GENDER MAINSTREAMING IN THE
ENHANCING RENEWABLE ENERGY
OPTIONS PROJECT

PRACTICAL ACTION

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<th>Acronym</th>
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<tbody>
<tr>
<td>CBO</td>
<td>Community-based organisation</td>
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<tr>
<td>EREO</td>
<td>Enhancing Renewable Energy Options Project</td>
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<tr>
<td>GAP</td>
<td>Gender Action Plan</td>
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<tr>
<td>HEDO</td>
<td>Human &amp; Environment Development Organisation</td>
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<tr>
<td>MPH</td>
<td>Modern pico hydro power systems</td>
</tr>
<tr>
<td>M &amp; E</td>
<td>Monitoring and evaluation</td>
</tr>
<tr>
<td>OUSL</td>
<td>Open University of Sri Lanka</td>
</tr>
<tr>
<td>PMSD</td>
<td>Participatory market system development</td>
</tr>
<tr>
<td>PS</td>
<td>Pradeshiya Sabha (A local governing body)</td>
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<tr>
<td>TAB</td>
<td>Technical Advisory Board</td>
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<tr>
<td>TMPH</td>
<td>Traditional converted to modern pico hydropower system</td>
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ACKNOWLEDGMENTS

Practical Action gratefully acknowledges the contributions made by several groups and individuals to enable gender mainstreaming of the EREO project a success. The contribution initiated by the project partners Sangrama and Human & Environment Development Organisation (HEDO) is greatly appreciated. Their support and efforts to carry out activities successfully with the beneficiaries and assist in the record of results and impacts were invaluable. In addition, the gender inputs and guidance received by Prof: Anoja Wickramasinghe, the National Gender Specialist for this project, helped steer the project towards stronger gender based impacts. Practical Action and our project team would also like to thank the Sabaragamuwa, Central and North Western Provincial Councils for assisting and participating in project activities.

This report is being submitted to ENERGIA as part of the gender mainstreaming initiative of the EREO project, and Practical Action would like to take this opportunity to thank ENERGIA for their financial and technical support.
1. Introduction and Background

1.1 The ENERGIA Gender Mainstreaming Activity

ENERGIA is an international network of organisations and individuals committed to address gender disparities in the access and use of energy services. The International Secretariat is located in the Netherlands and is responsible for the overall management and coordination of activities of the network. ENERGIA’s goal is to contribute to the empowerment of women, both rural and urban, through a specific focus on energy. Currently there are 22 national ENERGIA networks in Africa and Asia coordinated by their respective National Focal Points. The network operates through well reputed organisations working on energy and sustainable development issues.

As per phase 4 (2007-10) objectives, ENERGIA has been assisting a number of energy projects to mainstream gender issues. The initiative, supported by Swedish International Development Agency (Sida), aims to assist and document a set of successful energy projects to showcase how gender-specific impacts can be generated through rural energy access projects/markets and to engage the outcomes of these projects to exemplify how such impacts could be multiplied when commitment by stakeholders and the availability of gender-specific resources are assured.

This final report documents the process and outcomes of gender mainstreaming in the Enhancing Renewable Energy Options project (EREO) of Practical Action between 2009 and 2011. This report has been developed by Practical Action which is facilitated and supported by ENERGIA.

1.2 Introduction to the case study

The case study provides an overall view of the activities and impacts of gender mainstreaming in the EREO project. It highlights the energy & gender policies and institutional make up of Sri Lanka while providing an overview of EREO and gender mainstreaming of the EREO project. Gender and energy situation of the main beneficiaries of biofuel and pico hydro initiatives and impacts of the projects are also provided. The document also provides details on the resources and timelines for activities and the gender mainstreaming methodology used. The implementation status of activities as planned within the Gender Action Plan, challenges and limitations of the project are further described here. The report highlights recommendations for further improvement of gender mainstreaming methodology and suggestions for additional dissemination of project lessons and replication of efforts. Various activities carried out under the initiative and various documents produced as part of the work are listed in Annex 1.

1.3 The EREO Project

The EREO project of Practical Action was launched in 2006 with the overall objective of improving access to viable energy options for the rural poor and marginalised people in off grid areas of India and Sri Lanka. The project (2006 – 2011) aimed to reduce poverty and marginalisation of target communities by providing reliable renewable energy sources through three new areas of energy generation namely, liquid biofuels, dendro and pico hydro. The gender mainstreaming in EREO project activities concentrated primarily on liquid biofuels and pico hydro initiatives.

The initial work of the EREO project primarily focused on investigating and testing the socio-economic and technical feasibility of the three energy options at community level. A literature review was carried out and a national level Technical Advisory Board (TAB) was appointed. Studies on energy plantations, oil expelling, biodiesel processing and applications abetted to identify gaps that required to be filled in order to demonstrate a model containing all four stages of biodiesel production (plantation, seed processing, biodiesel processing and end-use applications) to Sri Lanka and other beneficiaries.

In relation to the plantation and the testing of seeds, Practical Action engaged in a series of studies in cooperation with the universities of Ruhuna, Peradeniya, Moratuwa and the National Engineering Research & Development (NERD) Centre to understand the different qualities of seeds to be used...
for biodiesel production and best practices available for planting the trees. During the second and third years of the EREO project, primary studies were undertaken and a community based biodiesel processing centre was established in Gurugoda - village of Rasnayakapura Divisional Secretariat in the North Western Province of Sri Lanka. This centre was linked to plantation of Jatropha trees in home gardens, collection of oil seeds, expelling and processing them. The overall processing mechanism was overseen by Practical Action’s local partner organisation Sangrama. They utilised this biodiesel in three end use applications namely, operating a water pump for a community water project, generate electricity through a hybrid wind and diesel system and operating a tractor used for a community based transport system. A combination of 20% biodiesel and 80% regular diesel was tested in these applications.

During the initial years of the EREO project, much emphasis was placed on assessing current situation and testing viability of different dimensions of technologies. Integration of technologies within the social system, development of market & supply chains and promotion of livelihood options were essential for this initiative to be an integrated community development model. In order to contribute to the promotion of livelihood options that the EREO project, aimed for by developing the gender mainstreaming in EREO project.

The pico hydro technology was targeted at households which could not be served through the main grid since they are remotely located. Each pico hydro unit is designed to cater for one or a few households. A pico hydro unit is built at small local water streams using locally available material, skills and workshops. Practical Action’s interventions improved the overall safety and efficiency of these systems from 9% to 30% approximately. Six designs were developed to meet different scenarios, varying with the degree of water flow and the vertical head (height difference between the place where water is tapped and power is generated). A revolving micro finance scheme assisted the community to access required credit for this pico hydro technology. However, need for the development of market and supply chains and promotion of livelihood options remained to be essential in order to scale up to a community development model. Capacity building at community level on technological aspects, operations and maintenance was equally essential for these technologies to benefit the poor. This will also motivate individuals and organisations to adopt these technologies in the future.

Practical Action has developed its own value chain analysis tool, known as participatory market system development (PMSD). The PMSD built on the participatory market chain analysis has been tested for the past three years through the analysis of different livelihood systems such as cinnamon and dairy productions. The PMSD was implemented in the EREO project to analyse the respective biofuel and pico hydro markets and develop market chains with the participation of all stakeholders.

The EREO project further initiated climate change related activities, mainly in the form of awareness rising. Through these efforts, Practical Action helped communities to understand the contribution of environmental management (protection of river basins, land recovery through the introduction of new trees and crops) to combat ill effects of deforestation. Another climate related aspect is the substitution of kerosene or diesel with renewable energy technologies (such as biodiesel and hydropower). By improving energy access to the community and diminishing the environmental impacts, Practical Action envisaged on enhancing sustainable livelihoods of these communities. Meanwhile, all interventions of Practical Action included issues on livelihoods, environment, gender and sustainability to be considered throughout the project cycles and beyond. Accordingly, the EREO project has also incorporated such elements. However, the initiative on gender mainstreaming in Energy Project worked to deepen gender mainstreaming in the existing EREO project which ensure that gender perspectives and attention to gender equality are considered throughout the project process – i.e. needs assessment, planning, implementation and monitoring. In order to implement this, specialised work elements were incorporated into the project related to gender mainstreaming initiatives. Overall objective of this initiative was to form a model and generate lessons which could be used for scaling up and wider replication elsewhere.
Institutions

This project was implemented with two partner organisations in the field. Sangrama Rural Centre for Development – Nikaweratiya (North Western Province of Sri Lanka) worked on liquid biofuels in this project. Sangrama has been working with Practical Action as a partner organisation for over 10 years and possess experience on community governance system operated in over 80 villages of Rasnayakapura Divisional Secretariat area with Practical Action.

