development agenda, and promoting equitable, inclusive, and transformative growth.

Dr. Tawfiq-e-Elahi Chowdhury opened his speech with a quotation from *Land of the Thousand Sun*, a book from Afghanistan that describes the strange dilemma and sad reality of women who are toiling below the hot and burning sun all day to collect fuel wood from barren hillside for cooking, heating and lighting their homes, as they have no technology or services that could turn this abandon renewable energy from the sun into solar energy services. Dr. Elahi further stressed that energy is a key driver of development and a means to achieve most of the Millennium Development Goals (MDG). He narrated his experience of visiting a pilot energy program by Grameen Shakti in Bangladesh that brought electricity/solar home systems, bio-gas plants and improved cook-stoves to the households, responding

to the needs of the poor, especially women in a remote village. For the villagers, it seemed like a new beginning as modern lights transformed the society. Dr. Elahi acknowledged that there is “nested” discrimination in the development process, as the poor, especially poor women are not able to access modern services and are excluded from development process. In the energy sector, there is more stress on electricity, and hardly any attention to clean cooking fuel; and this is discriminatory again women, who carries the main responsibility of collecting fuel and cooking for the household. This permeates as a vicious cycle and disparity between rich and poor increases. A good society will promote “centrality of all, especially of the poor”. Dr. Elahi stressed that “power empowers people”; and the Government and the development partners need to design investments that will reduce the existing social and gender disparities and target benefits for the most vulnerable population.

Introduction to the Workshop:

Presentations:

Ms. Nilufar Ahmad, Senior Gender Specialist and Task Leader of the Workshop: *Gender Integration in the Energy Sector: Challenges and Opportunities*.

Ms. Vanessa Lopes, Operations Analyst: *ESMAP: A Program Committed to Gender*

Ms. Dominique Lallement, International Development Consultant & workshop Facilitator: *Workshop Objectives, Expectations, Structure, and Ground Norms*

Ms. Ahmad in her presentation stressed the links between gender inequality, poverty, and energy access. Gaining a better understanding of the links between these issues—including women’s time poverty and health, poverty and energy access, and reallocation of women’s time savings and economic development—can help decision makers develop more effective sector strategies more likely to have gender-equitable outcomes. In most developing countries, women have primary responsibility for domestic tasks and this include fetching water and collecting fuelwood for their families; cooking meals; and caring for children, the sick, and the elderly. Therefore, women and girls are severely time-constrained, and do not have time to access education, skill development and economic opportunities.

Viewing energy through a gender lens is important, especially paying more attention to gender equality while increasing electricity access for the poorest 1.5 billion and investing in clean cooking solution for the 3 billion people who continue to use solid fuels for cooking. Doing so can bring enormous health, environmental, energy and economic benefits to poor women and men in developing countries.

Module I: Why Gender and Energy: Learning from Good Practices

Chair of Module I: Mr. Bishwa Prakash Pandit, Joint Secretary, Ministry of Energy, Nepal

Bangladesh Rural Electrification Project

Ms. Fayeza Haque, Director, Management and Operation, Central, REB

Mr. Latiful Azam, Deputy Director Socio Economic Monitoring and Evaluation Cell, REB

Mr. Shah Zulfiqar Haider, PEng, GM, Narayanganj PBS, Presenter & Resource Person

The Bangladesh rural energy program, implemented by the government and NGOs is gender responsive as it is focusing on both, electricity for lighting and power for productive uses, as well as clean household fuels such as bio-gas and improved cooking stoves. The representatives from the Bangladesh Rural Electrification Board (REB) presented the Bangladesh commitment and progress in rural electrification, bringing lighting, power, and jobs to the poor, with a very determined gender agenda. Also, it targets both men and women in skill development training and as a result, many women are now small energy entrepreneurs.

REB is extending grid electrification through a cooperative system. It has a unique gender approach, having adopted a *quota system*, whereby 10% of officers' jobs and 15% of other staff jobs are targeted at women; certain jobs, such as billings and collections, are entirely earmarked for women. REB deems that women participation in the company has led to improved governance.

Bangladesh's rural electrification program, which includes both a grid extension component and an off-grid component, is supported in part by IDA credit. The off-grid component is implemented by the Infrastructure Development Company (IDCOL) and 23 NGOs, using a micro-credit system. The demand is so high that about 25,000 Solar Home Systems (SHS) are being installed every month. For both grid and off-grid services, the repayment rates are one of the highest in the developing world: 97%. Complementing the work of the REB, Grameen Shakti, one of the NGOs involved in the program, has established training centers where women are taught skills to assemble controllers and other electronic components and to repair and maintain SHS. These women become village technicians and earn income as small energy entrepreneurs. Regardless of the technology, the benefits to women from rural electrification are numerous: increase in women's productive activities such as livestock and poultry, increased awareness on health issues through television programs (health care during pregnancy and



safe motherhood), increase in women's entrepreneurship, and generally improved social empowerment as their names are written on all documents jointly or independently of their husbands. Also with rural electrification, textile and garment industries are being established and provide millions of jobs to poor rural women (predominantly) and men. In the words of Mr. Pandit, joint secretary, Ministry of Energy, Nepal "Women are emerging as a workforce;

Cooperatives are very effective in managing the electricity system, with very little technical and commercial leakage. This model could be applied to Nepal”.

Bangladesh aims to have all its villages electrified by the year 2020. Having started its program in 1980, up to April 2010 REB had electrified 48380 villages, representing 62% of villages, and 33% of rural households. Participants had the opportunity of visiting two rural villages benefiting from REB projects on the second day of the workshop.

Video Presentation: Bhutan Women Solar Engineers, Asia Development Bank⁵

The story of the *Bhutan Solar Warriors Project*, financed by the Asian Development Bank, highlights the potential capability of poor women to become ‘solar engineers’. With adequate training at India’s Rural Engineering Institute, 35 Bhutanese women acquired competencies that enabled them to install and service solar systems in their respective villages, at the same time empowering them with unique knowledge. Many households in several remote villages in the mountains of Bhutan are now equipped with solar home systems.

Working Groups I: On the basis of the presentations made in the morning plenary, participants were asked to share their knowledge and experience from countries and projects, and to identify relevant gender entry points for energy sector activities within the purview of their responsibilities. The groups worked together for an hour and in the next plenary session, each group shared issues, good practices, and elements that they can integrate into their own projects as outlined below:

Issues Identified

- Women's lack of access to modern energy services
- Lack of women's empowerment and voice in household and project decision making
- Policy documents usually do not reflect women's needs and constraints
- Lack of women in strategy development and planning
- Though women perform well in providing services, they have less time and few opportunities
- There are quota for women in national politics in South Asia, e.g. 33% seats reserved for women in parliament in Pakistan.
- Women are honest, serious, committed and punctual

Good Practices

- The billing and collection of REB/PBS has been reserved for women; good empowerment of women in rural electrification project
- Women involvement in assembly, repairing, maintenance and operation of SHSs in Bhutan
- Institutional Arrangements in REB of 10% quota for women.
- REB employed 100% of women in billing process from less corruption
- REB women are getting more time for income generating and for children after getting electricity
- From Bhutan Experience: Empowering illiterate women to serve the community and improve standard of living
- Develop women motivators/technicians for promoting renewable energy related technology; introduce improved cooking system
- Motivate implementing agencies to consider IEC mechanisms
- Gender awareness in 12 biogas villages in Nepal.

⁵ Video: <http://www.youtube.com/watch?v=cKx7jvHocHU>.

Elements for Project Integration

- Country-to-Country Learning needs to be promoted and this can be done among South Asia especially Bangladesh/Bhutan/India, Nepal.
- Involvement of more women engineers in Grameen Tech Center (GTC) and their empowerment will promote gender equality.
- Trained illiterate women are capable of assembly, repair and maintenance of SHSs
- Involvement of both men and women in projects will enhance gender equality
- Nepal will increase more women in operations and maintenance of hydropower plant and increase participation of more women in hydro power project
- Bangladesh power distribution companies will encourage more women to come in BPDC, all computer operators are women; only 10/12 engineers
- Recruitment quota for women be increased in the energy and other sectors, possibly 30%
- Better training for women workers are needed for their improved performance
- Equal opportunities are needed in all sectors
- Inclusion of gender differentiated impact indicators in design, implementation and monitoring of projects are important.
- Influence policy of the government for involvement of more women in energy sector
- Address gender aspect in project planning and development
- Lack of awareness and cultural barriers could be constraints that can be reduced by Information, Education and Communication campaign
- Nepal will replicate REB billing and collection system
- REB/REDP can adapt SHS/MH maintenance team from the illiterate women from the locality

Module II: Operational Tools

Chair of Module II: Ms. R. Prabha, Senior Project Manager (TIDE), India

Presentations: Rapid Gender Review/Screening and Design Tools for Sector Strategies and Projects

Nilufar Ahmad, Sr. Gender Specialist, the World Bank

Dominique Lallement, International Development Consultant & Workshop Facilitator

Kwawu Gaba, Lead Energy Specialist, the World Bank, India

Rapid Review/Screening, Design Tools were introduced during this session with the objective of assisting sector policy and project task teams in establishing opportunities for integrating the gender dimension in energy sector policy analysis, programs and projects. Working groups were organized to use the tools to start building each participant's "toolkit" so that "thinking gender" becomes second nature. During the working groups, feedback and discussion was encouraged to test the practicability and relevance of proposed tools, and for the teams to begin considering resources they will need to integrate gender into strategies, programs and projects such as data, budget and human resources.

Tasks to Include Gender in the Project Cycle

- Identify women and men groups and determine different needs, interests, and potential contributions.
- Identify and prioritize key issues and variables (socio-economic, cultural)
- Establish an "inclusive" participatory process
- Identify lessons learned for both women and men of past efforts if any.
- Assess alternative solutions and define expected results.
- Assess institutional options to ensure gender results in project implementation.

The rapid review/screening tool is envisaged to be used during the initiation of the concept of an investment. The task teams will use this tool to assess whether or not the inherent gender inequality in the country and in the sector (energy) could (a) negatively impact energy sector strategy or project outcomes, (b) whether there could be inequitable benefits, and (c) whether there could be enhanced opportunities for women and men. The tool will assist task teams to assess whether or not the sector strategy or project could potentially increase inequalities between women and men and/or inadvertently place women at greater risk than men regarding negative impacts of the project on people and/or ignore serious energy-related risks faced by women. This assessment enables teams to determine whether and the extent to which the gender issues identified need to be addressed in specific energy operations. The screening tool and more information on this can be found in the annex.

Gender Screening Questions	Why Ask?	Where to Find Information	What to do?
Country Context Gender Screening			
Does the country have policies or laws related to gender equality Do the energy sector strategies/policies address gender issues?	Projects that ignore gender policies risk unintentionally undermining of the ability of the country to implement them.	--Bank and other country gender assessment --Ministry responsible for women/gender --UNDP National Human Development Reports	--Include the gender related policies in the background section of the PCN and PAD, and the operational manual for the project implementation team.
Are there key social, cultural or legal constraints on female participation in and benefits from the project?	---Traditional land tenure often limits women's access to energy assets and modern energy business --economic opportunities in the energy sector	--Bank and other country gender assessments --Poverty and Vulnerability Impact Assessments --Rapid appraisal	--Include women in project consultations --Set targets for female participation on energy decision-making bodies

Do women and men have different energy needs and access to energy assets? Does this vary by other social characteristics (age, ethnic, indigenous, or minority status, rural versus urban locale)?	--Women and girls often spend hours collecting fuelwood that can be reduced by cookstoves. ---Men may place higher priority on energy for irrigation pumps. --Women often lack the resources to pay for cleaner , safer fuels	--Bank and other country gender assessments --Demographic and Health Surveys --Household Budget Surveys/Income and Expenditure Surveys --Special studies --Rapid Appraisal	-- Consult women as well as men about energy needs and constraints -- Address these differences in project component designs.
Project Design Gender Screening			
Could the project place poor people at greater risk of livelihood loss or harm? Could this risk be greater for women than men?	--When key gender issues are not taken into account, women and minorities may bear more of the risks negatively effecting poverty reduction and gender equity.	--Stakeholder analysis --Poverty and Social Impact Assessments --Consultation	--Conduct gender inclusive risk analysis -- Design projects to response to women's energy needs and priorities are well as men's
Does the project design fail to address important risks faced by women?	--Indoor air pollution from from wood smoke disproportionately affects women and children	--Stakeholder analysis --Poverty and Social Impact Assessments --Demographic and Health Surveys --Consultation	--Conduct gender inclusive risk analysis --use social accountability tools (eg service delivery scorecards) inclusively
Will the project create employment and/or entrepreneurial opportunities for women and men?	--Energy sector is often viewed as a male domain	--National labor statistics	- - Equal pay for equal work --Gender equitable hiring practices. --Skills training for females in energy enterprise development.
Does the project include privatization of energy generation, transmission, and distribution?	Are women more negatively impacted than men. --If tariffs increase, poor women and households may not be able to pay for electricity	--National Labor statistics -- Living standards measurement surveys	-- Provide alternative livelihoods --Regulate tariffs to ensure affordability for the poor ----use social accountability tools (eg service delivery scorecards) inclusively
Will the project trigger social or environmental safeguards (eg.involuntary displacement and resettlement)?	--Women may be more vulnerable to negative impacts of relocation or environmental degradation --Compensation to male heads of households does not necessarily benefit other members of the household.		--Include measures to ensure that females receive compensation (eg. joint titles to property, individual bank accounts)

A case study from Bangladesh was used to describe how the rapid review/screening tool can be used to learn assess if there are social, cultural, or legal barriers constraining gender equitable participation and benefits in the investment, and whether there could be unequal risks and benefits. Key questions such as (a) does the country and/or sector have a gender policy in place. If there is a gender policy, then the policy can be used for promoting men and women’s opportunities and gender equality in the project. A few points were raised to highlight some constraints. It was discussed that there is gender segregation as traditionally women’s place was within households which limits women’s mobility. There is also limited investment in girls as there is a preference towards sons, and lastly women have little or no control over property. However, with government commitments and investments, the situation is changing with the female stipend program for secondary education and gender parity in school enrolment. It was possible to use this tool to conduct assessment and design the project that promoted gender equality by providing women access to electricity and economic opportunities.

Building up on the Screening Tool, a simple Design for implementation Tools was introduced. The Design Tool is in the form of a ‘decision tree’ to answer the questions: (i) if a project is a good candidate to include gender, what design elements should be included in the policy or project; and (ii) if the project has not been retained as a good candidate to include gender, are you absolutely sure that there are no gender aspects that should be considered. The tool, which has been developed from the review of best practices in the World Bank project portfolio, includes the six basic elements summarized on the [graph/table] below; the table also illustrates how the elements can be integrated into the Project Cycle and reflected in the main supporting documents.