Human & Environment Development Organisation (HEDO) – Deraniyagala (Sabaragamuwa Province of Sri Lanka) was the partner on pico hydro systems for the project. HEDO has been working with Practical Action for over 7 years on community-based micro hydro village electrification schemes.

Both organisations adopt a fairly gender sensitive approach in their activities. Their capacities were enhanced to undertake gender mainstreaming activities. Most of the field level activities were undertaken at their respective offices (based in the North Western & Sabaragamuwa Provinces respectively) whilst the documentation and decisional activities were carried out by Practical Action. Resultantly, both organisations have commenced incorporating gender sensitivity considerations within their project work and now possess required skills and awareness on gender mainstreaming need and areas where such an approach is required.

Donors and Budget

The overall budget committed for the EREO project was £379,500 for 5 years with activities to be undertaken in both South India and Sri Lanka. In the year 2009/10, Practical Action had committed approximately €27,440 to initiate gender mainstreaming activities within the EREO Project. Meanwhile, a sum of €27,440 has been requested as contribution from ENERGIA's overall budget of Euro 58,880 to complete the gender mainstreaming activities within the EREO project.

Geographical scope and target groups

Thirteen families in the Gurugoda Village in the North Western Province of Sri Lanka were identified as the immediate target group for the liquid biofuel project. Meanwhile, the project further involved 66 families from Gurugoda Village and other villages who were committed to growing Jatropha on their fences in their home gardens (2 families grew them as small plantations). The initial project envisaged involving 50 families but, due to the increased interest additional families were included. Moreover, approximately 25 local school children were involved in collecting Neem seeds for the centre.

Families of Gurugoda Village were the main beneficiaries of liquid biofuel project. According to the baseline survey of the gender mainstreaming project, families involved in this depend on paddy cultivation and home gardening for their livelihoods. The sex ratio in Gurugoda Village records 93 males to every 100 females and the workforce comprises of 42% of the total population. The male literacy rate is approximately 92% and the female literacy rate is 96%. Gurugoda is denoted as the poorest of the villages in the EREO project, with villagers lacking access to electricity and safe drinking water.

The target group of 113 families of the pico hydro project are from the Central and Sabaragamuwa Province, and dependent on agriculture. Most families derive their income from working on tea plantations. However, their houses are scattered and isolated, making connection to the national grid difficult. According to the baseline survey, 60% of the total population belong to the age group of 16-20 years, whilst the sex ratio varied from 175% (7 males to every 4 females) to a ratio of 100%. The majority of females over the age of 7 were literate whilst all the men in the village were considered literate whilst a few displayed some difficulty.

The project introduced pico hydro to the beneficiaries as a community-based appropriate technology for power generation. Pico hydro units were installed in areas with hydroelectric potential whilst efforts were underway to improve the efficiency of existing pico hydro units. Pico hydro technology utilises the potential energy or kinetic energy of water streams to generate electricity. Usually the
power generation is less than 1kW, with the quantum of power generated depending on the head, the water flow rate and the availability of water throughout the year. The project installed and improved the efficiency of 30 pico hydro units with the active participation of all the household family members. The participation of the selected families was facilitated throughout all stages of the project from the initial energy assessment and site inspection, through to the construction of the unit and its operation. In addition to the main beneficiaries mentioned above, the project also created awareness among other stakeholders who had previously been unaware of the gender aspects in technology design and energy project implementation. For instance, 41 engineer graduates underwent training on ergonomics and gender sensitivity at the University of Ruhuna and the University of Moratuwa and awareness was also created among 5 local manufacturers of pico hydro equipment on gender aspects applicable to the manufacture of equipment, utilising the above technology.

1.4 Why gender mainstreaming?

The EREO project includes a mandate to address gender issues: according to its project document: “Women are often central to the rural agriculture industry in Sri Lanka, and make a significant contribution to the family economy. The project will ensure females have equal involvement in the local energy production process, and have access to the benefits reaped by it.”

Although the project emphasises how community-based technologies on liquid biofuels and pico hydro can be effectively harnessed, improved and integrated into the social system using a community based development approach, the original plans does not contain a specific scope for interventions on mainstreaming gender aspects in the development and delivery of energy services.

Poverty reduction by introducing appropriate renewable energy technologies as a tool was adopted by the project. However, the absence of any specific reference to gender aspects or empowerment and capacity building of women specifically was noted. Overall poverty reduction and issues pertaining to community development as a whole was focused during the initial design of EREO project.

With regard to opportunities, supply and market chains and development of livelihood options, any specific reference was not made to men and women. Meanwhile, Practical Action conducted a research on marginalised communities and energy in 2008, which revealed marginalisation of women in energy related aspects. The research highlighted energy requirements of women in performing socially assigned tasks, and the technology options currently available being often inadequate to meet their needs. Their role in energy supply – e.g. biomass supply, manual food processing etc. - is often ignored or overlooked.

The project realised the need to incorporate voice of women as well as men in order to further improve existing technologies, and enable them to make the most appropriate choice that would suit their specific and multiple energy needs. On this premise, gender perspectives required to be more securely inculcated within the project approach.

Despite of the fact that participatory and consultative methods had been carried out at various stages of the EREO project, certain constraints required to be addressed. For instance, the lack of understanding of basic concepts of gender among communities, partners, authorities and relevant stakeholders involved in the project, which had a bearing on the lack of knowledge on the linkages between gender and the specific sectors in development work (e.g. Energy). Therefore, gender mainstreaming in the EREO project was initiated to identify these gaps and take remedial action. The lack of capacity and poor knowledge of government mandates on gender mainstreaming further hindered the process of mainstreaming gender perspectives and sensitivity within the project process thus far.

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1 Research conducted by Prof. Anoja Wickramasinghe, March 2008.
2. National context: Gender and Energy Challenges in the Country

In Sri Lanka and similarly in many other countries within the region, meeting the increasing demand for energy is a critical challenge faced by the energy sector. In terms of power generation a rapid growth in demand has been prevalent during the last 3 decades with approximately, a six fold increase from 1669 GWh to 9389 GWh being recorded between 1980 and 2006. The country relies heavily on traditional energy resources, and including indigenous primary sources, imported primary sources (crude oil and coal) and imported secondary sources (refined petroleum products). Salient features of the energy situation include the following:

- Nearly 48% of primary energy is derived from biomass; whilst 43% are generated from oil and petroleum, and 9% from hydro and others.
- 51% of the total energy are consumed by households, whilst the commercial sector and others record a usage of; 24% by industry, and 25% by transport.
- Households and the commercial sector being the major energy consumers continue to depend heavily on biomass, whereas, 81% of the energy requirements of this category are derived from biomass, with 10% from petroleum and 9% from electricity. A Similar situation is depicted in the industrial sector where 69% of its requirements are derived from biomass; whilst 20% is generated from petroleum and 11% from electricity.
- During 1970 and 2003, the number of grid electricity consumers rose from 70,457 to 3,382,775, a 57 times increase in number of domestic consumers.
- Similarly, the number of off-grid electricity consumers increased from 14,000 to 55,432 between 1999 and 2003. Meanwhile, during period 1994 to 2002, the total for the generation of off-grid electricity increased from 22.2 GWh to 255.3 GWh.
- Electricity is the major source of lighting; where 80.4% of the households depend on electricity; whilst 17.2% utilise kerosene and 2.4% benefit from solar panels.

2.1 Major energy policies and institutions

Sri Lanka’s main energy policy is discussed within the ‘National Energy Policies and Strategies of Sri Lanka 2006’. The policy focuses on providing basic energy needs, ensuring energy security, promoting energy efficiency, conservation and indigenous resources, adopting an appropriate pricing policy, enhancing the energy sector management capacity, consumer protection and ensuring a level playing field, enhancing the quality of energy services, and protection from adverse environmental impacts of energy facilities. Under the policy various institutions have been assigned responsibility for implementing specific strategies. The main implementers are the Ministry of Power and Energy, Ministry of Finance, the Public Utilities Commission of Sri Lanka (which regulates physical infrastructure sectors), the Sustainable Energy Authority (which coordinates all activities related to energy conservation and management), Ministry of Petroleum and Petroleum Resources Development, Board of Investment of Sri Lanka, Provincial Councils, and electricity utilities.