DATA/INFORMATION	KEY ISSUES	PROJECT IDENTIFICATION
GENDER OBJECTIVE	What gender results we want from the Project	Project Appraisal Document
GENDER DESIGN ELEMENTS	What elements needed to achieve the gender results	Project Description in Appraisal Document
BUDGET	Will there be a budget in the project to implement the gender elements	Project Appraisal Documents: Costs and Financing Plan
IMPLEMENTATION PLAN	Who will be responsible for implementing the Gender Elements? What will be the implementation schedule What decisions are needed and when?	Project Appraisal Documentation Project Launch Documentation
PERFORMANCE MONITORING & IMPACT INDICATORS	What indicators to monitor results and Impacts as a function of expected results	Project Appraisal Report Supervision Reports Implementation Completion Reports
RESOURCES/INCENTIVES	Budget ; Gender sensitive staff/social scientists ; Management support; Public Accountability	These are the resources needed during project preparation, appraisal, and supervision

The discussion on the screening and design tools highlighted that (a) the tools are potentially very useful at the concept stage of a strategy or project development, and when identifying strategic projects for gender mainstreaming; (b) not all projects have the same potential for gender mainstreaming. For

example, a rural energy project or an electricity distribution project which will need a direct interaction between the energy supplier and the energy consumer will have a greater potential for being gender-responsive than a project that primarily aims at reinforcing the power transmission network. However, all projects which include either an environmental management plan or a resettlement component should have gender-equality as a key design and implementation feature. Finally, the discussion underlined the use of gender action plans for the projects, or programs, and the need to set aside funding for gender activities within the project budget. The Gender Action Plan for the Mali Rural Energy Project (see box below) was presented to illustrate its practicality for implementation.

Key Energy Sector Statistics in Mali

- Only about 17 percent of the total population of Mali has access to electricity
- Barely 7 percent has access in rural areas (about 30 percent in urban areas)
- Traditional biomass energy in the form of fuel wood and charcoal represents about 80 percent of the final energy consumption
- Evidence of willingness of the poor to pay for energy services

Mali is a country where lack of access to energy services in the rural areas is considered a major constraint for development in its rural areas. The World Bank therefore worked with the Government of Mali to “unlock the potential of its energy sector for the benefits of its people”. The Household Energy and Universal Access Project (HEURA) focused on strengthening energy sector institutions by increasing private sector and community participation in decentralized energy services delivery, accelerating the use of modern energy in rural and peri-urban areas. The project also promoted community based woodland management to encourage sustainable wood fuel production.

Given these project objectives, there have been results with the dissemination of improved stoves, demonstration campaigns for solar cookers and the use of multifunctional platforms which have affected the lives of women and men. The solar cooker campaigns were organized to feature alternative cooking devices and were targeted to women. With the multi-functional platform, women’s associations played key roles as providers of energy services and receiving training in basic accounting in the local languages. The benefits of the platform has reached both men and women by providing small public lighting, providing lighting for markets to be open late and providing health centers with electricity which improve the conditions and allow for birth delivery at night.

Working Groups II: Participants were given case studies to apply the Operational Tools introduced in the previous session and they worked together in 4 or 5 groups. They made presentation of their discussions in the next plenary and questions were raised that were clarified by participants.

Module III: Monitoring Performance and Measuring Results

Chair of Module III: Ms. K.V. Indrani Mallika, Director (Planning), Ministry of Power and Energy, Sri Lanka

Presentations: Monitoring & Impact Evaluation Framework

Dominique Lallement, International Development Consultant & Workshop Facilitator

Mr. Mangal Das Maharjan, AEPC, Nepal

Mr. Kwawu Gaba on behalf of Mr. Jie Tang, Sr. Energy Specialist, Laos

The adoption of a sound Monitoring and Evaluation Framework is extremely important to measure the impact of mainstreaming gender on energy project outcomes, to inform project management during implementation and inform future policy making, and to account for results. Four main questions were addressed:

1. What gender results does the project aim at?
2. What data will be necessary to document those results?
3. How to design the project M and E component?
4. What resources are needed to implement the M and E component?

The Monitoring and Evaluation Framework presented, derived like the previous tools from the experience of successful projects, identifies the linkages from the project objectives to the four main types of design elements or inputs (the technical and environmental, the financial, the social, and institutional), the implementation results (outputs), the intermediate outcomes, and the project impacts. The intermediate outcomes and impacts can actually be related to the framework for understanding gender equality issues introduced at the beginning of the workshop (economic empowerment, social empowerment, human development). The discussion on how to design and implement a valuable M and E component focussed on four main elements: the choice of gender-disaggregated indicators (examples are given in Box XXX below), the choice of tools (surveys, focus groups, questions), the institutional support needed (organization responsible, community involvement, trained staff and technical support, and budget), and the choice of methodology to analyze the results and feed the results into further decision-making.

Specific projects were presented to illustrate methodologies and results. In the *Senegal and Rural Water Supply* Project financed by JICA, the type and degree of impact was noted depending on the type of financing used -- grant aid or technical cooperation loans. Impacts considered were economic empowerment (time saved, productivity, income), human development (basic needs, access to health and education), and social empowerment (dignity, equal voice, and access to administrative, financial and technical resources).

Monitoring & Evaluation Framework

PROJECT LEVEL

- Measure implementation progress and gender equality results.
- Taking corrective action if deviation in time and quality from targeted results
- Measure outcomes

SECTOR PROGRAM & POLICY LEVEL

- Learn from first generation projects to improve second generation
- Measure progress from individual projects to sector/sub-sector, institutional, and sector policy level
- Measure contribution of energy sector to national goals on gender equality and women's economic empowerment

GLOBAL LEVEL

- Account for results at country, World Bank and government level
- Achievement of MDGs on gender equality
- IDA 16 monitoring indicators

Nepal Small Hydropower Project Monitoring Framework

Nepal has a very significant rural energy development program. Given the country's topographical and institutional constraints involved with large projects, the Nepalese Government has currently opted to give priority to small-scale hydropower development to rapidly extend the availability of electricity services. One of the Rural Energy Development Program's implementation modality requires equal participation of women in decision making at each phase of the project cycle. Under this gender-sensitive program there is increased social involvement of both men and women and community organizations, and all have equal opportunities for participation and decision making. The program also has a significant biogas component, which has considerably benefited women, children and the environment, reducing the time and labor spent on fuelwood collection, and reducing the pressure on deforestation.

The Alternative Energy Promotion Center (AEPC), a program implementation agency in Nepal received ESMAP funded technical assistance comprised of 4 components: the design of an Integrated M&E framework, the development of a Management Information System, an impact evaluation of rural electrification with micro-hydro facilities, and the development of a business plan for AEPC as input to the ongoing Strategic Organization Development Plan (SODP). The monitoring and evaluation framework adopted for the program, very close to the one introduced in the module, enabled to document the impact on women of the energy services based on micro-hydro. Women with access to micro-hydro energy services have been found to have gained independence in decision making, due to their involvement in planning, implementing, and managing the micro hydro scheme. These women also spend more time on income generating and leisure activities than those without such micro hydro energy services as they now can use their time more productively. In the discussion with participants, it was clarified that the M and E systems has led to the development of a good data base, and that statistics and updates on micro-hydro development are published yearly. Remaining constraints and challenges were also discussed, including the need to keep addressing gender at the organizational and project level, the need for capacity building, and social empowerment so that women can exercise their voice and influence. AEPC also aims to adopt gender budgeting and auditing.

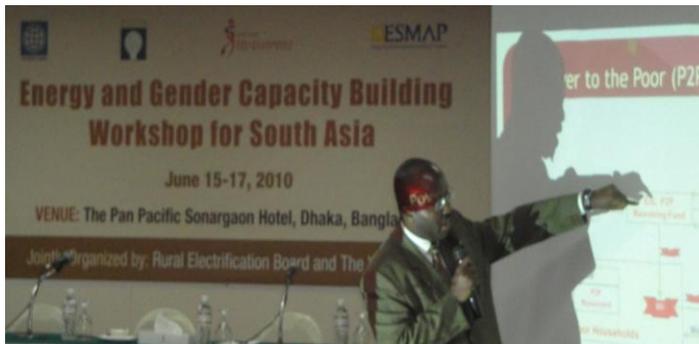
Laos Rural Electrification

In Laos, the challenge was to extend rural electrification to the poorest of the poor, while ensuring the sector's financial sustainability. A 2004 survey found that in electrified villages there were still 20-40% of households not connected due to the high connection charges. Furthermore, many of those unconnected households were below the poverty line, and the majorities were female-headed households. The Power to the Poor (P2P) pilot targeted these unconnected households by providing interest-free credit to help with the connection costs. In one of the pilot villages, the connectivity increased from 77% to 95% connection in a year's time. Connection to female headed households increased from 63% to 90%.

Given the lack of available resources to pay the connection fee, especially amongst the poorest of the poor and the female-headed household, the

<p style="text-align: center;">Laos: Gender Sensitive Criteria & Outreach</p> <p>Criteria</p> <ul style="list-style-type: none">• Targeting Already Electrified Villages• Among non-electrified households, all female headed- and single parent households will be automatically eligible for support• For other households poverty criteria applies• A household is eligible for support if it has housing that is safe to electrify AND meets at least ONE of the poverty criteria OR is female / single parent headed AND safe to electrify <p>Outreach & Information Materials</p> <ul style="list-style-type: none">• All information and dissemination materials for the pilot has been done in a gender sensitive fashion, such as:• Highlighting the benefits of electricity for women• Making the consultative process gender inclusive, by for example scheduling meetings at times when women are available

Project designed a special financing mechanism which would not jeopardize the electricity company's financial sustainability. Funds were raised from Global Environment Facility (GEF), Gender Action Plan fund and AusAID to finance a self-sustained revolving fund. The electricity tariff includes loan repayment for the connection at affordable levels, as electrified households can now engage in income earning activities. Other benefits to households, in particular for women, include reduced time spent on water collection (availability of village pump), increase flexibility in time management between household chores and income earning activities, and increased security.



One of the key lessons learned from the project is the importance of undertaken early on in project design a gender-sensitive baseline survey, which can guide the selection of project performance indicators. In the case of the Laos project, excellent survey work had been done during project preparation, but somehow was not used for project design. The team therefore updated the survey at the beginning of project

implementation, and redesigned part of the project to achieve the gender-sensitive objectives, once they documented that female-headed households were amongst the poorest and needed to be reached. Other lessons include that (i) there are several entry points to addressing gender issues in energy projects and in order to address gender issues it simply requires a slightly different focus and approach – “it’s not rocket science”. Another lesson is that the commitment from the World Bank team and counterparts to “go the extra mile” is essential. Additional resources are also critical, but seed funding also has great catalytic potential. Given the project’s successes, a roll out and scale up of P2P took place with strong donor response and continued gender sensitive approaches. Participants discussed that the key message was that in surveying and reviewing why people weren’t connecting, the gender dimension surfaced. Once identifying and addressing the need, the results and impact of the project improved and the benefits reached both men and women. This reemphasizes the training and presentations given on the importance of project design, M&E, and surveying. Participants discussed that the importance of project design as the challenge may not always be about access to electricity but it may also have other factors such as access to finance and the costs to the households.

The debate amongst participants centered on how to measure social empowerment. Examples were cited such as the number of children per woman, decision making power at household and country level which can be measured by the number of men and women elected representatives at local and national levels, and promoting gender balanced representation at decision making. The participants discussed whether it is possible to select a common indicator across the energy sector or across types of projects (e.g household energy, electricity distribution, transmission, or generation) etc. Based on the experience of Bangladesh, one of the greatest challenges is the surveying and collecting of data for M&E, noting that it is difficult to ask the right questions to the right person. For example, when it is time to irrigate the fields, the survey team may not find the right household member to respond to the questionnaire (e.g. 60% of the questions may be answered by the head of household, and 40 persons by another person – children, worker etc). Some participants flagged the usefulness of some techniques such as participatory rural appraisals to mitigate the survey risks.

From the experience in Nepal with socioeconomic surveys, it is important to have a clear idea from the beginning of the project about the monitoring and impact evaluation methodology and to use a checklist of information to gather responses. Given how critical the survey methodology, it was suggested that training could be integrated into the implementation process to ensure effective surveying and collection of data/information. The importance of briefing and preparing the investigator and enumerators before the surveys are launched was underlined. The participants agreed with the importance of M&E, the need to have a practical and feasible methodology, and choose gender disaggregated indicators during the project design, and implementation planning.

Examples of Gender Informed Results & Impact Indicators

Baseline Energy Access and Use Data

- Per capita energy consumption for women and men
- Share of non-commercial energy used by women and men
- Purposes for which energy is used by women and men
- Fuel used by the household for cooking and heating
- Amount of time spent and the effort made by women and men in providing energy for their activities
- Amount women and men pay for energy
- Relative risks faced by women and men, such as exposure to fumes from open fires for cooking and heating

Changes in Time Use for Domestic Tasks

- Reduced time and labor required for female household chores
- Reduction in the amount of time and/or money spent by women and men to obtain energy supplies (fuelwood, charcoal)
- Increase in use of energy-related appliances to reduce domestic chores
- Amount of time spent by women compared with men on rest, relaxation & learning activities

Improved Health

- Reduction in the number/percentage of women and children visiting clinics for respiratory or eye conditions
- Increased access to clean water and sanitation

Education

- Increased school attendance of girls and boys
- Increased education levels for girls and boys

Economic Empowerment

- Increased and diversified income and greater productivity for women and men
- More time for women to engage in income earning activities
- Expanded food production for sale and household consumption
- Number/percentage of women and men involved in energy-related employment & training
- Profit from woman-owned small and medium energy enterprises

Social Empowerment

- Increased participation of women in community decision-making on energy
- Number/percentage of women and men involved in energy policy dialogue
- Number/percentage of women and men on 'utility' boards

Energy Sustainability

- Number/percentage of women and men adopting energy-saving technologies
- Number/percentage of women and men trained to use alternative technologies
- Increased male and female awareness of energy technology options

FIELD VISITS

The field trips were organized to visit programs managed by the Rural Electrification Board (REB), the Infrastructure Development Company Limited (IDCOL), and by two NGOs: Grameen Shakti and the Rural Services Foundation, in Mawna upazila of Gazipur district and Singair upazila under Manikganj district. A detailed description of the field visits can be found in Annex 6.

Images from Field Visits – Solar Home Systems and Improved Stoves



Feedback from the Field Visits

Participants came back from the field visits after seeing firsthand the examples that had been discussed and presented during the workshop, such as some of the REB's billing and technology centers. Participants had the opportunity to learn how cooperative structures can play a critical role in managing the power distribution systems. Interactions with REB's clients demonstrated a high level of satisfaction with the transparency of the billing system, which separates electricity bills for irrigation from bills for household consumption. Participants from Nepal noted that this is something that could be replicated in Nepal to reduce losses and leakages and should be discussed at the policy level. One participant said: "From a development perspective – we learned it is possible to really develop rural areas and from a gender perspective – we learned that women are emerging as a force in terms of income generating activities and employment".

The visits to Grameen Shakti technology training centers highlighted the potential for training women with a fairly low level of formal schooling in acquiring new and sophisticated skills (assembling electronic components for example), which they can apply to start their own businesses. Exchanges with women who were purchasing solar home systems underscored the importance of modern energy services to improve households' living standards, as well as the merits of educating women on the management and maintenance of their SHS. Clients expressed high level of satisfaction with the flexibility of the financing scheme, which enables the family to pool its resources, e.g. repaying the loan with income from goat or poultry husbandry. Participants were also impressed to see women as instructor. The visit also demonstrated that the creation of employment opportunities in the rural areas is still a clear challenge ahead.

The visits of the biogas systems being promoted by Grammen Shakti and others led to very interesting discussions include on the relative cost of the system in Bangladesh as compared to India. Some of the larger systems made possible from large-scale poultry husbandry clearly benefited rather well-off farmers, not the poorest of the poor, as discussed in the training room the day before.

Some participants noted that they did not see the point of visiting a garment factory, even though it was impressive to see how electricity facilitated the implantation of such an activity in rural areas, and create thousands of jobs, mostly for poor women. They also noted that it would have been helpful to have had more specific information on Grameen Shakti's activities before the visits and to receive more detailed answers to questions during the visits, particularly on costing of various technological options – SHSs, improved cookstoves, biogas systems.

Module IV: Planning for Action in World Bank Activities & ESMAP Projects

Chair of Module IV: Mr. Kazi Afaq Hussain, Additional Secretary, Establishment Division, Ministry of Economic Affairs and Statistics, Pakistan.

This module was constructed in two main parts: first a review of the energy and other programs of participating governments and institutions, and second the preparation of country action plans.

Country Program Presentations

Bangladesh: Cross-fertilisation between Water and Energy | Ms. Reba Paul, GWP-SAS

The Bangladesh Water Partnership, GWP-SAS and the South Asia Women in Energy (SAWIE) network were created in 2008 to bring together women energy sector, and non-energy sector specialists across South Asia to understand, identify and develop sustainable approaches to providing low cost efficient energy to poor women in the South Asia region. There are four focus areas under SAWIE: renewable energy technologies; gender mainstreaming; micro-finance/income-generation; and capacity building/best practices.

A center for excellence was recently launched in March 2010 called WISER, Women's Institute for Sustainable Energy Research. Its objective is to build women's capacity to support energy development in South Asia by awareness building, collaboration with the private sector, and the promotion of domestic energy products, design services, and micro-finance activities. Various training are conducted to increase the awareness of new energy technologies and enhance knowledge on best practices across the region.

India: Energy & Empowerment of Women | Ms. R. Prabha, TIDE

The Technology Informatics Design Endeavour (TIDE) is an Indian NGO working on energy and environment linked to livelihood projects. TIDE supports poor households, especially poor women, and helps enhance their livelihood and well being by providing energy services e.g. electricity, improved cook-stoves, skill development, and entrepreneurship support. Some of the tools for intervention include awareness creation, promotion support, technical and micro-enterprise development training and capacity building.

Some of the initiatives discussed were *rural women as stove entrepreneurs* for disseminating smokeless stoves; it helped convert eight villages into smokeless villages. Another initiative presented was the *women's entrepreneurship for domestic lighting systems* which allowed six women to reach more than 300 households through awareness meetings on energy efficient domestic light. A successful case of a female stove entrepreneur was also discussed. She had built more than 5000 stoves in about 7 years and developed linkages with NGOs in the State while obtaining bulk orders for stove construction. Her stove entrepreneurship enabled her daughter to receive an education and get a job as a government school teacher. Through its women and livelihood projects, TIDE has been able to address women's practical and productive need and product their strategic interest by reducing drudgery work and improving health.

INDIA: World Bank Support to India's Energy | Ms. Mani Khurana & Mr. Parthapriya Ghosh, World Bank

In India, the Bank's engagement focuses on clean power generation, energy efficiency, efficient energy markets, and regional power interconnections, utility governance, and quality of electricity distribution services in selected states, solar power, and other renewable energy development. At the moment the projects do not have a particular gender focus although there are two projects that have gender components. The Bank's team is considering doing a retrospective review of their projects to consider opportunities of further integrating gender. For example it may be possible to place a customer care support center focused on women employment.

In India like in other countries, the Bank involves social development specialists when there are environmental and social safeguard issues, and in that context, they address gender issues. However, when there are no safeguards issues, it is more difficult to integrate gender. There are gender analysis and gender action plans taking place in several projects as well as monitoring and evaluation in resettlement plans. It was noted that the work is being done, but it is not through a strategic gender action plan.

Nepal: Rural Energy | Mr. Kiran Man Singh, REDP

Nepal's REDP's objective is to enhance livelihoods through the promotion of community managed micro-hydro systems as an entry point for holistic development. The approach is focused on decentralization and community mobilization that is based on gender and social inclusion, transparency, participation, and consensus decision-making. The program started with 5 districts and through a phased approach (demonstration, expansion, and replication), it is now in the mainstreaming phase and is targeting up to 40 districts by 2012.

Key lessons learned include that micro-hydro has proven to be the best mean of increasing rural electrification and promote holistic development, aiming at social, economic, and environmental improvement through the utilization of local resources (land, water, forest, skills, etc). Micro-hydro also brings positive changes to lives of women and vulnerable groups through the provision of equal opportunity and dedicated support systems of inclusion, participation, transparency, and consensus decision-making in all aspects and stages. The demand for micro-hydro increased based on successful demonstration and thus there was a creation of decentralized institutions and capacity building taking place at all levels. Other lessons learned include that (i) local men and women are capable to plan, implement, and manage micro hydro systems with the provision of enabling environments that provide the proper guidance and support; and (ii) poor households can also access electricity through a holistic approach based on gender and social inclusion, through community mobilization for strong social capital building, economic growth, and environment sustainability.

Sri Lanka: Power Sector Development | Ms. K.V. Indrani Mallika, Director Planning, Ministry of Power and Energy, Sri Lanka

Sri Lanka adopted in 2005 a major power sector development plan, to expand generation, transmission, and distribution capacity. In 2009, 85% of the country is electrified, with specific household levels varying within the country. There are efforts to get 100% of household connections in the coming years. With respect to gender, it was noted that there is female representation within the Electricity Board,

both among senior positions and on the Board of Directors (Check). A participant raised the question on how were women entrepreneurs involved and if there were any incentives for women to become energy entrepreneurs; no such incentives are in place.

Pakistan: Gender Sensitivity in Pakistan | Mr. M. Taimur Khan, Ministry of Women Development

This presentation was a special case, as Mr. M. Taimur Khan, represented the Ministry of Women Development, and the Ministry of Energy and other Energy Institutions could not participate in the workshop. Mr. Khan's shared candidly his own experience in Pakistan, where he became gender sensitive after joining the Ministry of Women Development, and then wrote the national plan of action for women development in 2000. Mr. Khan noted that gender development has evolved significantly. In Parliament, 33% are set aside for women, and the Ministry of Women Development has been decentralized to the provinces. There is increased participation and coverage on gender issues throughout the country. He made it known that Pakistan is not behind and the country is doing its best to enhance women's development, their work, and opportunities.

ESMAP: Planning for Action | Ms. Vanessa Lopes, ESMAP

ESMAP's Gender and Energy Strategy Program (GEDS) has a thematic and regional focus that builds on conventional and innovative expertise and partnerships. GEDS is based on action research and aims to move from the "why" to the "how-to" integrate gender. The program focuses on knowledge, outreach, and dissemination through workshops and events. It also uses a "learning by doing" approach and provides just in time technical assistance to energy task teams within the World Bank. Analytical work is a core function of the program, building upon previous work and producing background documents to inform upcoming gender-in-energy strategies and projects.

The African Renewable Energy Access Program (AFREA), also supported by ESMAP, has a gender and energy component that allows gender experts to collaborate with the energy task teams bringing in global, regional, and local expertise on gender and energy into projects. It was noted that the present workshop in South Asia is an example of ESMAP's efforts to partner with regions and clients for knowledge sharing and capacity building.

II - Presentation of Country Action Plans

Chair: Kazi Afaq Hussain, Additional Secretary, Establishment Division, Ministry of Economic Affairs and Statistics, Pakistan

Working Groups IV: Country teams' Action Planning. Participants were grouped by country teams and asked to identify a) the projects and policy analytical tasks in their World Bank/ESMAP work programs which would be good candidates for integrating gender, and b) to propose specific gender elements in each component of the work program.

Toward the end of the workshop, taking the lessons of the presentations, discussions and field visits the participants worked by country groups and drafted actions plans for integrating gender into their on-going and forthcoming energy programs.

Action Plans: Sri Lanka and Pakistan developed plans to improve energy efficiency and biomass utilization, especially women's employment generation in biomass supply chain and developing system (MIS) and indicators for monitoring results. Sri Lanka and Pakistan is investing to scale up 100% access in rural electrification, upgrading grid sub-station. They would like to develop an energy sector strategy for women's empowerment. Their action plans consist of (a) a developing a sex-disaggregated baseline in the energy sector, (b) employment generation for women and men in the energy and related sectors and (c) develop a comprehensive MIS system with sex-disaggregated indicators for monitoring progress.



Nepal and India developed gender action plans for their forthcoming energy projects, that includes gender inclusive consultations, gender analyses to identify constraints and needs; appropriate plan for gender responsive relocation and livelihood restoration; employment generation for poor women and men, and ensuring at least 30% women representation at the management board.

Bangladesh developed actions plans for different agencies and programs. These included action plan for REB, IDCOL, Grameen Shakti, Ministry of Energy and Power, Ministry of Women Affairs.

IDCOL gender action Plan included (a) establishment of Gender Focal Point in each Partner Organization (PO), including IDCOL, and (b) establishing a gender strategy for management orientation and internalizing gender integration within their own institution and POs. Currently only one of their POs - Grameen Shakti is implementing bio-gas and improved cookstoves and IDCOL would like to promote these initiatives that would benefit poor vulnerable women. However, they realize that bio-gas and improved cookstoves have technological challenges. They would train and develop female community mobilizers for awareness raising and behavior change. They will develop a Training Manual on bio-gas and improved cookstoves and provide Training of trainers (TOT). They proposed to train and mobilize women masons and technician for improved cookstoves and bio-gas. Finally, Bio-gas and Improved Cookstove Users Forum may be mobilized for enhanced awareness, practice and building social capital.

REB gender action Plan included (a) a gender responsive SME program for enhancing women's economic opportunities. REB will take lessons from Lao PDR Rural Electrification program and will provide preferential incentives to poor female headed households, so that they are able to connect to electrification. Similarly, incentives will be provided to women entrepreneurs for productive use of electricity, such as poultry, sewing, trading, shops, cottage industry, agro-based industry and other income generating activities. REB will strengthen its MIS, by including gender indicators and targets, monitor and report on the progress regularly. REB will also pilot clean cooking solutions by promoting bio-gas and improved cookstoves.

IIFC gender action Plan: The government of Bangladesh is drafting a Private Public Partnership (PPP) law, and IIFC proposed to integrate gender in this law, so that women entrepreneurs are able to access funds and other services. IIFC also proposed women's equal participation in energy policy dialogues and forums. Other actions were to integrate gender in the forthcoming PPP law, women's representation in energy policy dialogue and making government's project gender responsive and developing and including indicators for monitoring progress

Workshop Feedback and Closing Remarks

Chair: Mr. Bhuiyan Shafiqul Islam, Chairman, Rural Electrification Board (REB)

Chief Guest: H.E. Dr. Shirin Sharmin Chowdhury, MP, Minister of Women and Children Affairs, Bangladesh

Speakers: Ms. Tahseen Sayed, Acting Country Director, World Bank Office Dhaka & Mr. Islam Sharif, Executive Director and CEO, Infrastructure Development Company Ltd. (IDCOL)

Workshop Feedback: Participants provided candid feedback on the three day workshop. Many agreed that one of the key highlights was to meet regional colleagues, with a very wide range of professional backgrounds and a good mix of policy makers, implementers, government and non-government officials, and to listen and learn from experiences taking place in neighboring countries. Also there were counterparts from different sectors such as Power Development, Oil and Gas, Ministry of Environment, Ministry of Women Affairs, utility agencies and participants were able to learn from each other. The workshop showed the renewed presence of gender issues within the sector and also the need to further address these issues within country projects and strategies. Several commented that they learned a lot both from the presentations and from the field trips, and that the workshop helped understand not only the “why” of gender but “how” what is being done could be done better.

Participant Feedback

(i) **Knowledge Acquired:** Awareness of gender issues that can be incorporated in upcoming projects, how to develop a project gender action plan, how to do gender analysis, and how to select gender related indicators in monitoring and evaluation plan.

(ii) **What worked best:** working groups, learning among participants, learning international experience, field trip.

(iii) **Improve:** better time management, more time for discussion, training material on actual projects in other countries and step by step approach, case studies covering aspects of finance, implementation issues and more theoretical background on the issue.

(iv) **Support needed:** international best practices and publications, project experiences carried out in SAR.

Constructive suggestions were also made by participants. In terms of content and substance, it was suggested that more introductory and technical material on gender and energy be provided at the onset in order to put everyone on the same page. It was also suggested that more time be allocated for participants’ working groups to increase dialogue and ownership of the materials, to distill the issues and lessons learned from the case studies presented. It was noted that the

In summary, creating a platform for cross-regional dialogue was greatly appreciated and the gender dimension of the energy sector continues to be an issue that needs further research, analysis and application. Participants suggested that a follow-up plan should be put in place to keep posted on progress on gender, to keep the momentum and engagement, including ensuring the choice and voice of communities. It was noted that listening to others and the practical approaches taken by fellow colleagues generated new ideas amongst participants but there is need for more commitment and awareness creation going forward. A strong message from workshop participants was that they were inspired by the learning from each other that they can do more to overcome day-to-day obstacles to mainstream gender equality in energy projects. They realized that the provision of energy services in a gender sensitive way can help build up the cohesion of communities, especially in the rural areas, generate employment, including for women, and help improve welfare.

Closing Session:

After three days of discussions, sessions and visits to energy projects in rural areas in Bangladesh, the participants were thanked by the organizing partners, REB, the World Bank, and ESMAP for their

participation, engagement and future action on gender and energy. Ms. Tahseen Sayed reinforced that the learning that has taken place during the workshop will have to be addressed in the projects going forward. Ms. Sayed noted that there will be continued support from World Bank on poverty reduction and development, and the good progress that has already been made on gender and achieving the MDGs within Bangladesh and South Asia should be recognized. She further stated that “We should ensure that our efforts address all needs, not only the most visible needs, but explore ways how poor women and men can have a voice in the way decisions are made, promote employment opportunities in energy businesses - in electricity, biomass, petroleum fuels. We also need to minimize the risks and vulnerabilities to which women and men are exposed in the energy sector”.

The chief guest of the closing session Dr. Shirin Sharmin Chowdhury, stressed the importance of technology transfer to women, for improving their economic opportunities and enhancing the welfare of the family. She further said “for mainstreaming gender in the energy sector, political commitment and institutional framework need to be in place and Bangladesh has an effective inter-ministerial set up for enhancing gender equality and monitoring progress”. She was pleased to note that Bangladesh’s REB provided good practice model and showcased some of the work that is ongoing in the rural areas of the country. Furthermore, the participants were able to go beyond a classroom exercise by going on a field trip to see firsthand some of the problems that Bangladesh is experiencing but also the solutions that the people have strived to put in place for many years.

Mr. Islam Sharif closed the workshop by thanking the participants taking time away from their regular responsibilities to come and work with colleagues from countries across the South Asia Region on a subject that is so important to the development of our societies: Gender and Energy. The gender dimension of energy is indeed linked to the distribution of responsibilities between men and women in our societies. It was noted that since everyone is coming from South Asia and all countries face similar problems, there is an understanding that it is not easy to foster solutions when the problems are so complex – starting from the high level of poverty, the lack of education of a large share of adult population, the strain on natural resources, the demographic pressure on the land, and the increasing risks of climate-related disasters. This complexity is the very reason why energy specialists and gender specialists have to work together. He encouraged participants to consider three areas that have potential for strengthened cooperation: gender budgeting; gender equality in employment; and gender equality in representation. The participants have had the opportunity to learn together, from each other and now going forward, it is an opportunity for everyone to act together to take the gender equality agenda into energy sector development.