2.2 Linkages between energy, socio-economic condition and the environment

Within the context of gender and energy, research undertaken primarily focused on biomass, however limited efforts were in place to cover the areas pertaining to gender, energy and technology. Most of the materials available on energy were being produced with a limited focus on gender. Meanwhile, whilst the perspectives of mainstreaming gender into energy policies, projects and programmes were prevalent, the availability of material showcasing good practices was absent. Such material would be useful in expanding the information base on gender related issues in energy and in understanding the current situation, targets and the impacts of various projects/interventions.

Past experience in Sri Lanka reveals that disadvantaged communities including the poor and women have limited access to, or do not have access to, new energy technologies. Lack of information,
their representation, demonstrations, in-situ learning mechanisms, extension services and financing including credit, hinders them from engaging in strengthening their demand for new technologies and technology development. Financing for women to gain access to clean energy and for securing modern energy for enterprise development is essential to reduce gender gaps in energy access, and use. Similarly, institutional mechanisms and stakeholder cooperation for the promotion, extension and social adoption of energy technologies are non-existent.

Furthermore, there is a requirement to establish baselines with gender disaggregated data for energy projects. The impacts of energy projects are typically examined without any reference to reflect the situation at the commencement of project. Gender related indicators are introduced for the purpose of impact evaluations, without gender goals inbuilt into the projects.

Methodologies and analytical tools for designing, implementing and evaluating projects require to include gender related indicators, to reflect the changes/contribution of interventions introduced to change the direction of energy access and use by men and women.

2.3 Major gender and energy issues in the energy subsector in the country

Sri Lanka is considered a Medium Development Country, ranking 91 out of 169 countries, as per statistics of the 2011 Human Development Report.² Sri Lanka consists of approximately 20 million inhabitants, of which 48.1% constitute of men and 51.9% of women. The household remains as the functional unit of operation. Of the 4.5 million households reported in the national census in 2007, 75.8 units are male headed and 24.2% are female headed households. As per the 2007 census, the total labour force participation was 49.8% (67.8 % comprising of men and 33.4 % of women). Of a total 7 million economically active population, 64.9% are men and 35.1% women, highlighting that a lower number of women are engaged in labour and as income earners. Meanwhile, merely 5.8% of the seats in Parliament are held by women and 56% of women over 25 years of age have at least a secondary education. Similarly, 57% of men over 25 years of age also possess at least secondary education studies.³ In the context of the EREO project, the following points about energy and gender can be identified:

• Cooking fuel is a woman-dominated phenomenon both in the paradigm of gender and in energy. 80% of households use fuel wood as a source of cooking energy, whilst only 16.2% and 2.7% use Gas and Kerosene respectively. The hours of labour engaged by women per day in sourcing fuel wood, range from three to eighteen per week.
• The perceived benefits of having access to electricity are quite high among women, particularly in relation to increased labour efficiency, intra-household mobility, clean indoor atmosphere; reduced risks, extended hours of work, leisure and access to information and sources of knowledge.
  o Household lighting and electricity could enable women to accomplish many tasks and responsibilities easily and efficiently.
  o 98.4% of children between 5 -14 years of age attend school and equal opportunities are provided for boys and girls. Electricity for lighting is undoubtedly stimulatory for children to be engaged in additional educational activities and plays a facilitating role.
  o In rural areas, mechanised water pumping, irrigation, milling and grinding facilitates women to reduce their work load and be engaged in income generating activities.
• 38.5% of the labour force constitute of women, whilst 80.3% represent men. The above data indicates that women’s share of earned income is a crucial area of development, whilst these facts also highlight the potential loss of opportunities for identifying new income generation activities, women’s low capacity to invest in energy technology, end user devices and their access to sources of credit.

² UNDP (2011), Human Development Index, Table 1, at: http://hdr.undp.org/en/media/HDR_2010_EN_Table1_reprint.pdf
Mainstreaming gender within energy initiatives should focus on creating opportunities for women to increase their engagement in remunerative and productive work; developing their capacities to contribute to the labour force and economic development; and introducing technologies to increase the efficiency of labour and to minimise time spent on providing unpaid services and attending to conventional domestic chores to reduce the gender gaps.

The gender mainstreaming in EREO project sought to address three of the Millennium Development Goals, namely: MDG 3 (Promote gender equality and empower women); MDG 1 (Eradicate extreme poverty and hunger); and MDG 7 (Ensure environmental sustainability).
3. The Process of Gender Mainstreaming: Methodology

By engaging inputs from gender experts whilst studying and adjusting project processes, the project team formed gender mainstreaming methods and tools to undertake project activities. These methods involved the inclusion of women throughout all project processes. Meanwhile, certain processes were adopted for fixing meetings at convenient times for women to attend, appointing women members on the project team to encourage their participation and opportunities to share their views, incorporating income generating aspects into the project (as in the case of the biofuel project) in order to empower women, whilst assisting in the cooperative management of project systems/activities by men and women of the project (in the biofuel project this was facilitated through the Haritha Village Society and in the pico-hydro initiative this was highlighted by using women’s knowledge to design an efficient pico hydro system).

The methods utilised, adjustment made to project processes and information gathered in this gender mainstreaming process are described below:

3.1 Literature review

A brief review of reports and studies on gender issues in Sri Lanka and the national gender and energy policies were conducted to identify and map the national context in terms of: enabling environment, challenges and opportunities in mainstreaming gender within the energy sector. The literature review was conducted by Prof: Anoja Wickramasinghe and is available on the Practical Action’s intranet Sharepoint.

3.2 Baseline Survey

A baseline survey was conducted for both the liquid biofuel and pico hydro interventions. The survey was undertaken by a field gender specialist and local partner NGO officers. Sample households in the Kudumeeriya, Waturawa, Dewipahala and Pathberiya Grama Niladhari Divisions were visited to collect data on the pico hydro intervention, whilst households in Leekolapitiya, Halambe, Agarauda, Ottukulama, Koralayagama, Malpanawa Gram Niladhari Divisions were contacted for biofuel project information. The survey ensured that viewpoints of both men and women were included on an individual household basis. Basic demographic details such as age, sex, literacy and income levels and ownership of assets were recorded, whilst special emphasis was placed to record data on electric equipment owned by the household, energy sources, water use, and market systems. The baseline survey report is available on the Practical Action’s intranet Sharepoint.

The survey provided information on the energy needs and usage patterns of the beneficiaries as well as any social or cultural interventions which require to be considered during the planning of the project. Resulting from the above survey, the project ensured that the views of the family as a whole were included in the project processes. Women in particular were recognised as important information assets, possessing vital information impacting positively on the design of the energy project in terms of household energy use and details on water stream flow, usage, etc. These were aspects which had not been previously recognised by the project team and are important gender aspects which require to be taken into consideration when designing and implementing future energy projects.

A separate database has not been formed with gender disaggregated information on project beneficiaries. However, the information collected from the baseline survey provides gender specific data on the households surveyed in the project areas – including data on their energy usage patterns and socio-economic data. This information is available with Practical Action.

3.3 Project document review

A project document review was conducted to examine how gender sensitivity was incorporated in organisational policy, programmes and initiatives of the EREO project partners, so as to provide a
point of reference for the project activities. The study would also be a resource for other projects of a similar nature within the organisation.

### 3.4 Institutional assessment

In order for gender mainstreaming in energy projects to be an integral part of the project process the implementers and partners require to be aware of its importance and incorporate gender dimensions into their energy initiatives. On commencement of the project, an institutional analysis was undertaken to capture the current thinking and the inclusion of gender concerns in the institutional framework of Practical Action and the partner associations of the project – namely two local NGOs, HEDO and Sangrama. The heads of Practical Action, Sangrama and HEDO were interviewed on their perspectives on the change implemented within the institution as a result of the project.

### 3.5 The gender team

The gender mainstreaming project was managed by Mr. Rohitha Ananda, who was responsible for ensuring that gender considerations were properly addressed within the EREO project. Ms. Ramona Miranda the gender specialist at Practical Action supervised the gender expert and provided necessary inputs to ensure a suitable project approach and process. Mr. Chopaditya Edirisinghe is the Participatory Market Systems & Livelihoods Development specialist at Practical Action, and provided inputs on income generation activities and market mechanisms.