Annex 1: WORKSHOP AGENDA



Gender and Energy Capacity Building Workshop for South Asia

Pan Pacific Sonargaon Hotel | Dhaka, Bangladesh | June 15-17, 2010

Sponsored by the World Bank and ESMAP in partnership with the
Rural Electrification Board of Bangladesh

TIME	MONDAY JUNE 14, 2010
15:00	Arrival and Check in
19:00	Dinner at own convenient time at Hotel Cafeteria
	DAY 1: Tuesday June 15, 2010
08:00- 08:45	Registration
09:00- 10:00	<p>Welcome and Introduction to the Workshop</p> <ul style="list-style-type: none"> • Nilufar Ahmad, Senior Gender Specialist, SDV: <i>Gender Integration in the Energy Sector: Challenges and Opportunities.</i> • Vanessa Lopes, Operations Analyst: <i>ESMAP: A Program Committed to Gender</i> • Dominique Lallement, International Development Consultant & workshop Facilitator: <i>Workshop Objectives, Expectations, Structure, and Ground Norms</i> <p>Q and A</p>
10:00- 11:00	<p>Inaugural Ceremony</p> <p>Chair: Ms. Ellen Goldstein, Country Director, World Bank Office Dhaka</p> <ul style="list-style-type: none"> • <i>Welcome Address by the Chair: Ms. Ellen Goldstein</i>, Country Director, World Bank Office Dhaka • <i>The World Bank's Engagement in South Asia Energy Sector: Mr. Kwawu Gaba</i>, Lead Energy Specialist, South Asia Region, the World Bank • <i>Speech by Chief Guest: H.E. Dr. Tawfiq-e-Elahi Chowdhury, BB,</i>

	<p>Adviser to the Honorable Prime Minister, Government of Bangladesh</p> <ul style="list-style-type: none"> • <i>Closing remarks: Mr. Bhuiyan Shafiqul Islam</i>, Chairman, Rural Electrification Board (REB), Bangladesh
11:00-11:20	MORNING TEA BREAK
11:20-12:00	<p>Module I: WHY Gender and Energy: Learning from good practices</p> <p>Chair: Mr. Bishwa Prakash Pandit, Joint Secretary, Ministry of Energy, Nepal</p> <ul style="list-style-type: none"> • Ms. Fayeza Haque, Director, Management and Operation, Central and Mr. Latiful Azam, Deputy Director Socio Economic Monitoring and Evaluation Cell, REB: <i>Bangladesh Rural Electrification Project</i> <p>Q and A</p> <ul style="list-style-type: none"> • Video Presentation: <i>Bhutan Women Solar Engineers</i> <p>Q and A</p>
12:00-13:00	<p>Working Groups I: On the basis of the case studies presented in the morning plenaries, participants will be asked to share their knowledge and experience, and to identify relevant gender entry points for activities within the purview of their responsibilities.</p>
13:00-14:00	LUNCH – Italian Restaurant
14:00-14:30	<p>Module I (Continued)</p> <ul style="list-style-type: none"> • Plenary Working Group Reports • Chair’s concluding remarks
14:30-15:30	<p>Module II: Operational Tools</p> <p>Chair: Ms. R. Prabha, Senior Project Manager (TIDE), India</p> <ul style="list-style-type: none"> • <i>Presentations of (a) Screening and (b) Design Tools for Sector Strategies and Projects</i> <p>Q and A</p> <ul style="list-style-type: none"> • K. Gaba: <i>Gender Action Plans for Projects, Example of Mali Rural Energy</i> <p>Q and A</p>

15:30-16:30	Working Groups II: Participants will work in 4 or 5 groups, and will be given case studies to apply the Operational Tools to which they will have been introduced.
16:30-16:45	AFTERNOON TEA BREAK
16:45-17:30	Module II (continued) <ul style="list-style-type: none"> • Plenary Working Group Reports • Chair's concluding remarks
17:30-18:00	Facilitators <ul style="list-style-type: none"> • Field Trip Assignments • Closing the day and Lessons Learnt
19:30	Formal Dinner: Italian Restaurant Guest Speaker: Mr. Abser Kamal , Managing Director, Grameen Shakti, Bangladesh

DAY 2: Wednesday June 16, 2010	
8:30-10:00	<p>Module III. Monitoring Performance and Measuring Results</p> <p>Chair: Ms. K.V. Indrani Mallika, Director (Planning), Ministry of Power and Energy, Sri Lanka</p> <ul style="list-style-type: none"> • <i>Presentation of Monitoring & Impact Evaluation Framework</i> • Mr. Mangal Das Maharjan , AEPC, Nepal: Small Hydropower Project Monitoring Framework • Mr. Jie Tang: Laos: Rural Electrification <p>Q and A</p>
10:00-11:00	<p>Working Groups III: Participants will be asked a) to introduce to the group a project on which they are working, and b) to use the Monitoring and Impact Evaluation Framework introduced in the plenary to develop an M & E framework for their project and identify monitoring and impact indicators.</p>
11:00-11:15	MORNING TEA BREAK
FIELD TRIPS	
11:30	Leave Hotel for Field Trips (with Lunch Boxes)
19:00	Return from Field Trips
19:30	Dinner

DAY 3: Thursday June 17, 2010	
08:30- 09:30	<p>Module III (Continued)</p> <p>Co-chairs: Ms. Indrani Mallika and Ms. Fayeza Haque</p> <ul style="list-style-type: none"> • Reports from Working Groups III • Reports from field trips.
09:30- 11:00	<p>Module IV. Planning for Action in World Bank Activities and in ESMAP Projects</p> <p>Chair: Mr. Mirwais Alami, Chief Commercial Officer, DABS, Afghanistan</p> <ul style="list-style-type: none"> • Government Representatives to present their energy program of their respective countries, including existing or potential financing from the World Bank. • Vanessa Lopes: ESMAP: Planning for Action <p>Q and A</p>
10:45- 11:00	MORNING TEA BREAK
11:00- 12:30	<p>Working Groups IV: Country teams' Action Planning. Participants will be grouped by country teams and will be asked to identify a) the projects and policy analytical tasks in their World Bank/ESMAP workprograms which would be good candidates for integrating gender, and b) to propose specific gender elements in each component of the workprogram.</p>
12:30- 13:30	LUNCH (Italian Restaurant)
13:30- 14:45	<p>Chair: Kazi Afaq Hussain, Additional Secretary, Establishment Division, Ministry of Economic Affairs and Statistics, Pakistan</p> <ul style="list-style-type: none"> • Presentation of Country Action Plans
14:45- 14:55	Short break to Allow for the Arrival of Honored Guests
15:00	<p>Closing Ceremony</p> <p>Chair: Mr. Bhuiyan Shafiqul Islam, Chairman, Bangladesh Rural</p>

	<p style="text-align: center;">Electrification Board (REB), Bangladesh</p> <ul style="list-style-type: none"> • <i>Welcome address by the Chair: Mr. Bhuiyan Shafiqul Islam, Chairman, Rural Electrification Board (REB)</i> • <i>Participants' Feedback on the Workshop</i> • <i>Key Lessons for the World Bank: Ms. Tahseen Sayed, Acting Country Director, World Bank Office Dhaka</i> • <i>Speech by Chief Guest: Dr. Shirin Sharmin Chowdhury, MP, Minister of Women and Children Affairs, Bangladesh</i> • <i>Closing Remarks and Vote of Thanks: Mr. Islam Sharif, Executive Director and CEO, Infrastructure Development Company Ltd. (IDCOL)</i>
16:00	Closing of the Workshop

Annex 2: Workshop Participants



GENDER AND ENERGY CAPACITY BUILDING WORKSHOP FOR SOUTH ASIA

June 15-17, 2010 | Dhaka, Bangladesh

NAME	TITLE	ORGANIZATION	COUNTRY
Mr. Mirwais Alami	Chief Commercial Officer	Da Afghanistan Breshna Sherkat (DABS)	Afghanistan
Mr. Shakeeb Ahmad Nessar	Planning Engineer	Da Afghanistan Breshna Sherkat (DABS)	Afghanistan
Mr. M. Iqbal	Sr. Energy Specialist	World Bank	Bangladesh
Ms. Shirin Jahangeer	Consultant	World Bank	Bangladesh
Mr. Md. Abul Fayez Khan	Program Assistant	World Bank	Bangladesh
Ms. Ellen Goldstein	Country Director	World Bank	Bangladesh
Mr. Zubair K. M. Sadeque	Financial Analyst	World Bank	Bangladesh
Dr. Tawfiq-e-Elahi Chowdhury, BB	Adviser to the Honorable Prime Minister	Government of Bangladesh	Bangladesh
Dr. Shirin Sharmin Chowdhury, MP	Minister	Ministry of Women and Children Affairs	Bangladesh
Mr. Bhuiyan Shafiqul Islam	REB Chairman	Rural Electrification Board (REB)	Bangladesh
Mr. Abser Kamal	Managing Director	Grameen Shakti	Bangladesh
Mr. Md. Ahsan Ullah Bhuiyan	Assistant General Manager	Grameen Shakti	Bangladesh
Ms. Ferdousi Sultana	Social Development and Gender Officer	Asian Development Bank (ADB)	Bangladesh
Ms. Reba Paul	National Steering Committee for SAWAF-III & Programme Coordinator	Global Water Partnership-South Asia (GWP-SAS)	Bangladesh
Mr. Md. Salahuddin Ahmed	Assistant Chief	Economic Relations Division (ERD)	Bangladesh
Mr. A.I.M. Latiful Azam	Deputy Director, Socio Economic Monitoring Cell	Rural Electrification Board (REB)	Bangladesh
Mrs. Fayeza Haque	Director (PBS Development and Operation – Central)	Rural Electrification Board (REB)	Bangladesh
Mr. Muhammad Matiur Rahman	Deputy Director (E&D)	Rural Electrification Board (REB)	Bangladesh
Mrs. Khaleda Parveen	Deputy Director, Office of the Executive Director	Rural Electrification Board (REB)	Bangladesh
Mr. Md. Abdur Rahim Mallik	Deputy Director (Program Planning)	Rural Electrification Board (REB)	Bangladesh
Mr. Shah Zulfiqar Haider	General Manager Narayangaj (PBS)	c/o Rural Electrification Board (REB)	Bangladesh

Ms. Umama Angalin	Project Officer	Infrastructure Investment Facilitation Center (IIFC)	Bangladesh
Ms. Farzana Husain	Investment Officer (Technical)	Infrastructure Development Company Ltd. (IDCOL)	Bangladesh
Ms. Sadia Hoque	Loan Officer	Infrastructure Development Company Ltd. (IDCOL)	Bangladesh
Ms. Tasrina Zaman	Investment Officer	Infrastructure Development Company Ltd. (IDCOL)	Bangladesh
Ms. Nira Maumder	Deputy Director (Project Planning)	Bangladesh Power Development Board	Bangladesh
Ms. Hamida Idris	Senior Assistant Chief	Energy and Industry Division, Planning Commission	Bangladesh
Mr. Kwawu Mensan Gaba	Lead Energy Specialist	World Bank	India
Mr. Anjali Garg	Energy Specialist	World Bank	India
Mr. Parthapriya Ghosh	Social Development Specialist	World Bank	India
Ms. Mani Khurana	Energy Economist	World Bank	India
Dr. Sangeeta Kohli		Department of Mechanical Engineering, IIT	India
Ms. R. Prabha	Senior Project Manager	Technology Informatics Design Endeavour	India
Ms. Jyoti Gupta	Senior Accounts Officer/Funds	Haryana Vidyut Prasaran Nigam Limited	India
Ms. Vineeta Singh	XEM Dahskin	Haryana Bijli Vitran Nigam Limited	India
Mr. Mudit Narain	Energy Analyst	World Bank	Nepal
Mr. Kiran Man Singh	National Programme Manager	Rural Energy Development Programme (REDP)	Nepal
Mr. Mangal Das Maharjan	National Project Director, Renewable Energy Project	Alternative Energy Promotion Center (AEPC)	Nepal
Mr. Bishwa Prakash Pandit	Joint Secretary	Ministry of Energy	Nepal
Mr. Kazi Afaq Hossain	Additional Secretary	Establishment Division Government of Pakistan	Pakistan
Mr. M. Taimur Khan	Director General (Development)	Ministry of Women Development	Pakistan
Ms. K.V. Indrani Mallika	Director (Planning)	Ministry of Power and Energy	Sri Lanka
Ms. Dominique Lallement	Gender and Energy Consultant	World Bank	USA
Ms. Nilufar Ahmad	Senior Gender Specialist	World Bank	USA
Ms. Vanessa Lopes	Operations Analyst	World Bank/ESMAP	USA

Annex 3: Case Studies for Group Work

WORKING GROUP TASK – Screening Tool Activity

- 1.) Identify a Moderator and a Rapporteur who will
 - Summarize the discussion on a flip chart
 - Present the conclusions of the group activity
- 2.) Read the Country One Energy Sector Strategy Case individually (Not more than 3 minutes)
- 3) Using the screening tool introduced in the plenary:
 - Identify the gender questions you would want to raise when reviewing the Case
 - Identify the activities in the World Bank program which you view as good candidates for integrating gender; which gender questions would you ask in each activity? Which gender actions would you recommend for the project?
- 4.) Rapporteur presents group conclusions to other participants

CASE STUDY 1: Screening Tool Activity: Country One Energy Sector Development Strategy

Background

Country One places a high priority on developing its energy sector. There are shortages in supply. Over a third of the power is generated from imported fuels, and fuel prices are high. The country has hydropower potential, gas, and coal resources. The majority of power and gas utilities are government owned companies; similarly for the company which handles the bulk of fuel imports. The financial situation of the companies is precarious. Tariff adjustments have not kept pace with increasing costs. Retail prices of electricity and fuels are heavily subsidized, and cost the economy 13% of GDP. Thirty five percent of the population lacks access to electricity and 70% rely on traditional biomass fuels and appliances to meet their cooking needs.

Social sector indicators lag far behind other Asian developing countries. There are glaring gender disparities in women's access to education, health, economic resources and incomes, and political participation in decision-making bodies at the family, community, and national levels. Women constitute an increasing proportion of household heads as men are migrating overseas for better economic opportunities. However, because women don't have access to traditional assets (land), female headed households constitute 60 percent of households in the low income quintile. Donors are supporting the implementation of a government strategy for gender reform.

Government Energy Sector Development Strategy Objectives

- Financial recovery of the energy sector
- Enhance gas supplies to the power sector
- Establish a social protection program to enable vulnerable households to receive a minimum of electricity at affordable prices
- Increase institutional efficiency in policy formulation, planning, investments, and private sector participation
- Strengthen accountability of public sector owned distribution companies
- Increase private sector participation in hydroelectric, coal and distribution
- Increase regional cooperation for energy trade to diversify supply and increase energy security

Planned World Bank Assistance

- Investment
 - Gas to Power Efficiency and Loss Reduction Project
 - Electricity Distribution Efficiency Enhancement and Network Extension
 - Thermal Power Generation Efficiency Enhancement and Consolidation of Transmission Network
 - Development of renewable Energy
- Advisory and analytical assistance in policy measures:
 - Tariff policy and sector financial restructuring
 - Design of a social protection scheme for energy and other utility sectors
 - Enhancing accountability and corporate governance of public sector power companies

- Regulatory framework for private sector participation
- Strengthening policy making and coordination among energy- and non-energy related ministries

CASE STUDY 2: Screening & Project Design Tools: Community-Based Renewable Energy Development in Country One

Background

Country One places a high priority on developing its energy sector. There are shortages in supply. Over a third of the power is generated from imported fuels, and fuel prices are high. The country has hydropower potential, gas, and coal resources. The majority of power and gas utilities are government owned companies; similarly for the company which handles the bulk of fuel imports. The financial situation of the companies is precarious. Tariff adjustments have not kept pace with increasing costs. Retail prices of electricity and fuels are heavily subsidized, and cost the economy 13% of GDP. Thirty five percent of the population lacks access to electricity and 70% rely on traditional biomass fuels and appliances to meet their cooking needs.

Social sector indicators lag far behind other Asian developing countries. There are glaring gender disparities in women's access to education, health, economic resources and incomes, and political participation in decision-making bodies at the family, community, and national levels. Women constitute an increasing proportion of household heads as men are migrating overseas for better economic opportunities. However, because women don't have access to traditional assets (land), female headed households constitute 60 percent of households in the low income quintile. Donors are supporting the implementation of a government strategy for gender reform.

Indigenous and ethnic groups may be present in communities where the project will be implemented. A baseline survey of the project area indicated that rural communities use firewood, kerosene oil, diesel generators and dry-cell batteries to meet their daily energy and livelihood requirements. Indoor pollution adversely affects the health of local population, especially women and children. Increased use of forest resources for domestic use is having a negative impact on the forest cover resulting in loss of vegetation and increased levels of soil erosion and floods in the rainy season.

Project Development Objective:

Establish a sustainable program for expanding access to electricity in rural communities, thus supporting broad-based economic development and helping alleviate poverty.

Project Components

- Mini-grid and off-grid Electrification for 5000 villages and at least 50% of household served in each village over 3 years.
- Stand-alone systems of productive uses of energy

- Capacity Building and Technical Assistance to develop various business models: electrification cooperatives, and independent private utilities.
- A pilot project to establish a network of retailers to disseminate LED lamps, including a subsidy given to retailers and a consumer satisfaction survey.

CASE STUDY 3: Country Two, Clean Power Project

Background

Energy security underpins all aspects of economic growth in Country Two. However, aging and dilapidated industrial and energy infrastructure and technology, weak performance of energy utilities, and lack of new investment characterize the power generation, transmission, and distribution infrastructure. Existing power stations and transmission lines go are established or go through densely populated areas. The low cost of energy causes suboptimal energy mix, inefficient use, and frequent power failures. Large amounts of natural gas are wasted due to substandard power generation efficiency, and transmission and distribution losses. As a result of inefficiency and infrastructure bottlenecks, the country is beginning to face power supply shortages. Investing in energy efficiency from economic, social, environmental perspectives has become a priority for Country Two.

Frequent power failures have caused major damage on the water utilities' infrastructure, resulting in a deteriorating in the reliability of safe drinking water so that families who can afford it have started using their own wells. Female headed households are at a disadvantage as they do not have access land rights, water rights or access to credit. They are underrepresented in the bodies overseeing the management and distribution of these key resources, even though the Constitution affirms a strong commitment to gender equality.

The Government is undertaking a major program to upgrade the power infrastructure to international standards. It has approached the World Bank for financing, and has started discussing the procurement requirements for the contractor. The influx of outside workers was raised as an issue during the community consultation, with three major concerns: (i) the impact that the increased number of workers would have on the existing community facilities; and (ii) the potential for conflict; (iii) the potential increase in the spread of HIV/AIDS. Other concerns included: lack of separate washroom facilities for women and men in the plant, high vibration levels in the plant, noise levels in the surrounding community, disposal of solid waste, and impact on roads already in poor condition. The contractor will be required to develop a community facilities and liaison plan to address these issues and instructed to utilize local labor, where feasible, particularly from lower income groups.

Project Development Objectives:

- To supply 25% of the country with clean, reliable and affordable electricity. provide with a reliable source of heat and electricity
- To minimize the environmental impact of power generation

Components:

- 2 high efficiency combined cycle gas turbines (CCGT).
- Seven pumping stations for irrigation water.
- 500 kilovolt (kV) transmission lines and sub-stations
- Repair and upgrading of workforce accommodations and local roads

CASE STUDY 4: Small Hydro-Power Development Project in Country Three

Background

Nearly 250 million people in Country Three do not have access to electricity and an even larger number (325 million) do not have access to modern cooking fuels. Together, women and children collect close to 28% of all primary energy. About 70 percent of the country's population lives in rural areas. Poor quality biomass such as crop residues, animal dung and fuelwood are widely used in rural areas and have detrimental impacts on women's welfare, status, and health, and also on the environment. Whereas LPG and kerosene are the dominant cooking fuels in urban households, these are not commonly used in rural areas due to the absence of markets and distribution networks and the very limited cash incomes in most rural households.

The power industry in Country Three is characterized by inadequate and inefficient power supply with peak capacity and energy supply shortages exceeding 20 percent and 10 percent, respectively. Low energy prices and market and non-market barriers to energy efficiency have contributed to the inefficient end-use of electricity and thermal energy. This inefficiency exacerbates the energy shortage situation. The bulk of capacity additions in power supply is expected to come from coal-fired stations supplemented by hydroelectric power. Environmental NGOs are pressuring industry to invest more in clean energy resources which are abundant. Large hydro power plants could lead to loss of forests, wildlife habitat and biodiversity, and most importantly, the displacement of people.

Project Development Objectives:

- Increase environmentally sustainable power supplies
- Mobilize private sector investments in renewable energy projects
- Promote energy efficiency and demand-side management (DSM) investments

Project Components.

- **Small Hydropower**, testing new business models featuring partnerships between private investors and local communities.
- **End-use Energy Efficiency** through Energy Service Companies yet to be created, including the production of energy efficient appliances
- **Technical Assistance:** pre-investment activities to develop a sustainable pipeline of energy-efficient investments and standard bidding documents for the new Energy Service Companies

Project five year performance indicators include:

- The increased installed hydropower capacity
- The number of communities and household served
- End user efficiency gains
- The number of new enterprises developed and jobs created by the industry

Annex 4: Approaches to Assess and Mitigate Gender Inequalities in Energy Project Risks and Benefits

Approaches to Assess and Mitigate Gender Inequalities in Energy Project Risks and Benefits

Types of Energy Projects ¹	What is included?	Gender and Energy Issues	Gender Questions for Social Assessment, ESIA	Gender Inclusive Design Elements	Gender Informed M&E
Low Carbon	Renewable energy, energy efficiency improvement, biomass energy, substitution of carbon intensive fuels with cleaner fuels	<ul style="list-style-type: none"> -Indoor air pollution (IAP) from fuelwood and traditional appliances affects predominantly women and children -Collecting fuel wood increases women's time poverty -How can women and men benefit equally from renewable energy projects and energy efficiency projects 	<ul style="list-style-type: none"> --What forms of energy are used for heating, cooking, lighting, business and agriculture by women and men and why? --How much time and money are women and men expending to provide heat and light to household? For income generating activities? --What is the incidence of IAP related illnesses for women, men, children? 	<ul style="list-style-type: none"> --Energy efficient stoves designed in consultation with users, predominantly women --Sustainable forestry management supplying wood and providing employment. --Fuel diversification providing opportunities for new M/F energy enterprises. --Inclusive community participation 	<ul style="list-style-type: none"> -- M/F reduced incidence of respiratory, eye infections from IAP --Reduced M/F time required for gathering fuel wood --Increased M/F income with increased time for employment, productivity --Increased female participation in household and community energy decision-making
Access,	<ul style="list-style-type: none"> Increase access to electricity. -- Depending on the power generation, this may include power generation and transmission as well as distribution. -- Includes a range of technologies and 	<ul style="list-style-type: none"> --Inability of many of the poor to pay for connection, particularly female headed households --Lack of access to lighting limits home-based productive activities, 	<ul style="list-style-type: none"> --What are the major constraints on access to electricity for women and men? --What is the cost of lack of access in terms of productivity, education, health. --What are the risks and 	<ul style="list-style-type: none"> --Credit to enable the poor to pay connection fees --Off grid power (LED battery operated, lights, multifunction platform,) businesses owned by women's cooperatives 	<ul style="list-style-type: none"> --Increase in use of energy-related appliances --Expanded food production for consumption and sale. --Increased M/F school attendance and higher levels of education

Types of Energy Projects¹	What is included?	Gender and Energy Issues	Gender Questions for Social Assessment, ESIA	Gender Inclusive Design Elements	Gender Informed M&E
	institutional solutions	education(studying), and posed safety risks. --Electricity facilitates provision of potable water in homes (pumping) and irrigation of crops, reducing time spent by women on water chores.	opportunities associated with proposed electricity access? Will women have the same access as men to the opportunities and bear the same share of risks?		attained
Blended Low Carbon and Access	Access projects using low carbon energy and off-grid options to increase access to electricity and other energy.	All points above apply	All points above apply	All points above apply	All points above apply
Energy Efficiency	--Demand side: demand response programs, end use energy efficiency, consumer awareness, institutional development, regulatory reform, improved utility management, --Supply side: modal shifts from cars to mass transit, heating enhancement, improved power transmission, improved, metering power system optimization, plant rehabilitation	--Women seldom have lesser access than men to information about energy efficient technology, especially when have low literacy rate --Gender issues associated to mass transit	-Will a change in energy tariff levels and structure for energy affect women differently than men? --Will proposed reforms provide equal employment and business opportunities to women and men?	--Media campaign targeting different user groups including women --Mobilization of women's groups to promote consumer and business awareness of energy efficiency. --School programs and fairs on energy efficiency --social accountability measures (score card) rating performance of utilities	--Increased M/F awareness of energy technology and efficiency options. --Increased efficiency of utility management and service delivery --Percentage of women/men adopting energy saving technologies. --Increased ability of the poor to access modern energy services
New	Solar energy for heat and	--Gender disparities in	What are the risks and	--Skill training and credit	--Number of M/F

Types of Energy Projects¹	What is included?	Gender and Energy Issues	Gender Questions for Social Assessment, ESIA	Gender Inclusive Design Elements	Gender Informed M&E
Renewable Energy	power, wind energy for mechanical and electrical power generation, geothermal and biomass for power generation and heat, hydropower of 10MW or less per installation	representation in Energy technology fields, in both training and employment --information on energy technology more accessible to males. --Due to traditional land tenure practices, women may lack collateral for loans to form enterprises.	opportunities associated with electricity access projects? Will women have the same access as men to the opportunities and bear the same share of risks?	to facilitate women involvement in renewable energy businesses/activities: solar , microhydro or biogas production and distribution enterprises	headed households adopting renewable energy systems --number of M/F new renewable energy enterprises --Increased M/F income from renewable energy enterprise --Reduced time collecting fuelwood
Large Hydro	Hydropower producing 10 MW of power or more per installation	--Displacement, resettlement, livelihood loss may affect women more than men. --Poor people most affected by dam construction often benefit least	What are the risks and opportunities associated with proposed hydropower facility? Will women have the same access as men to the opportunities and bear the same share of risks?	--Ensure that resettlement process includes women in assessment of affected persons, compensation in own bank account, skills training. --Programs to provide share of hydropower profits to poor displaced by dam --training programs targeted to women to increase number of female technical staff in hydropower companies -- Training and obligations of contractors on HIV/AIDS	--number of displaced women and men trained for alternative livelihoods. -- financial compensation for resettlement by gender --Share of hydropower profits distributed to poor households displaced by dam -- Percentage of male/female employees in hydropower companies -- monitoring of training programs --monitoring of HIV/AIDS mitigation

Types of Energy Projects¹	What is included?	Gender and Energy Issues	Gender Questions for Social Assessment, ESIA	Gender Inclusive Design Elements	Gender Informed M&E
					measures by contractors
Thermal Generation	Thermal power producing electricity from fossil fuel energy sources.	--Displacement, resettlement, livelihood loss affect women more than men. -- Employment of women and men in power companies	What are the risks and opportunities associated with proposed electricity access? Will women have the same access as men to the opportunities and bear the same share of risks?	--Ensure that resettlement process includes women in assessment of Affected persons, compensation in own bank account, skills training. -- Same training and employment strategies as for hydropower -- Training and obligations of contractors on HIV/AIDs	Same as for hydropower
Transmission	New network capacity expansion or rehabilitation of existing systems with new T&D equipment.	--Displacement, resettlement, livelihood loss affect women more than men. -- Impact on women and men of electromagnetic fields	What are the risks and opportunities associated with proposed power transmission grid?	Ensure that resettlement process includes women in assessment of affected persons, compensation in own bank account, skills training.	Same as for hydropower and thermal power generation
Distribution	New network capacity expansion or rehabilitation of existing systems with new Distribution equipment. Connections to individual	--Titles to Homestead, affordability, communications with male and female consumers --End-User efficiency	--What is the composition of the Utility Workforce? --Will women have the same access as men to the opportunities and bear the same share of risks?	--Information and communications for both W and M; --ensure that F and M Headed Household have equal access, incl. credit	-- increase in connections by F and M headed HH -- increase in social (education, health) and incomes indicators

Types of Energy Projects¹	What is included?	Gender and Energy Issues	Gender Questions for Social Assessment, ESIA	Gender Inclusive Design Elements	Gender Informed M&E
	users	--Affordability of connections and end use equipments and appliances	--Is there a difference in affordability between female headed and male headed households? -- What are the main uses of electricity by women and men? -- Is electricity used for productive uses?	programs, social safety net (tariffs) -- include components for productive uses.	from having access to electricity -- increase in household-based or other businesses

Annex 5: Gender Screening Tool for Energy Operations

Draft: work in progress for feedback.

Gender Screening Tool for Energy Operations

The screening tool provides task teams the means to consider whether or not energy-related inequalities between women and men could negatively impact energy sector strategy or project outcomes. The tool also assists task teams to assess whether or not the sector strategy or project could potentially increase inequalities between women and men and/or inadvertently place women at greater risk than men regarding negative impacts of the project on people and/or ignore serious energy-related risks faced by women. This assessment enables teams to determine whether and the extent to which the gender issues identified need to be addressed in specific energy operations. Key screening questions can be answered through desk top review and interviews with Gender or Women and Development, Labor and Energy officials as well as NGOs and other donor organizations addressing gender and issues in the partner country. Examples of sources of this information are included for each question. If the answer to any of the screening questions is yes, gender needs to be addressed to some degree in the project overall or in one or more project components. Examples are provided of effective approaches to address the gender issues raised by each screening question.