Prof: Anoja Wickramasinghe was the national gender specialist of the project. A part time field officer level gender expert, Mr. C. Padmasiri, was recruited, trained and deployed to carry out field level activities. The Gender Working Group of Practical Action (M/F staff) who were responsible for incorporating gender sensitive approaches in all the Practical Action projects, possessed an overall view of the project and provided required advice. The project also comprised of a project officer – Mr. Gihan Mathawarnaarachchi. Mr Damitha Samarkoon from Practical Action provided research and policy inputs, whilst communication advice was provided by Ms. Kahandawala. Overall project guidance and inputs were provided by Mr. Pannilage, Mr. Pallawala and Ms. Hidellage from Practical Action.

### 3.6 Scope and limitations

The EREO project (2006 – 2011) aimed to reduce poverty and marginalisation of target communities by providing reliable renewable energy sources through three new areas of energy generation, namely, liquid biofuels, dendro and pico hydro. However, for gender mainstreaming activities the project focused solely on liquid biofuels and pico hydro. The work in the dendro sector had not taken off the ground to mainstream gender aspects into it.

### 3.7 Challenges encountered in carrying out the methodology

Certain general limitations existed in the implementation of gender mainstreaming in project areas. This was partly due to a lack of resources and expertise (both internal and external) in providing specific timely inputs related to gender dimension during the project. Often the team adjusted project processes as the project progressed with regard to gender inclusion and related tools / methods. This built the organisation’s capacity to adjust processes to be more gender inclusive and responsive.
4. Gender Situation in the Energy Project

4.1 The gender and energy situation in the pico hydro sites

The main objective of the pico hydro intervention was to enhance energy access to the poor rural households. This was mainly implemented by improving the existing pico hydro systems installed by families in the project areas. The field study results, as summarised below, describes the baseline situation of the households from the perspective of gender and measures to be undertaken to improve the overall efficiency and delivery of benefits of the project. Households for baseline survey were selected from Kudumeeriya, Waturawa, Dewipahala and Pathberiya Grama Niladhari Divisions.

Two types of pico hydro power systems were identified during investigatory field visits; the traditional pico hydropower system and the modern pico hydropower system. Based on this, households who utilised pico hydro power systems were divided into 3 categories – (a) households with traditional pico hydro (TPH) power system, (b) households who have converted traditional pico hydro power systems into modern pico hydropower system (TMPH)\(^4\), (c) households who do not possess traditional pico hydro power systems but have modern pico hydro power systems (MPH).

17 households were used as a sample size – Three from TPH category, eleven from TMPH category, and three households from the MPH category. Data was collated by the use of pre-formulated questionnaires (Refer Annex 1 for a sample). Field discussions were held with village officers (Grama Niladhari), technicians (machine producers), and the project team (HEDO) to generate further information and clarifications.

The field study examined energy sources and its relative use in connection with gender, which revealed that all households in the three pico hydro samples utilise electricity for lighting. However, it was noted that significant variations existed amongst the above households in their use of electricity for other purposes. It was apparent that in the TMPH sample, both men and women use modern pico hydroelectricity for lighting, watching TV, phone recharging, and listening to the radios. However,

\[\text{Figure 1: Involvement of Adult Males, Adult Females and Female and Male Children in Energy Consuming Activities}\]

\(^4\) Practical Action and HEDO, has helped them to change their systems.
prior to the intervention of the project these households used traditional pico hydroelectricity as well as kerosene for lighting. It was also noted that the men consumed more electricity for entertainment activities than women. However, the use of kerosene for lighting was mainly undertaken by women. Activities such as ironing, water boiling, cooking are activities engaged in by women (Men’s involvement in such activities is marginal, as indicated in Figure 1 below).

The 17 households included in the sample size, consume fuel wood as their main source of energy for cooking, whilst fuel wood is also used for boiling of water, except for one household (in the TMPH sample). Meanwhile, women engage in fuel wood collection in TPH sample households, whilst in TMPH sample households this responsibility is shared between 73% of the men, 82% of the women and 18% of the male children. Likewise every household in the MPH sample men and women (mainly the wife and husband), jointly collect and supply fuel wood. Additionally, in order to collect fuel wood the households in the TPH sample travelled nearly 4.74 km per week (taking up to nearly 3.30 hours). However, TMPH households travelled less (1.420 km per week taking 2 hours and 20 minutes) whilst the MHP households did not travel far from their homes (about 0.4 km per week taking 1.5 hours to collect 3 bundles of wood). Meanwhile, the average weight of a fuel wood bundle collected by a female from a TPH household was about 15kg, whilst for a TMPH it was 17 kg, and 25kg for a female from a MHP household. The pico hydro project has not been successful in changing this scenario yet, but it has the potential to do so. The excess energy wasted during the day time (described below) could be used as an energy option rather than fuel wood – to be used for tasks such as boiling water.

The energy sources used to fulfil other energy services have changed during the last year. 67% of the MHP households surveyed used car batteries and 33% used torch batteries to power their radios. Now, 67% of these households use modern pico hydro power to power their radios. 64% of the households in the TPH sample have radios - 90% of them used traditional pico hydro power for radios and 10% used solar power. Prior to the commencement of the project there were six DVD/VCD players owned by the TMPH sample households - five were operated using traditional pico hydro power and one using the electricity produced from a generator. Now there are seven DVD/VCD players amongst these households and modern pico hydro power is utilised to power each unit. Likewise, 55% of the households in the TPH sample owned TVs which were operated using traditional pico hydro power, prior to the commencement of the project. However currently, 73% of these households have TVs operated using modern pico hydro power. Meanwhile, 72% of the households in the TPH sample use irons. Prior to the project 50% of them used coconut shells and the remaining 50% used traditional pico hydro power for ironing. However currently, 80% of these households –operate irons using modern pico hydro power. The rest use coconut shells as their energy source. Moreover, at the commencement of the project 55% of the households had communication equipment such as a land phone or mobile phone and traditional pico hydro power was the energy source used for recharging purposes. However, at present 82% of these households possess land phones or mobile phones and modern pico hydro power systems have become the energy source used for recharging. This change can be seen clearly in the TMPH sample.

4.2 The gender and energy situation in the biofuels site

Gender roles are associated with productive (income generating), social and reproductive domains and the social, cultural and environmental context in which women live have a large part to play in determining their roles. Approximately 30% of the Gurugoda households are headed by women (mainly due to men residing elsewhere for work). In households where men are present, it is generally the man who attends to cultivation, whilst women are responsible for household duties, child rearing and home gardening (small plots located near their houses). Meanwhile, the diversified home gardens serve as an important income generating source in Gurugoda and the share of annual income earned by Gurugoda villagers by cultivating perennial crops in home gardens is approximately 10%. Therefore, the introduction of the biofuel initiative increased the income earning capacity of the home gardens, where the fences are used to grow plants which produce seeds for biofuel. Thus, one of the main involvements of the community in the biofuel project was ensuring a steady supply of biofuel seeds for oil extraction. On agricultural land, the number of oil producing plants were increased by encouraging their growth as fences and multiple-hedges. Most home gardens are demarcated by
hedges extending over several kilometres in length on which oil producing plant species – such as Jatropha and Neem trees – are grown. In addition to providing oil rich seeds these plants protect the home gardens from wild animals. Since the caretakers of the home gardens are primarily women, the collection of seeds for biofuel processing was also undertaken by women, thus enabling them to earn an income by selling the seeds for biofuel production.

In terms of household responsibilities the responsibility of child rearing and household duties, such as fetching water, fell on women. As there was only one well from which drinking water could be drawn, prior to the commencement of the project’s water system, women in Gurugoda Village had to walk several kilometres a day to fetch drinking water. One trip took at least 15 minutes with three to four trips being undertaken each day. Prior to the project, the well was in poor condition and was precarious and an unsafe place for women (and children who accompanied them) as water required to be drawn from the open pit. Fetching water during night time posed other problems as there was risk of attack from snakes and elephants.

A community society known as the Gurugoda Haritha Society existed in Gurugoda Village prior to the commencement of the biofuel initiative. This society represents (both men and women) from the community who engage in community development initiatives and undertake community issues. Following the commencement of the biofuel project, management of village related biofuel activities, such as the collection of seeds, was also included as part of the responsibilities of the society.

Household energy needs in Gurugoda Village are generally the responsibility of the women and are largely met using fuel wood and kerosene. There are three main usages for energy in households: production (income generating activities), cooking and lighting. For cooking purposes women use fuel wood and for lighting largely kerosene. There are gender based differences in the division of labour within a family - for instance, cooking, water boiling and lighting are a woman’s responsibility. A Gurugoda woman collects 5 fuel wood bundles per week (average weight 27kg). She also has to walk several kilometres to fetch drinking water prior to the EREO project. The benefits of having a water pump located close to the road are many and the pump runs on a combination of biofuel and diesel and allows women easy access to drinking water.