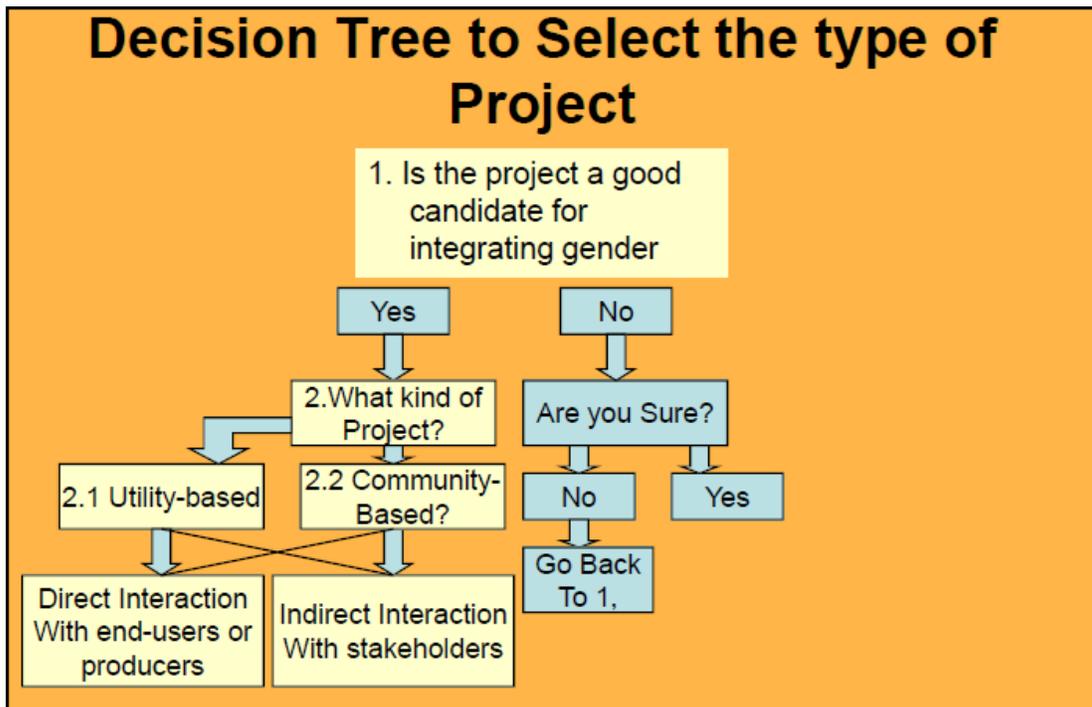
Gender Screening Questions	Why Ask?	Where to Find Information	What to do? Examples of design features that can reduce risks and enhance development effectiveness
Country Context Gender Screening			
<p>Does the country have policies or laws related to gender equality (eg. gender equality policy, labor law, laws governing property ownership, civic participation)?</p> <p>Do the energy sector strategies/policies address gender issues?</p>	<p>Projects that ignore gender policies risk unintentionally undermining of the ability of the country to implement them.</p>	<p>--Bank and other country gender assessment --Ministry responsible for women/gender --UNDP National Human Development Reports</p>	<p>--Include the gender related policies in the background section of the PCN and PAD, and the operational manual for the project implementation team.</p>
<p>Are there key social, cultural or legal constraints on female participation in and benefits from the</p>	<p>---Traditional land tenure often limits women’s access to energy assets and modern energy business opportunities.</p>	<p>--Bank and other country gender assessments --Poverty and Vulnerability Impact Assessments</p>	<p>--Set targets for female participation on energy decision-making bodies --Include women in project consultations</p>

project?	<p>--In most contexts energy is viewed as a male domain. Men predominate in energy jobs, as well as leadership and decision-making in ministries, private sector energy enterprises, utility boards and committees.</p> <p>--Traditions may limit women's mobility and access to employment and other benefits of energy projects.</p>	--Rapid appraisal	<p>--Strengthen awareness and capacity of implementing agency to address gender issues in energy-- Coordinate with the Ministry in charge of gender/women's affairs as well as women's NGOs concerned about female mobility and empowerment.</p>
<p>Do women and men have different energy needs and access to energy assets? Does this vary by other social characteristics (age, ethnic, indigenous, or minority status, rural versus urban locale)?</p>	<p>Males and females have different energy needs based on their gender roles and responsibilities . For example:</p> <p>-----Women and girls often spend hours collecting fuelwood that can be reduced by fuel efficient cookstoves.</p> <p>-----Men may place higher priority on energy for irrigation pumps. Women often lack the resources to pay for cleaner , safer fuels</p>	<p>--Bank and other country gender assessments</p> <p>--Demographic and Health Surveys</p> <p>--Household Budget Surveys/Income and Expenditure Surveys</p> <p>--Special studies</p> <p>--Rapid Appraisal</p>	<p>-- Consult women as well as men about energy needs and constraints</p> <p>-- Address these differences in project component designs.</p>
Project Design Gender Screening			
<p>Could the project place poor people at greater risk of livelihood loss or harm? Could this risk be greater for women than men?</p>	<p>--When key gender issues are not taken into account, women and minorities bear more of the risks and men and elites receive more of the benefits of energy projects, negatively effecting poverty reduction and gender equity.</p>	<p>--Stakeholder analysis</p> <p>--Poverty and Social Impact Assessments</p> <p>--Consultation</p>	<p>--Conduct gender inclusive risk analysis</p> <p>--Involve women and other excluded groups in energy project planning</p> <p>-- Design projects to response to women's energy needs and priorities are well as men's</p>
<p>Does the project design fail to address important</p>	<p>--Indoor air pollution from wood smoke</p>	<p>--Stakeholder analysis</p> <p>--Poverty and Social</p>	<p>--Conduct gender inclusive risk analysis</p>

<p>risks faced by women?</p>	<p>disproportionately affects women and children with respiratory ailments. --Women are more vulnerable to violence and crime when lighting in streets and other public spaces in inadequate.</p>	<p>Impact Assessments --Demographic and Health Surveys --Consultation</p>	<p>--Involve women and other excluded groups in energy project planning -- Design projects to response to women's energy needs and priorities are well as men's --Provide low interest loans for connection fees or fuel efficient wood stoves --use social accountability tools (eg service delivery scorecards) inclusively</p>
<p>Will the project create employment and/or entrepreneurial opportunities? ----Is employment in the energy sector open to women? Are women employed in decision-making positions? ----Do women entrepreneurs have opportunities to initiate modern energy distribution services?</p>	<p>--Energy sector is often viewed as a male domain at all levels from Ministries down to small and microenterprises. This excludes females from economic opportunities and limits inputs into decision-making to the male perspective. --Lack of title to land (as collateral) limits women entrepreneurs from receiving loans for business.</p>	<p>--National labor statistics</p>	<p>- - Equal pay for equal work --Gender equitable hiring practices. -- Targeted communication to females on opportunities in energy at technical and nontechnical levels. --Skills training for females in energy enterprise development.</p>
<p>Does the project include privatization of energy generation, transmission, and distribution?</p>	<p>In privatization of the energy sector , women are often more negatively impacted than men. --Includes the wives of redundant male government workers as well as redundant female workers. --If tariffs increase, poor may not be able to pay for electricity</p>	<p>--National Labor statistics -- Living standards measurement surveys</p>	<p>-- Provide alternative livelihoods training for women and men (including redundant female workers and the wives of redundant male workers as well as the men) --Regulate tariffs to ensure affordability for the poor --Provide credit to the poor for connection fees ----use social accountability tools (eg service delivery scorecards) inclusively</p>
<p>Will the project trigger</p>	<p>--Women are more vulnerable to negative impacts of relocation or</p>		<p>--Minimize displacement and resettlement- --Sex disaggregate the</p>

<p>social or environmental safeguards (eg.involuntary displacement and resettlement)?</p>	<p>environmental degradation and resulting loss of livelihood because their assets are more limited. --Compensation to male heads of households does not necessarily benefit other members of the household. --Groups of women can be effective mobilizers for participatory resettlement planning, or natural resource management.</p>		<p>census of persons affected --use an inclusive, participatory approach to resettlement planning or natural resources management --provide livelihood options for displaced street vendors, squatters, and other people losing use rights to resources and space -- provide a range of options for compensation --Include measures to ensure that females receive compensation (eg. joint titles to property, individual bank accounts)</p>
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Annex 6: Design Tools for Sector Strategies and Projects

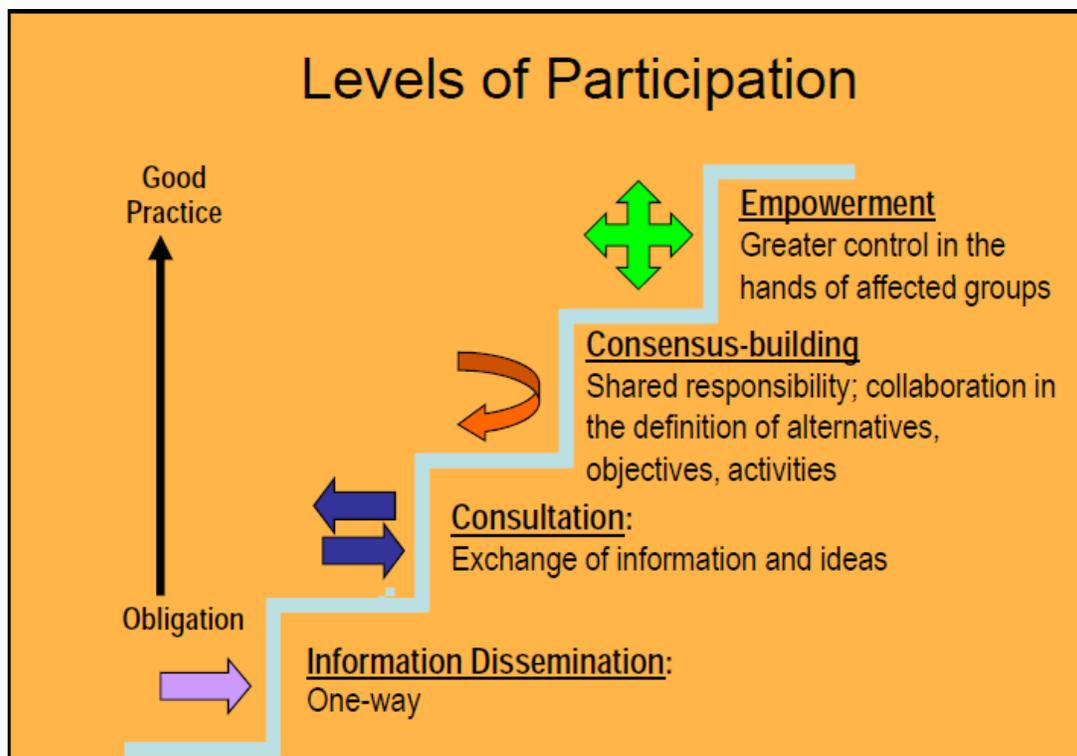


Six points for Success: Lessons Learned

- Clear **gender objective** in DOs
- Clear identification of gender questions: **baseline** survey with gender-disaggregated **data**
- Specific **design feature/elements** to address gender issues.
- Project "**Gender Action Plan**" for Implementation
- Earmarked funds in project **budget**
- Performance and Impact **Indicators** identified
- **+**
- *Gender-sensitive* staff and/or social scientists in the team
- *Administrative budget to do the work*

Design Tool and the Project Cycle

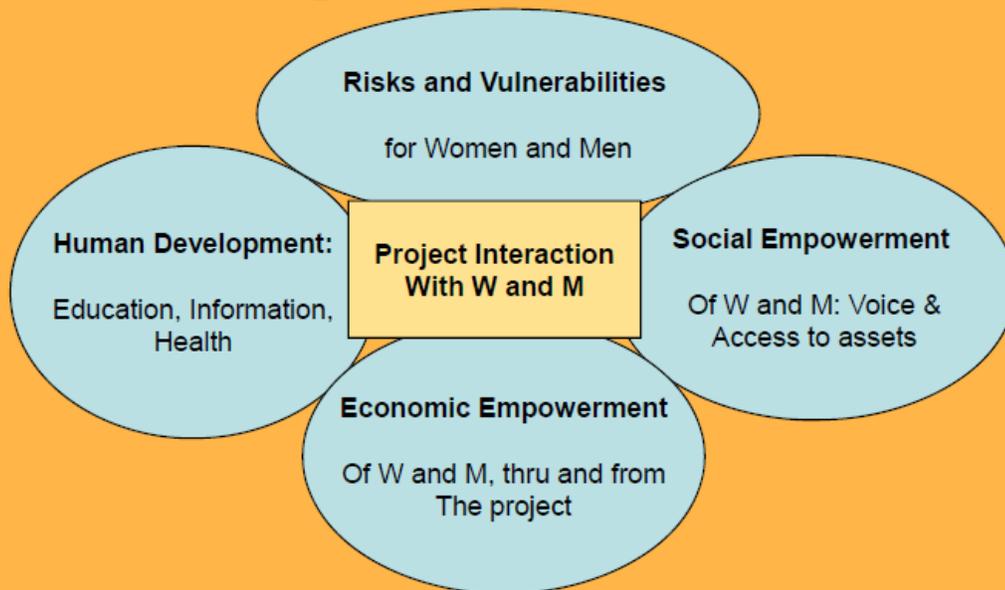
DATA	Understand the issues	Project Identification (WB Concept Note)
GENDER OBJECTIVES	What gender results we want from the Project	Project Appraisal Document
GENDER DESIGN ELEMENTS	What elements needed to achieve the gender results	Project Description in Appraisal Document
BUDGET	Will there be a budget in the project to implement the gender elements	Project Appraisal Documents: Costs and Financing Plan
IMPLEMENTATION PLAN	Who will be responsible for implementing the Gender Elements? What will be the implementation schedule What decisions are needed and when?	Project Appraisal Documentation Project Launch Documentation
PERFORMANCE MONITORING and IMPACT INDICATORS	What indicators to monitor results and Impacts as a function of expected results	Project Appraisal Report Supervision Reports Implementation Completion Reports
RESSOURCES/INCENTIVES ■budget ■Gender sensitive staff/social scientists		These are the resources needed during project preparation, appraisal, and supervision



Some Considerations for Project Design from a Gender Perspective

- **Conjunctive Development:** full returns on energy investments will need other interventions: e.g. rural electrification will impact access to education if boys and girls are given sufficient time to study
→ investment in energy infrastructure/services + 'social engineering'
- **Complementarity:** energy is needed to increase productivity & create economic activities and social benefits, which in turn determine return on energy investments
→ investments in energy services + productive uses
→ Social Infrastructure (clinics) + Renewable Energy
- **Sequencing:** improving access to cooking fuels rural footpaths first may yield higher returns than improved motorways (women safety and time saving)
→ understanding priorities and expressed needs within communities and social groups
- **Prerequisites:** voice and representation of all social groups
→ Social empowerment and human development interventions prerequisites for economic empowerment

Framework to identify & understand gender issues



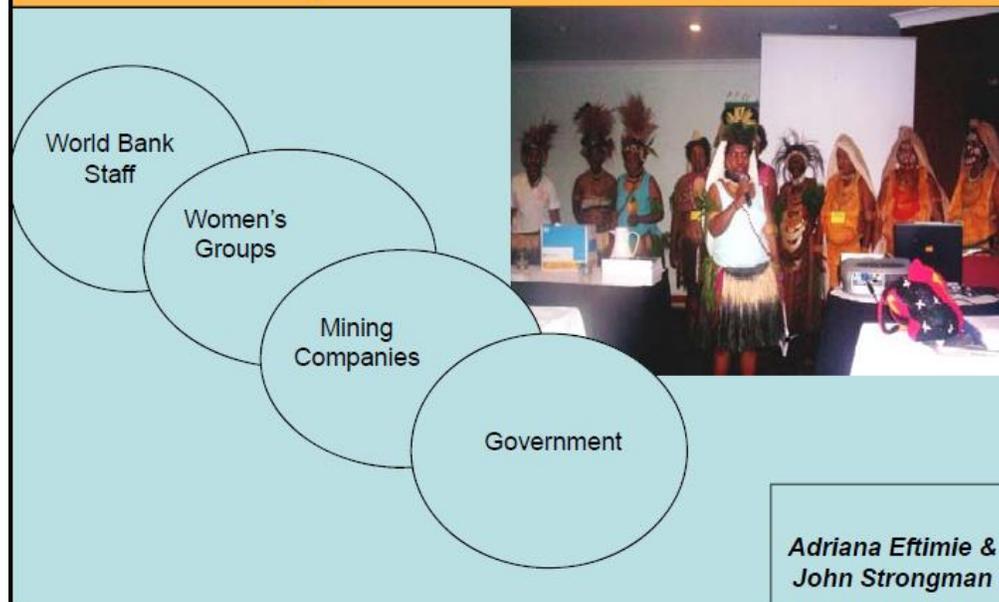
EXAMPLES of TOOL USES

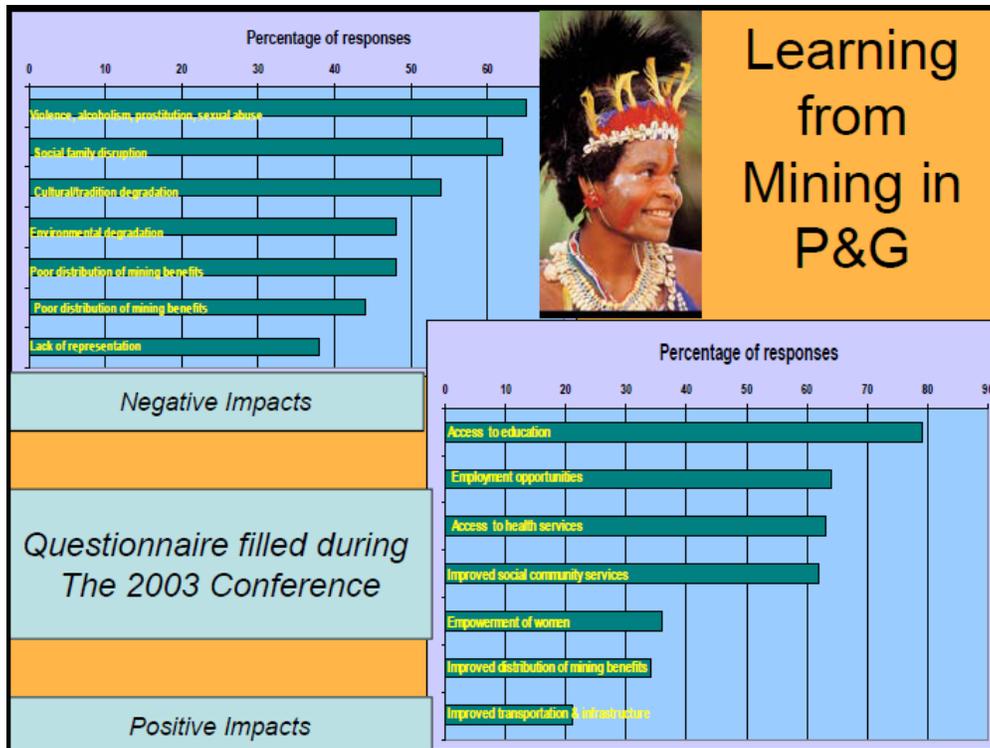
Gender Action Plan for Caracas Slum Upgrading Project

Five Main Elements in the Gender Action Plan:

1. **Administrative Element:** Revision of the Project Implementation Manual to introduce Gender Equality.
2. **Training workshops** for men and women from the project management unit and beneficiaries on women's rights, leadership and domestic violence.
3. **Leadership:** FUNDACOMUN (implementing agency) appointed a woman president, who took the agenda forward
4. **Representation:** High proportion of infrastructure maintenance committee members are women
5. **Employment:**
 - Project ensured women's participation at all levels - especially in implementation and monitoring.
 - Equal number of men and women as “neighborhood inspectors” in a supervisory role.

Learning from the Mining Sector in Papua & New Guinea





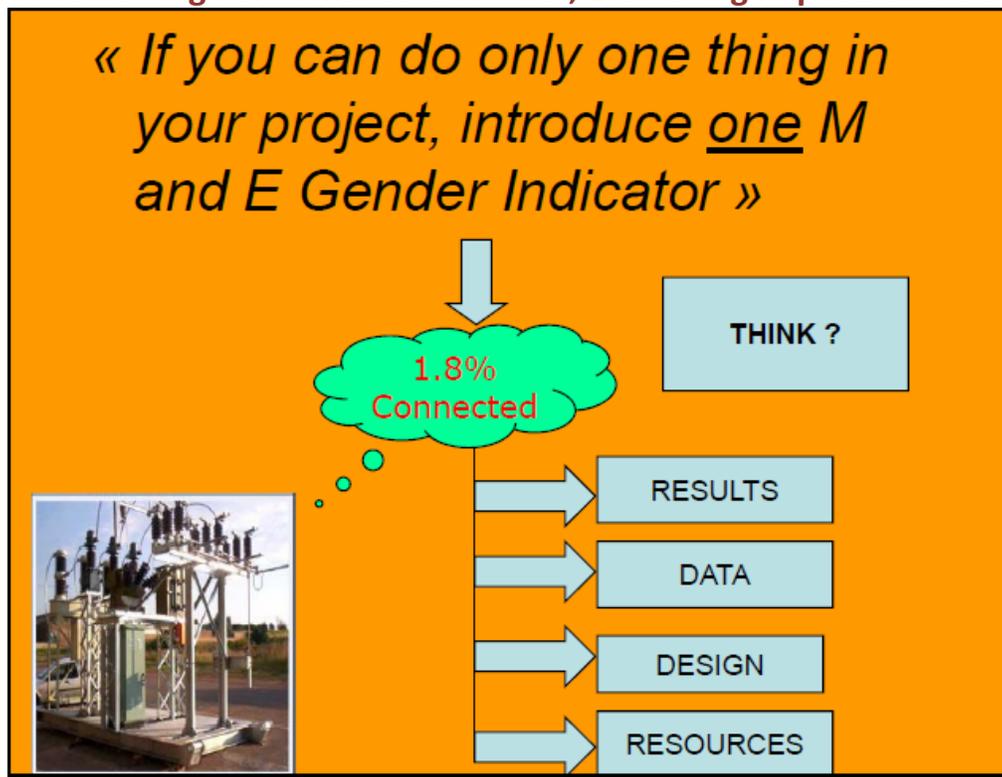
- ## Actions Identified for Economic Empowerment
- 
- **Companies**
 - Affirmative action for greater employment of women
 - Spin-off jobs aimed at women
 - **Communities and NGOs**
 - Men and women equally represented as agents for community level benefit distribution
 - Micro-credits for women’s business/cottage industries – supported by training in accounting, marketing etc
 - **Government**
 - Dept. of Mining to direct a percentage of compensation and benefits to support community-based Sustainable Development Programs including women’s projects

Actions Identified for Social Empowerment



- **Companies**
 - Appointment of gender desk for women's issues
 - Include community women representatives in discussions at all stages of mine life (exploration to mine closure)
- **Communities and NGOs**
 - Select and support women to represent community concerns in committee and forums
 - Liaise with local government on issues of concern to women
- **Government**
 - Involve women in Mine Review Committee and Development Planning Committee
 - Establish gender desks in Dept of Mining; local governments

Annex 7: Monitoring Performance & Results; Evaluating Impacts and Outcomes

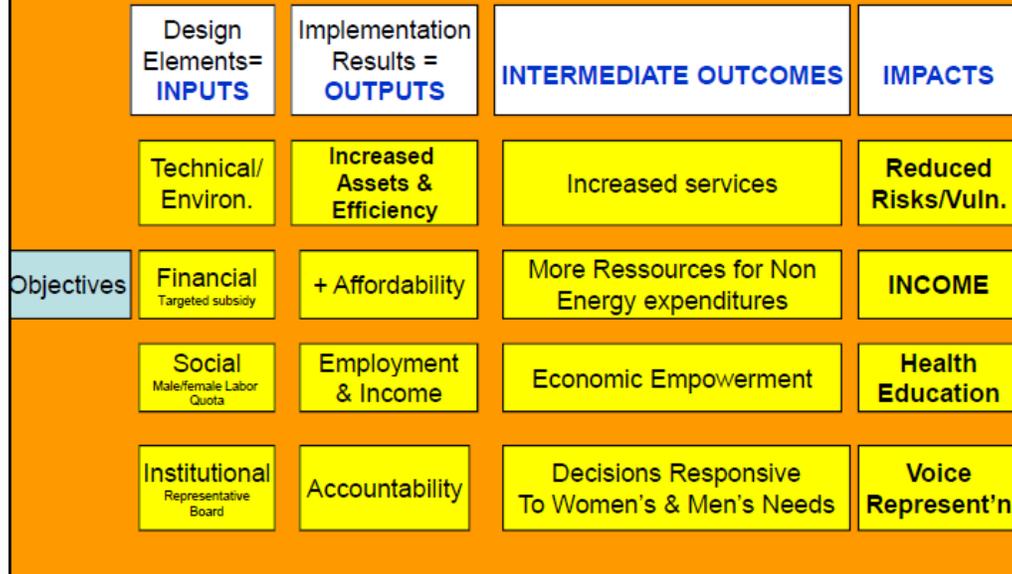


Objectives of M & E

Stages of the Project Cycle and Entry Points for Gender Inclusion

- At Project level:**
 - Measure implementation progress and gender equality results.
 - Taking corrective action if deviation in time and quality from targeted results
 - Measure outcomes
- At Sector Program and Policy Level:**
 - Learn from first generation projects to improve second generation
 - Measure progress from individual projects to sector/sub-sector, institutional, and sector policy level
 - measure contribution of energy sector to national goals on gender equality and women's economic empowerment
- At Global Level:**
 - Account for results at country level and At WB/government level;
 - achievement of MDGs on gender equality [IDA 16 monitoring indicators.]

Results and Impact Framework



How to do it?

Indicators	Choice of Indicators
Tools	Surveys: 3 Focus Groups: SPN missions Asking the Right Questions
Institutional Set-up	Organization Community involvement Trained Staff Technical Support
Methodology to analyze results	Design Methodology Trained Staff

Asking the Right Questions in Baseline, Monitoring & Impact Surveys: Energy

Box 9.6 Topics for Survey Questionnaires

- Socioeconomic profile of actual and potential beneficiaries and customers
- Fuel and energy use before improved electricity services, including energy from all sources, such as candles, biomass, batteries, electric grid, and diesel generator sets
- Monthly expenditures on fuels and energy, by source
- Potential and actual willingness to pay for energy services, by application
- Energy use as it relates to substitutes for improved electricity services (kerosene, candles, and others)
- Energy use as it relates to substitutes for improved cooking/heating/cooling services (biomass, kerosene, paraffin, and ice)
- Reasons for not connecting to the grid or purchasing improved energy services
- Barriers to the adoption of improved electricity or other technologies and services
- Incentives to overcome barriers to adoption of improved electricity or other technologies and services
- Appliances in households and small businesses, including those with and without electricity
- Time use (men and women) as it relates to existing energy use and appliances.

Source: ESMAP 2003a.

Examples in Gender Informed Results and Impacts Indicators (1)

Baseline Energy Access and Use Data

- Per capita energy consumption for women and men
- Share of non-commercial energy used by women and men
- Purposes for which energy is used by women and men
- Fuel used by the household for cooking and heating
- Amount of time spent and the effort made by women and men in providing energy for their activities
- Amount women and men pay for energy
- Relative risks faced by women and men, such as exposure to fumes from open fires for cooking and heating

Changes in Time Use for Domestic Tasks

- Reduced time and labor required for female household chores
- Reduction in the amount of time and/or money spent by women and men to obtain energy supplies (fuelwood, charcoal)
- Increase in use of energy-related appliances to reduce domestic chores
- Amount of time spent by women compared with men on rest, relaxation and learning activities

Improved Health

- Reduction in the number/percentage of women and children visiting clinics for respiratory or eye conditions
- Increased access to clean water and sanitation

Examples in Gender Informed Results Indicators (2)

Education

- Increased school attendance of girls and boys
- Increased education levels for girls and boys

Economic Empowerment

- Increased and diversified income and greater productivity for women and men
- More time for women to engage in income earning activities
- Expanded food production for sale and household consumption
- Number/percentage of women and men involved in energy-related employment and training
- Profit from woman-owned small and medium energy enterprises

Social Empowerment

- Increased participation of women in community decision-making on energy
- Number/percentage of women and men involved in energy policy dialogue
- Number/percentage of women and men on 'utility' boards

Energy Sustainability

- Number/percentage of women and men adopting energy-saving technologies
- Number/percentage of women and men trained to use alternative technologies
- Increased male and female awareness of energy technology options

Issues

- **Design** during project preparation → need for baseline survey
- **Integration of Indicators** into Results Framework → selectivity vs. comprehensiveness?
- **Measuring impacts** → need for control group
- **Human resources**: staff training or contract institution (university, NGO, consulting firm)
- **Budget**: how much can you spend on M and E?

Using the Framework: Outcome on Economic Empowerment Senegal- Rural Water Supply

Type of Impact	Degree of impact by scheme		Specific Outcome
	Grant Aid	Technical Cooperation	
Time Saved	High	Low	Time for water collection has been shortened from <u>5-6 hours to about 2 hours per day</u> . Labor load has also been reduced
Productivity	High	Low	Improvements were seen in raising livestock because of <u>increased water supply</u>
Income	Middle	Low	<u>Diversification of vegetable</u> cultivation were seen because of increase in water supply which became available during <u>dry season</u>

Photo



Using the Framework: Outcome on Social Empowerment Senegal – Rural Water Supply (2)

Type of Impact	Degree of impact		Specific Outcome	
	Grant Aid	Technical Cooperation		
Dignity	Low	High	<u>Confidence</u> has been built to do basic repairs by themselves	
			Women have gained small savings from CDA. This is <u>significant</u> in a traditional rural society.	
Equal Voice: Individual, Household, Community	Low	High	<u>By regulation, 1/3 or more</u> of the management members are now women	
			Women has become <u>water managers</u> from just being <u>water users</u> 10% (90s) => 30~50% (present)	
Access to administrative, financial, and Technical	Low	Middle	<u>70% of the water fee collectors</u> are <u>women</u>	

Using the Framework: Outcome on Human Development Senegal Rural Water Supply (3)

Type of Impact	Degree of impact		Specific Outcome
	Grant Aid	Technical Cooperation	
Basic Needs	High	Middle	Access to safe water has been secured (for about 300,000 people) Sustainable operation is secured (shortening of repair period 2 years => 5 months)
Access to Health	High	High	Cases of <u>diarrhea</u> decreased by 30% with the delivery of safe water Further improvement in health achieved through better ways of transporting water and by providing education on sanitary ways of storing water
Access to Education	High	Middle	Drop-out rate in elementary schools has decreased School enrollment is encouraged through hygiene education in schools

Text book promoting better ways to handle water Photo of a class teaching water and sanitation



Annex 8: Briefs for Field Trips

Gender and Energy Capacity Building Workshop for South Asia

Briefs for Field trip on June 16, 2010

During the field trip the programs of the Rural Electrification Board and non government Organization like Grameen Shakti and Rural Services Foundation will be visited in Mawna upazila of Gazipur district and Singair upazila under Manikganj district. The participants will be divided into 4 groups 2 groups will go to Singair and 2 Groups to Mawna. Group A is for Singair and Group B for Mawna. The detailed schedule is enclosed. The field trips have been organized to visit the programs managed by the Rural Electrification Board (REB), the Infrastructure Development Company Limited (IDCOL) and by two NGOs: Grameen Shakti and the Rural Services Foundation. A brief description of their programs is given.