The biofuel project also provided some assistance to run the wind power unit in the village. The wind power unit was supplied by Practical Action prior to the commencement of the biofuel project and a combination of biodiesel and diesel was used to operate the generator, making a significant difference to the energy usage of households. However, the wind unit, at the later part of the biofuel project period broke down and is now beyond repair. As such, the 11 households that benefited from its electricity are once again totally dependent on kerosene for lighting needs.

4.3 Gender in the project documentation

Practical Action’s policies and practices uphold human rights and respects diversity of gender, ethnicity, culture, religion and physical ability. Practical Action also adopts methods by which the project will put this into practice under the heading ‘Gender equality’. Additionally, the document also does state that women are often central to the rural agriculture industry in Sri Lanka, and therefore make a significant contribution to the family economy. The project will ensure females have equal involvement in the local energy production process, and have access to the benefits reaped by it.

Meanwhile, one of the main conclusions derived from the project document review concludes that although the main project documents recognised gender as a key consideration for achieving the overall goals of Practical Action and their partners, several inconsistencies existed in the manner these considerations were being implemented. For example, these cannot always be found in background,}

5 After the installation of the wind unit the use of kerosene dropped from 77% to 69% among the households. While the power produced was insufficient to lead to changes in the use of appliances the safer and cleaner intra household illumination enabled women to perform their tasks relatively easily and attend normal household chores. As a result of this initiative there was a change in energy use – with energy use increasing by 186.7%.
history, and context and therefore may not always be reflected in the analysis of objectives, strategies and methodologies. For instance, gender aspects were not always considered in the background, history etc., and resultantly did not reflect in the analysis of objectives, strategies and methodologies of a given project.

Reasons for this situation vary. Practical Action followed a Gender Strategy since 1995 and initially these objectives were implemented through a gender and technology project, which ensured that gender aspects were firmly implemented in transport energy, disasters and livelihood programmes. The strategy ensured the development of a training group and gender methodologies and therefore concluded that the staff were already internalised how to mainstream gender in their project activities and did not anticipate the need for a separate project. Although this held true for a few years, it later became apparent that the focus on gender aspects had been lost and therefore it was decided to establish a gender working group to oversee gender considerations within the organisation.

The analysis also revealed that partner organisations were sensitive to gender roles and considerations, although a specific gender strategy was absent. In the case of HEDO, the organisation identified how women’s specific interests were different from men, and has developed a special fund for women. In the case of Sangrama, the organisation does focus on marginalised and disable persons, which included women, children and the disabled. The organisation therefore does not believe they should focus on women as a separate group; however, in practice they are strongly sensitive to ensuring women’s participation and collect gender disaggregated data in all their projects.

4.4 Past experience with addressing gender in the project

As previously explained, Practical Action has had a history of working with gender considerations. Lessons from previous activities were incorporated, including the Community Media initiative in Katepola where the community runs a newspaper and a narrow casting system which is coordinated by a woman. She coordinates meetings amongst the media committee, made up of both men and women members, as well as with officials involved in this community media initiative. Another example of good gender mainstreaming practice is the Panama Lagoon Management Committee, in which there are women members as well. Even though fishing is predominantly a task undertaken by men in Panama, women engage in shallow water fishing and therefore are active members of the lagoon management committee.

4.5 Results of institutional assessment

Gender capacity in staffing – project and partner organisations

Practical Action:

- Practical Action has a strength of 67 employees, 44 men and 23 women. The regional director is a woman, only two members of the leadership team comprising of 6 are women. Only 3 members are women from a team of 15 project managers. However, the number of women in Practical Action and in its partner organisation has increased.
- All staff members are treated equally and a man is not considered as being superior to a woman. It is perceived that women are as confident as men.
- Practical Action has a very gender friendly environment which has encouraged both men and women to work together.
- Practical action is now focusing on gender issues in their projects as well which can be considered as being very encouraging.
- Meanwhile, whilst Practical Action is a technology based organisation, the policies can be considered gender friendly.

Partner organisations:

- HEDO has two female social mobilisers out of a staff strength 6.
• Sangrama: From a staff strength of 7, 5 are men and 2 are women, whilst one is based in office, and the other engages in both project related work and reporting.

Gender gaps and challenges as perceived by staff and partners

The following are some of the gender gaps and challenges as perceived by the team:

• When reporting on gender integration and assessing its impact, numbers are a good proxy to show progress towards a goal set for a program. However, it is often difficult to show a positive correlation between the numbers and the actual impact.

• The need to change one’s way of thinking / perception of considering gender issues as being in conflict with culture. Greater interest in some technical officers on their primary activities such as technology transfer and capacity building of the selected people etc.(i.e. giving lesser emphasis to gender-related aspects)

• Incorporating awareness of gender in day to day activities, in order that it becomes an integral part of all activities; “do not let gender sit outside, bring it into every aspect of our lives.”

• Lack of sufficient expertise to guide the office staff on gender issues.

• Ignorance or confusion on gender issues among the staff members.

• Minimal use of sex – disaggregated data.

• Lack of knowledge on practical and strategic gender requirements among the development planners.

• Failure to engage women’s needs abilities and rights into account in every stage of development projects.

Recommendations

The following recommendations were listed for the organisations represented in the analysis document.

For Practical Action

• All staff to revisit and review the organisational gender strategy and determine the current position on gender mainstreaming. Develop gender indicators for each project separately and monitor the progress via quarterly progress reviews.

• Introduce gender training within staff induction programs to induct new staff on organisational gender policy.

• Conduct periodic capacity development programs for office staff to upgrade their knowledge on gender aspects.

For partner organisations

• Development of organisational gender strategy and policy documents.

• Conduct capacity development programs for the staff of partner organisations on gender.

• Develop gender indicators in their project implementation work.
5.1 Process adopted for developing the GAP

The Gender Action Plan (GAP) was developed based on research and advice received from several gender specialists, which culminated in the development of an institutional gender assessment report. This report contains Practical Action’s organisational views and policies on gender along with the views and policies of the project’s partner organisations. The above as well as the key findings from the gender mainstreaming baseline survey were incorporated to design the GAP. The project team also visited the two sites and assessed areas where there is space for inclusion of gender dimensions within the project. These observations were utilised to ensure the actions proposed in the GAP were practical. Inputs from national gender specialist, Prof Anoja Wickramasinghe, as well as inputs from international experts from ENERGIA further strengthened the plan.

5.2 The Gender Action Plan

Gender goal

Improve access and reduce gender gaps for men and women in energy sector interventions through community level pico hydro and biofuel applications.

Expected results

- Social and economic empowerment of women
- Gender dimensions identified and included in the EREO project
- Stakeholder awareness created on gender sensitivity in pico hydro and biofuel technology
- Gender dimensions promoted in picohydro, biofuels and other energy projects.
Table 1 GAP Matrix

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Activities</th>
<th>Expected Results</th>
<th>Indicators (Means of verification)</th>
<th>Sources of Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integration of gender</td>
<td>Inclusion of women in community discussions and project activities (such as Jatropha growing) and facilitating their participation in decision making processes within the project</td>
<td>Ensure that a both men &amp; woman actively engage as a project team during the entire project cycle.</td>
<td>Percentage of men’s and women’s contribution to family income Involvement of men for water collection Number of women engaged in producing of Jatropha</td>
<td>Project review reports</td>
</tr>
<tr>
<td></td>
<td>Discussions held with women and men on their specific energy requirements with special attention paid to women’s productive and reproductive needs</td>
<td>Identification of gender differences, opportunities, capacities from the baseline/field information of potential contribution of women</td>
<td>Time spent for fetching water Per capita water use No. of women, men and children having access to energy services</td>
<td>Project review reports</td>
</tr>
<tr>
<td></td>
<td>Inclusion of men and women in project planning and implementation processes as well as establishment of community ownership of project initiatives</td>
<td>Provide equal space for women and men to engage in implementing the project activities from project planning to the end user stage of both biofuel and Pico Hydro</td>
<td>Quantum of additional income earned Membership of women and men in CBOs No. of women and men in decision making positions Movable &amp; solid assets acquired by women and men Contribution made by both men and women towards financing and labour generation to install the PH unit</td>
<td>Project review reports</td>
</tr>
<tr>
<td>Developing knowledge base</td>
<td>Establishment of gender disaggregated database</td>
<td>Availability of gender disaggregated data</td>
<td>No. of references to gender</td>
<td>Reports from the database</td>
</tr>
<tr>
<td></td>
<td>Conducting Baseline survey on gender inclusion</td>
<td>Field level application of methodologies/processes for gender inclusion in surveys (pico hydro &amp; biofuel)</td>
<td>Survey report</td>
<td>Survey report</td>
</tr>
<tr>
<td>Documenting gender</td>
<td>Documenting gender mainstreaming and approach</td>
<td>Documentation of project processes and impacts</td>
<td>Availability of case studies, photographs, video</td>
<td>Report, case studies, photographs, videos</td>
</tr>
<tr>
<td></td>
<td>Capacity building of stakeholders</td>
<td>Manufacturers sensitised on the importance of gender aspects</td>
<td>No. of training programmes conducted No of manufacturers trained</td>
<td>Workshop reports</td>
</tr>
<tr>
<td></td>
<td>Conducting awareness raising programmes &amp; training for manufacturers (PH) and other stakeholders</td>
<td></td>
<td></td>
<td>List of manufacturers trained</td>
</tr>
<tr>
<td>Case Study</td>
<td>Technical designers sensitised on the importance of gender aspects</td>
<td>No. of training conducted</td>
<td>Reports, designs and lists of participants</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------</td>
<td>---------------------------</td>
<td>---------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Sensitisation of technical designers – university research training</td>
<td>Technical designers sensitised on the importance of gender aspects</td>
<td>No. of designers trained</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Technical designers sensitised on the importance of gender aspects</td>
<td>No. of gender sensitive designs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Awareness creation and promotion</td>
<td>Linking Vidatha centres to the janathakshan system</td>
<td>Promotion of pico hydro through Vidatha centres</td>
<td>2 Vidatha centres actively promoting pico hydro</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Development of Manual on Operation &amp; Maintenance</td>
<td>Gender sensitive pico hydro Operation &amp; Maintenance manual</td>
<td>No. of queries on PH, BF</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Open University of Sri Lanka curriculum</td>
<td>Gender mainstreaming Module included in curriculum</td>
<td>No. of programmes conducted</td>
<td></td>
</tr>
<tr>
<td>Developing market systems</td>
<td>Identification of viable livelihood options for men &amp; women</td>
<td>Gender specific livelihood options identified</td>
<td>List of livelihood options</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conduct a survey on technical options for men &amp; women</td>
<td>Technical options for men and women identified/developed</td>
<td>No. of technical options available</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Training of partners on PMSD on energy – gender nexus</td>
<td>Involvement of partners in PMSD process</td>
<td>No. of training carried out by partners</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Developing a marketing strategy for pico hydro</td>
<td>Engendered family unit based strategy developed</td>
<td>Document available*</td>
<td></td>
</tr>
</tbody>
</table>

*Manual in Sinhala available

*Curriculum available

*Document available*
5.3 Financing and human resources for the GAP

The gender mainstreaming project was supported by ENERGIA and EC (through its Community Governance in Infrastructure Services Project). The EREO project also received funding from DGIS in 2009 - 2010. Meanwhile, Donors emphasised the importance of ensuring gender equity within the project and project findings which will eventually enable the effective incorporation of such requirements during future designing of energy projects.

People were hired/contracted to provide training - especially livelihood training for specific income generating initiatives which may be identified by the community (for example, soap production). Additional assistance was required to report on project activities as well as develop communication outputs. As mentioned earlier, external expertise were required to train project staff and partner organisations on gender application methods.

5.4 Dissemination/communications strategy

Conducting of awareness raising and training for manufacturers (pico hydro) and other stakeholders

There were 5 local manufacturers at the pico hydro project sites and the project team met them individually and helped create awareness on gender aspects relevant to the machinery using this technology. Resultantly, adjustments have been made to the machinery for easy operation by women. For instance, a wheel was fixed to the valve of the PH operating system to enable women operate the valve easily. The height of the valve was also adjusted and a safety cover placed over the generator to avoid accidental entanglement of clothes etc. Interestingly, all the manufacturers were men. Meanwhile, in order for women to consider entering the above mentioned industry, the benefits reaped should be attractive, whilst they would expect special training programmes to be conducted, to equip them with the necessary technical skills.

Sensitisation of technical designers – university research training

The project conducted a 1 year training programme for three batches of students (2 batches from the University of Ruhuna and 1 from the University of Moratuwa) on ergonomics and gender sensitivity during the years 2009, 2010 and 2011. The project trained 41 engineering graduates in this initiative. The training included field visits to expand designers minds to accept different dimensions of designing and the ground realities, in order to facilitate simple technology solutions as well as incorporate gender sensitive considerations within the design. Students were assigned projects to develop new renewable energy designs and from the design stage to the user level, the designers consulted female family members (mothers and sisters). Resultantly, the human powered power generation developments (using human power, for example using a bicycle to generate electricity) and the cook stove technology developments that resulted from this initiative were targeted at poor marginalised gender sensitive groups. For example, the power output of the bicycle generator can be adjusted according to the input power (for instance a women or a child could operate it). Meanwhile, the power generating exercise machine that was developed includes the above facilities. The designers believe that such a machine would be useful for women who may be shy to go out to exercise. Another example was the improved cook stove which focuses on reducing indoor air pollution and therefore benefits women in the household who often do the cooking. In addition, one of the project designs on pico hydro technology won the Best Undergraduate Project of the Year 2009 award by the Institute of Engineers Sri Lanka.

Meanwhile, creating awareness amongst the young designers on the ground realities and gender dimensions in technology was considered a significant achievement of project objectives. Engineering undergraduates are rarely seen taking up projects in the area of improved cook stoves development as the industry itself is not considered lucrative. Due to the project initiatives the participants realised the importance of developing such appropriate technologies to promote lifestyle improvements in marginalised communities and its importance to the nation as a whole. The details of these innovations and the training conducted are available at Practical Action’s Sharepoint as well as on the respective university websites.
Case Study

Awareness raising and promotion

Linking Vidatha centres to the Janathakshan system

The project trained employees at two Vidatha Centres in Deraniyagala and Central Province on pico hydro and other renewable energy options. The training included field visits to pico hydro sites in 2010. Leaflets in one of the local languages were provided for distribution as well as training provided on the types of technical parameters required, to assess a pico hydro site. Additionally, Vidatha centre employees were invited to 10 programmes conducted by Practical Action on Renewable Energy and Energy Saving in which pico hydro was a main element. The increase in the number of technical inquiries regarding these technologies is evidence of growing awareness of the technology. For instance, 52 technical inquiries have been received, since the gender mainstreaming activities of the EREO project commenced.

Manual on Operation & Maintenance of pico hydro systems

A manual on the operation and maintenance of pico hydro systems was developed. It is available in the local languages and has been distributed to pico hydro users at the project sites. The manual contains operation and maintenance guidelines and a maintenance schedule.

A ‘Gender Mainstreaming - Training Manual for Pico Hydro Installations’ was developed in English, which provides pico hydro implementers guidelines involved in installing a pico hydro unit, whilst highlighting the important role women play during the entire process. It provides readers with technical details on how to identify a suitable site and design the system, whilst providing suggestions on how to engage the households from the initial energy assessment to the final operation and maintenance of the unit. This manual has been printed and is to be distributed to people interested in implementing a pico hydro project or local businesses involved in pico hydro unit installation. The softcopy is available on Practical Action’s Sharepoint and will also be available for free download on the South Asia Electronic Forum on Energy (e-net). However, for this manual to be useful in the local context, it has to be translated to the native languages.

Gender Mainstreaming Module included in the Renewable Energy curriculum of the Open University of Sri Lanka

Targeted to fill the gap between an engineer (designer) and a manufacturer in the renewable energy field, a Community Renewable Energy Systems and Energy Savings course was developed with the Open University of Sri Lanka (OUSL). This certificate course was developed in consultation with all the stakeholders and was approved by the OUSL senate. The majority of the course material has already been developed whilst the balance is on-going. Meanwhile, the curriculum includes renewable energy technologies which were developed, as well as practices, experiences and lessons learned by Practical Action that were shared with the OUSL. Moreover, the course content includes a session on gender sensitive design and ergonomics. A significant point to note is the inclusion of the above mentioned technologies as part of the course material, which focuses on sustainability. These technologies are simple, and can be used by technically competent men and women, comprising of local material and equipment, low cost, local manufactures and service providers. The technologies are pico hydro, human powered power generation devices as well as improved cook stoves.