Rural Electrification Board (REB)

The Bangladesh Rural Electrification (RE) Program was founded with a Presidential Ordinance in October 1977 that established the Rural Electrification Board (REB) as the semi-autonomous government agency reporting to the Ministry of Power Energy and Minerals Resources. which was responsible for electrifying rural Bangladesh. Since its inception, the purpose of the program has been to use electricity as a means of creating opportunities for improving agricultural production and enhancing socio-economic development in rural areas, whereby there would be improvements in the standard of living and quality of life for the rural people.

Today there are 70 operating rural electric cooperatives called Palli Bidyut Samity (PBS), which bring service to approximately 79,00,000 new connection being made and more than 14,000 kms of line being constructed each year. To achieve the objectives of rural electrification program at the implementation level, the Board established Palli Bidyut Samities (PBS) [which means Rural Electric Societies in English] based on the model of Rural Electric Co-operatives in USA under the universal principle of co-operation, democratic decentralization, and ownership by consumers. A PBS, which owns, operates, and manages a rural distribution system within its area of jurisdiction is an autonomous organization registered with REB. The member consumers participate in policy making of the PBS through elected representatives to the PBS governing body known as Board of Directors. It is the ultimate goal to bring all the villages of Bangladesh under electrification by the year 2020. Under the program which started in 1980, about 45% villages had already been brought under electrification by 2005, the remaining villages to be covered by 2020 under the long term-plan.

REB has introduced solar home systems for the first time in Bangladesh in 1993 through the project "Diffusion of Renewable Energy Technologies (aided by France)". Since then, REB has installed 14,000 SHS, ranging from 40wp to 100wp. Customers' monthly bills span from TK 171 to TK363; a GEF grant is applied to reduce the cost of the capital cost of the systems. REB has managed about \$15 million of donor financing for several SHS projects. The demand for SHS is very strong, as demonstrated by a recent consumer survey. One of REB's significant contributions has been to provide training on SHS to many NGOs and local governments who have in turned engaged in similar types of activity.

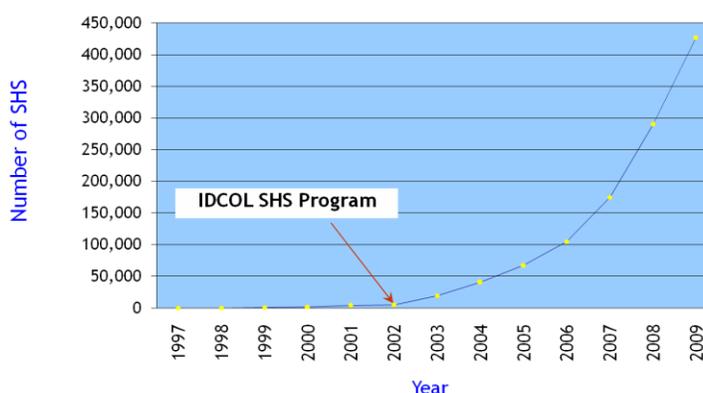
Infrastructure Development Company Limited (IDCOL)

IDCOL was established on May 1997 as a joint initiative of the Government of Bangladesh (GoB) and the World Bank. The Company was licensed by Bangladesh Bank as a Non Bank Financial Institution (NBFI) on 5 January 1998. Since its inception, IDCOL is playing a major role in bridging the financing gap for developing medium and large-scale infrastructure as well as renewable energy projects in Bangladesh. Through its participation in financing of infrastructure projects, IDCOL provides subsidies, soft financing, and necessary technical support to the private sector with an objective to energize rural Bangladesh in a sustainable manner.

Renewable energy is a relatively new concept in Bangladesh. In 2002, IDCOL, with support from the World Bank and the Global Environmental Facility (GEF), started implementing the first comprehensive renewable energy program in Bangladesh by disseminating solar home systems in the off-grid rural areas. In 2006, with support from SNV, the Netherlands, and KfW, Germany, IDCOL undertook a nationwide program on domestic biogas. Lately, IDCOL started promoting new and emerging renewable energy technologies by financing several pilot projects i.e. biomass gasification-based power plant, electricity from biogas, solar irrigation pumps etc. Today, IDCOL has emerged as the largest promoter and financier in the renewable energy sector of Bangladesh.

IDCOL Solar Home System (SHS) Program

SHS is a convenient mode of supplying power for small electrical loads such as lights, radio/cassette players, mobile phone chargers, and black and white TV. Started in 2002, IDCOL SHS Program had an initial target to finance installation of 50,000 solar home systems by July 2008. The target was achieved in September 2005, almost three years ahead of schedule. IDCOL now has a revised target to finance 1,000,000 solar home systems by 2012 with additional financial support from the World Bank, GTZ, KfW, IDB, and ADB. Till April 2010, IDCOL financed the installation of 518,862 SHSs all over the country. Currently, about 25,000 solar home systems are being installed every month under the program.



The program is being implemented through 23 Partner Organizations (POs) selected by IDCOL, Grameen Shakti, BRAC Foundation and RSF to name a few. The role of the POs working under the program is to

identify project areas, select potential customers, install systems, provide maintenance support, and extend loans to the households. IDCOL provides subsidies and refinancing to its POs, sets technical specification for solar equipments, creates awareness, provides training support, and monitors PO's performance.

IDCOL provides two types of grants – 'Buy-down grants' to the households to lower the costs of SHS to final customers, and 'Institutional Development grants' to the POs to build their institutional capacity. The subsidy amount decreases as more solar home systems get sold, to allow the commercial sector to transition in as demand grows.

Households are required to pay a minimum of ten percent of the system cost as down-payment. The remaining amount can be paid either through direct payment or through credit from the POs. Different POs extend credit on different terms and conditions. The loan tenor varies from 1 to 5 years, and the interest rate varies from 8% to 15% per annum. IDCOL offers a refinancing facility with 6-10 year maturity, 1-2 year grace period and 6%-8% interest annual interest rate to its POs.

Till September 2009, 15,000 new jobs have been created by the program. Moreover, the program annually reduces consumption of about 47 million liters or kerosene and lowers the country's foreign currency outlays for import payments. In addition, the estimated annual GHG emission reduction by the program is more than 100,000 tonnes by 2012.

National Domestic Biogas and Manure Program

Bangladesh has a great potential for Biogas technology. The cattle population including buffaloes is about 24 million (2005-06), which yield about 240 million kg of cattle wastes per day. These wastes have a potential for production of 8.6 million cubic meter (m³) of biogas. If even 50% of the cattle wastes could be used for biogas production, about 1.44 million biogas plants with capacity of 3 m³ each could be set up. Such a biogas plant can provide the necessary energy requirements for cooking and lighting for a family of 8-10 members. Apart from producing energy, the treated slurry produced as a bi-product from biogas digesters is a very good organic fertilizer.

The National Domestic Biogas and Manure Program (NDBMP) is currently the largest biogas program of the country implemented by IDCOL with support from SNV, Netherlands and KfW, Germany. Under this program, a total of 32,000 domestic size biogas plants are planned to be constructed by 2012. Till September 2009, a total of 9,500 biogas plants have been constructed. 30 partner organizations (PO), mostly NGOs and private entrepreneurs, have been engaged in this regard.

In a typical IDCOL financed biogas plant, the subsidy is BDT 9,000 (USD 130), the household's contribution is 15% of the plant cost, and the remaining is a micro-credit loan from MFIs at 10% - 12% flat interest rate and for a period of maximum two years. Since MFIs have limited source of fund, IDCOL refinances 80% of the MFI loan at a 6% interest rate for a period of seven-year with one-year grace period.

Other Renewable Energy and Energy Efficiency Programs

Biomass gasification based power plants

Bangladesh produces about 40 – 45 million tons of paddy annually which produces 8 – 9 million tons of rice husk, taking a 20% yield of husk. About half of the husk is used for energy applications such as domestic cooking, rice parboiling etc. The remaining 4 million tons of husk may be used for power generation using biomass gasification technology. This amount is sufficient for running power plants equivalent to 400 MW of capacity considering 2 kg of husk consumption per kWh.

IDCOL has recently financed a 250KW biomass gasification based power plant at Kapasia, Gazipur on a pilot basis. The plant uses rice husk for power generation and supplies grid quality power to 500 households and commercial entities of that area. IDCOL signed a participation agreement with another 400KW rice husk gasification based power plant. IDCOL has a target to finance 12 biomass gasification based power plants equivalent to 5 MW of capacity by 2012.

Biogas based power plants

Biogas generated from poultry and cattle waste can also be used for power generation. Cattle population (24 million) has the potential for 8.6 million m³ of biogas per day. Total poultry population of Bangladesh is 233 million (2005-06) which also has a potential for production of 1.7 million m³ of biogas per day. 50% of this produced biogas has the capacity to run power plants equivalent to 350 MW considering 0.752 m³ of biogas consumption per kWh.

A 50KW biogas based power plant has been financed by IDCOL. Electricity generated from the plant is consumed for running a poultry farm of 30,000 birds. Liquid bio-fertilizer produced from the plant is used in crop production and fish farms. Another 250KW biogas based power plant is currently under construction. IDCOL has set its target to finance another 100 biogas based power plants by 2012.

Solar Irrigation pumps

IDCOL is in the process of financing an 11.2KW solar photovoltaic based submersible water pump to be located at Shapahar, Naogaon. Once completed, the project is expected to provide irrigation facilities to 12.56 hectares of land owned by 75 farmers. If successful, solar photovoltaic based water pumping solution for irrigation will be implemented in larger scale in Bangladesh

Bangladesh Efficient Lighting Initiative Program

In order to reduce electricity demand as well as green house gas emissions, the Government of Bangladesh has recently undertaken an Efficient Lighting Initiative Program under which 10.5 million incandescent bulbs will be replaced with compact fluorescent lamps (CFLs) with financial support from the World Bank. IDCOL has been proposed to act as the Coordinating/ Managing Entity to avail CDM benefits for the program. The first phase of the program was expected to start in February 2010.

The Energy sector in Bangladesh is capacity constrained both in terms of energy resources and energy commodities. Natural gas reserves, the country's largest source of indigenous fossil fuel and electricity generation, are fast depleting. Considering the present huge power load-shedding and scarcity of natural gas, government has set a target to meet 5% of total power demand by 2015 and 10% of total power demand by 2020 from renewable energy sources. IDCOL's contribution in promoting renewable energy technologies in Bangladesh will definitely supplement the government's vision and make it a sustainable energy source for the future.

Grameen Shakti

Grameen Shakti has programs for installation of solar home systems, (SHS) improved cook stoves, and biogas plants. Up to October 2008 Grameen Shakti covered all the 64 districts, and 455 upzilas out of 464. They have covered 38,000 villages and 11 islands. Their number of beneficiaries exceeds 2 million people. Their total number of employees is 3,000 and most of them are engineers. They have installed 205,000 SHSs (over 8000 are being installed a month). They have installed 6,000 biogas plants and 20,000 improved cook stoves. The number of trained technicians is 2,575, and number of trained customers is 86,500; the number of customers with full ownership is 47,500. The number of LED installed in 15,885 lamps.

Grameen Shakti also set up 30 Grameen Technology Centers (GTCs) in the rural areas to train women as Solar and Improved Cook stove Technicians. GTCs are providing and assembling SHS accessories such as charge controllers, mobile phone chargers, lampshades, etc. with the help of trained technicians. Women members from user households are also receiving training on repair and maintenance of SHSs. GTCs are also running special exposure programs for rural school children, especially for girl children.

Rural Services Foundation

The objective of the Rural Services Foundation is to work in all areas of environment, social and human development, including community development, economic and business development, trade, enterprise, conventional and renewable energy, and health. It was incorporated in 2006. The major activities are the installation of SHS (Solar Home System), the construction of biogas plants, and the dissemination of ICS (Improved Cooking Stove). RSF's center for human resource development links development between rural and urban growth centers under Agro projects, Contract farming, and establishment of supply chain development models etc. RSF has enlisted with IDCOL/ World Bank solar home system program as PO (Partner Organization) since July 2006 and has opened 310 unit offices in remote rural areas of Bangladesh. Before opening a unit office RSF conducts a primary survey to find out the energy needs of the locality and their socio-economic condition. To support the operational and field activities, RSF has deployed 1,700 staff, and most of them are technical professionals.

Annex 9: Questions for Field Trips

Questions for the Field Trips

The four groups will have the opportunity to see the operations of the Rural Electrification Board, both for grid extensions and off-grid electricity supply, and other activities. Likewise, all the groups will have the opportunity to visit the training center of Grameen Shakti and interact with families, SMEs, and rural industries which have benefitted from various types of energy services supplied from a range of fuels and technologies. The objective of the field visits is for participants to see firsthand how gender and energy are working together in projects on the ground. A full description of the field visits is attached.

REPORTING BACK: Some questions to keep in mind during the field trips are below. It is expected that upon the group's return there will be a report out back to the entire workshop audience. Please note these questions aim to get you started – they are by no means a questionnaire that are expected to be used systematically, and we trust that you will have your own rich set of questions in mind. You will need to agree amongst yourselves as to who will be the rapporteur for your group, and how you will want to organize yourselves to summarize your experience, capture, record and discuss the key learnings (During or after dinner is just a suggestion!). Each group report will take place on day 3 in the plenary and will not exceed 5 minutes.

1. **Data:** what data do you need and how would you collect them in order to:
 - identify gender questions, and
 - design gender responsive solutions?
2. **Gender-sensitive opportunities in the electricity value-chain:**
 - are there opportunities for women and men to contribute to power generation, transmission, and distribution? If so, which ones?
 - are there different opportunities in the grid and off-grid solutions? If so, which ones?
3. **Gender-sensitive opportunities in the biomass value-chain** (biogas, fuelwood or other biomass-based fuels):
 - are there opportunities for women and men to contribute to the development of the value-chain, if so which ones?
 - Can men and women influence the design of technology choice? If so, how?
4. **Benefits and risks from rural energy-services on women and men.** Using the four-petal framework discussed in the workshop prior to the field trip (economic empowerment, social empowerment/voice, welfare/quality of life, risks):
 - have women and men been given equal voice (in households or in the community) in the process of developing or acquiring the relevant energy services?
 - What have been the benefits of the services on the family's quality of life, by gender or age group? See if you can distinguish between direct benefits (e.g. studying at night) versus indirect benefits (e.g. better school performance).
 - What have been the economic benefits from the energy services? Are they accruing equally to women and men? Distinguish between employment, income, productivity, creation of new businesses? Should productive uses components be included in energy services projects?

- Are there some specific risks differentiated by gender which are associated with the development of energy services? If so, which ones? What measures help offset such risks?

5. Information and Training

- Is information and training provided equally to men and women?
- Have those informed/trained created new energy businesses? If so, how, and whom: women, men? If not, why not?

6. **Monitoring and Impact Indicators:** what indicators would you use and what kind of monitoring system would you put in place to follow-up progress and impacts on integrating gender in energy programs and projects?

DON'T HESITATE TO THINK OF RECOMMENDATIONS