E-discussion on Gender & Energy

An e-discussion on Gender and Energy was held at the South Asia Electronic Forum on Energy during period 15th of August to 26th August 2011. Discussing the importance of gender sensitivity in energy related work, there was participation from a number of countries in the discussion – such as Sri Lanka, India, and South Africa. Meanwhile, it was equally important to note the range of attendees from research institutions and project planners to project managers, INGOs and engineers. The discussion led to the sharing of experiences of energy projects which had incorporated gender aspects whilst the dialogue also included policy issues and relevant approaches for implementation.
Policy briefs on gender and energy

Two policy briefs were generated from the gender mainstreaming project. The brief on 'Pico hydro and Energy' discusses approaches by which the Provincial Government and Central Government could promote pico hydro. Meanwhile, the brief further includes the gender experiences of the EREO project whilst providing measures that could be taken to increase women’s participation with the technology, thereby increasing the benefits and empowerment capabilities that could be achieved. The second policy brief is on 'Gender and Energy' was not technology specific. It seeks to advice the national government on areas in which energy projects can empower women in terms of the types of energy needs met, the training provided, technical designs and awareness provided on the technology available.
6. Institutionalising the GAP: Initial results

6.1 Institutionalisation of GM and engendering project frameworks

6.1.1 Practical Action has, over the past year, implemented a system to develop gender indicators for each project separately. The M&E officer worked with each project manager to develop indicators for the projects and the process of monitoring results against these indicators in quarterly progress reviews. Previous quarterly reviews requested gender impact questions, but indicators were now developed to allow a more systematic approach. Meanwhile, Vishaka (Regional Director) reported that the recent quarterly reviews concluded depicted improved gender analysis and consideration in the projects and project documentation.

The Energy Project has shown marked improvement and this can be directly attributed to the ENERGIA project. Meanwhile, improvements in gender aspects on other projects could be attributed to the fact that greater emphasis has been placed on gender from a number of angles such as the development of indicators, the emphasis on reviewing gender impacts at the reviews, the emphasis placed by the group in recent years on gender, and the updates of the gender working group at the staff meetings.

Gender dimensions have also been included in the development of project proposals by Practical Action. For instance, the irrigation project team addressed issues of unequal access to water by men and women, the need for women to be included in planning activities and undertook remedial measures. Meanwhile, training women on non-traditional skills in the housing sector such as carpentry is another. Another introduced gender analysis and monitoring tools as part of the participatory climate risk vulnerability capacity assessment tool.

Practical Action’s Governance Project also incorporated gender participation and sensitivity approaches in its project processes especially during the execution of the village level development plans where women’s active participation and their inputs and requirements were incorporated within the plans. Interestingly, attitudes and awareness of gender aspects appear to have improved considerably, although it is difficult to capture attitudes in a tangible form.

The gender working group met several times and have planned a gender capacity building programme for all staff in the near future. The gender policy was not finalised due to several changes taking place within the group on gender policy as well, and as a result the induction of new staff to the policy was deferred.

6.1.2 Sangrama has not drawn up any policy on gender due to its strong institutional stance that groups that are marginalised will not be considered separately. All their development activities place special emphasis on gender aspects, which they feel as a common consideration in every project. In all their development work, looking at particular sensitivities is a must for them. When questioned how this project made a difference to the overall biodiesel project, Lionel (Executive Director) stated that it was difficult to say as from the initial stages gender considerations has been taken into account. Meanwhile, he also noted that in all of their projects gender aspects are included prior to the commencement of the project. However it was highlighted, that the training provided, enabled them to communicate effectively and convince other members, on the importance of considering gender aspects. Meanwhile, the training changed their outlook on gender aspects, by encouraging them to considered situations in a broader sense. For instance, he said they felt more comfortable to include gender aspects and highlight it’s importance during discussions with their various stakeholders and at meetings and workshops. Furthermore, they were also suitably equipped to respond to queries as well as convince officials who considered gender considerations as being culturally inappropriate.

The limitations of the bio-diesel project per se did not allow much room for major gender mainstreaming, but Sangrama did ensure that the beneficiaries who were part of this project were supported to cultivate home gardens to supplement their incomes.
They were also able to sensitise the government agents, the Nikewaretiya Pradeshiya Sabha (PS), the PS representatives through this project and the governance project which is also operational with Practical Action.

6.1.2 HEDO currently ensures to consult both men and women when they design and install pico hydro units. Resultantly, women’s participation has increased significantly, especially during the design and construction stages of the project. However, there were limitations in the EREO project which restricted efforts in mainstreaming as was desirable, whilst the gender impacts on the provision of electricity to the home was visible. Meanwhile, women commenced the use of drudgery reducing appliances in the kitchen.

Whilst HEDO did not possess a specific gender policy, their current website reflected all the gender related work carried out by the organisation and improved documentation were available on gender related aspects, as conveyed by Anura (Director). He further reiterated that the project helped them understand the importance of considering gender aspects in an analytical manner and not merely view it as programme for women. Meanwhile, Anura further states that gender aspects were not given serious consideration formally. However currently, due to training received, this aspect is administered in all the proposals they develop whilst they have been successful in enhancing their knowledge on techniques available for the inclusion of gender aspect within projects. Moreover, the above training also changed their way of thinking and it is now discussed at meetings. Likewise with Sangrama, HEDO also observed that the project experience and training had equipped them to deal with the scepticism that often follows when the topic of gender is brought up. As a result they are able to explain the importance of gender when arguments are brought up against it.

The HEDO leader however observed a weakness within the project, where it was noted that funds were inadequate to cover operational costs for running a project of this nature was insufficient in addition to the delays in the disbursement of payments. He also mentioned that funding was unavailable to introduce end user appliances to the market, which would have made the gender impacts of obtaining electricity significantly realistic.

6.2 Capacity building & staffing

The entire team received training (on the job training and through workshops) on the need for gender inclusion in energy projects and tools which could be used for this purpose. Resultantly, the gender mainstreaming project has had an impact on Practical Action as well as its local NGO partners. The project conducted two awareness creation workshops on pico hydro and liquid biofuels for project beneficiaries. Meanwhile, both partner organisations, HEDO and Sangrama, paid special attention to gender dimensions in energy projects subsequent to this initiative, which was further enhanced by the on the job training they received from the project’s Gender Specialist, Professor Anoja Wickramasinghe. Furthermore, Prof: Wickramasinghe led a gender mainstreaming workshop which was held outside the scope of this project, and was well attended by the project team. This training provided them with considerable capacity building opportunities on gender in energy work.
7. Initial Results of Gender Mainstreaming in the EREO

7.1 Progress made in implementation

Integration of gender into project activities was the main objective of gender mainstreaming in the EREO project. As the two technologies involved deferred from each other, the areas and manner in which gender integration took place also differed. As such, the gender integration impact has been assessed under each initiative separately.

In addition to the previously mentioned difficulties related to lack of resources and expertise (both internal and external), several other project implementation difficulties were encountered. For instance, one area of the project process was to identify appropriate energy using appliances required by households to improve their standard of living and minimise difficulties encountered by women. However, the project lacked the funds to provide such appliances to the communities. This also served to reduce the positive impact the project had on the lives of the households under the EREO project. Despite these limitations the project was able to create a significant impact on the lives of households, and women in the households, the details of which are provided below.

7.2 Integration of gender in the biofuel project

Inclusion of women in community discussions and project activities

The liquid biofuel project facilitated the engagement of the community, where women were included in project activities, discussions and decision making processes. Village level discussions were held with families on how the project should proceed, addressing areas of concern and providing villagers with information on the type of support the project would provide.

Approximately 70% of the seed collectors for oil processing are women. Women are also involved in the maintenance of home gardens with fences grown with biofuel plant species. They were also provided the opportunity to receive training in home gardening and financial support to prepare the land for cultivation. Meanwhile, the women also possessed the flexibility make decisions regarding the type of plants to grow, whether to have a mixed plantation, etc. The purchase of seeds collected from the live fences in home gardens and from plants in common areas provided 66 families an additional income. It is interesting to note that 56 women and 10 men increased their monthly income by Rs. 2,500/= from home gardening. In addition, due to the water system established by the project for Gurugoda Village the number of trips and time spent by women to fetch water reduced considerably. Meanwhile, where a few families cycled approximately 200 – 300 metres to fetch water prior to the installation of the water pump, this activity is now mainly undertaken by men. With the above installation, female members of the family could attend to fetching water, and no longer relied on the husbands to return from work to help them.

Addressing men’s and women’s specific energy requirements

Prior to the project, discussions were held with households as well as at community level to assess the energy requirements of Gurugoda Village. The project team ensured that they visited households and held meetings during hours where community attendance could be maximised, which was generally during the evening (after 4 p.m.). From these meetings and the baseline survey conducted, it was apparent that that one of the greatest requirements of the community was improved access to drinking water. For this purpose only one unprotected agro well was available for the entire village of 13 families, which was located away from the main road. Women, and often their children who accompanied them, were forced to walk several kilometres numerous times a day to collect water, facing threats of snake bites and elephant attacks. As such, they were often limited to fetching water only during day time. With the installation of the water pump by the main road, a considerable reduction in the number of trips and time taken for women to fetch water was noted. As stated in the gender and biofuel case study, women in Gurugoda Village now save approximately one and a half hours per day as a result of this intervention.
It was further highlighted that the village does not possess the advantage of being connected to the national electricity grid. In order to supplement this shortfall, a wind power unit which was installed by Practical Action prior to the project, supplied households with adequate power for lighting and the operation of a few electronic appliances. During the project biodiesel-diesel mixed fuel was used to operate the wind power unit. However, the unit was damaged beyond repair during the project period and the households are once again solely dependent on kerosene for their lighting needs.

**Community ownership and participatory decision making**

The project mobilised the community and the Haritha Society (established prior to the project) was appointed to undertake the renovation of the well and to establish a water system to ensuring greater accessibility to water supplies by the community. This initiative was perceived by the villagers as an attempt to bring the community closer together – improving cooperation and partnership between the genders. Women and men worked side by side to build a cement wall around the well and to dig the well. The community laid the pipes and helped build the water tank under the guidance of Practical Action and Sangrama staff. The water system is community owned and is operated and maintained by the community’s Haritha Society.

The Haritha Society interventions underwent substantial changes as a result of the liquid biofuel project. This was aptly noted, when the community appointed both men and women members to the CBO, whereas prior to the project all office bearer positions were held by men. However, as the responsibilities of the maintenance of the live fences for biofuel seed production, collection of seeds and maintaining the water system rested mainly with the women, the women members of the CBO came forward to run the society and the attendance of women at meetings increased.

Decisions concerning the aforementioned activities were made by women members. The successful running of these operations built their self-confidence as well as the confidence of others in their

**BOX 1: The story of Malkanthi**

Malkanthi is 34 years old; she is a bright young lady who works for the local NGO Sangrama. The following is her description of her experience at the biofuel centre:

I started at the Nikaweratiya Community Biofuel Processing Centre as an assistant. Once the gender mainstreaming in energy initiative started it was suggested by the team that I become more involved in the running of the centre as well as processing of biofuel. I then started to assist Sudath (my former colleague) with the biofuel extraction process. The type of training I received was on-the-job training with Sudath showing me how to handle the chemicals and the processes, quantities and technology involved. When Sudath left a year ago I took over the running of the centre. Basically I am involved in the process from start to finish. I meet the seed collectors and weigh the bags of seeds; I then dry the seeds on the dryers and undertake the oil extraction process. I do not have a science background so when handling the chemicals I sometimes get assistance from Lalith, the other field officer at Sangrama. At the start of this project both Sudath and Lalith received training from the University of Peradeniya on how to carry out the oil extraction process. They have shared this knowledge with me but as I do not have a science background Lalith still helps me to handle the chemicals.

There were one or two small physical adjustments that had to be made to the process to make it easier for me to run it. For instance, previously seeds were brought in 5kg bags. Since I found these hard to handle we reduced the size of the bags to 2kg. In addition, the oil extractor was set at a higher level than was comfortable for me to use, so the level was adjusted and wooden movable steps placed on the side to give me easy access to the machine.

Since the biofuel centre is 3.5 kilometres from my house I walk to work. This is not a problem as there is no work that needs to be done in the night or late evening. I really enjoy working with the community and my work with Sangrama helps me to do this. I am happy that I was able to run the biofuel centre and help the community and Practical Action in this project.”
abilities, thus giving them a good standing when discussing other matters relevant to the community and in their own households. Meanwhile, the position of Secretary and Treasurer of the CBO being currently held by women is a clear indication that gender empowerment has taken place. The Haritha Society has also successfully commenced collecting funds for the water pump maintenance and repair fund as well as a general fund. This has resulted in the collection of almost LKR 200,000/- by the CBO. These funds are being offered as loans to members at nominal interest rates. To date it is mainly women who have obtained loans and they have successfully settled them. Most of the loans have been taken to meet agricultural expenses, and this facility has enabled women to prove to themselves and their community that they have the ability for financial planning.

Another aspect that the project highlighted was the ability of women to learn the technical processes related to the biofuel technology (Refer story provided in Box 1). The biofuel centre is currently run by a woman from Sangrama. She is in charge of the centre and supervises the oil extraction process from the seeds and maintains the centre. When necessary she obtains the assistance of a male colleague for the distillation process as he is equipped with a science background and therefore more experienced in dealing with chemicals.

7.3 Integration of gender in the pico hydro project

Inclusion of women in community discussions and project activities

Pico hydro units provide hydroelectricity directly for household use. Resultantly, it is the women who benefit the most as they are continuously involved in the main energy related activities within the households (for lighting, cooking and production). The project team ensured the inclusion of women in the discussions they had with households to introduce the technology, as well as finalise the initial energy assessment and plan implementation. The families worked together to help construct the pico hydro unit – with at least 2 people on site at all times during the construction. Women went beyond their usual traditional role of providing refreshments by offering their labour by assisting in the carrying and laying of pipes and other construction material. As stated in the gender and pico hydro intervention case study this provided the family/community the opportunity of ownership of the unit rather than one person owning the unit.

With the introduction of hydroelectricity a saving of approximately Rs.700/- per month was achieved by each household on kerosene usage. Meanwhile, certain families also achieved savings on charging batteries for viewing TV and charging phones.

Addressing specific energy requirements of men and women

The project conducted an initial energy assessment during the commencement stage of the project, during which women were consulted. The assessment was undertaken not only to determine the family requirements in terms of quantum, type of energy and patterns of use but also to understand the energy savings estimate (previous cost of energy vs. cost of using pico hydro). In addition to the normal household energy requirements for cooking and lighting, women also stated their energy requirements for possible income generating activity as well as safety and security (such as lighting of outside areas or pathways). It is Important to note that the households at the pico hydro sites requested for at least one bulb to be placed outside the house to provide illumination for security. In addition, decisions on the number and location of illumination points within the house were often determined by the women of the household.

Apart from the conventional use of energy for illumination and operation of electric appliances, the project also explored avenues to use energy to reduce the burden on women. For instance, the excess energy produced during the daytime (which was not used earlier) was redirected and used to boil water, and at one site hydroelectricity is used to power a water motor to divert water from downstream to the household.
Community ownership and participatory decision making

From planning to implementation and operation of the project, women in households played an important role. As it was often the women in the household who operated the pico hydro unit it was important that their suggestions were considered on the location of the power house/ generator shed to enable easy access. Furthermore, the women were more knowledgeable regarding the behaviour of the stream as they use it to collect water, wash clothes etc. Thus, they provided useful information on stream behaviour, which was relevant to assessing the hydroelectric potential of the site.

Since all beneficiary households and their members were involved in the planning and construction of the pico hydro units, this program has been established as a shared asset. Each unit supplies electricity only to a few households. Therefore, CBOs were not formed to maintain or operate the units. However, beneficiaries do collect money from the benefiting households to fund maintenance and repair costs when the need arises. Since the installation of the pico hydro unit took place with the active participation of women, the project encompasses decisions of the family as a whole on power utilisation, whereas formally these matters were decided by the men of the household. There were certain livelihood initiatives which were undertaken by the household members using the excess hydroelectricity generated during the daytime. These were mainly businesses operated by men with the assistance of their family members, such as the manufacture of ice cream in Kalawana. However, there were a few instances where women also commenced or enhanced income generating activities such as the motorising of a sewing machine, thus creating opportunities for tailoring activities for women in one of the households.
8. Lessons Learned

8.1 Reflections on lessons learned

Subsequent to considering the technical angle of the project, the project team and the implementing organisations (Practical Action, Sangrama and HEDO) evaluated energy projects from a gender point of view. The evaluation of the project enabled the partners to recognise that a gender balance in energy project processes was essential to achieve greater success of the project. The importance of engaging women and children throughout the different project processes was considered essential for sustainability of energy initiatives. Their knowledge on household energy usage as well as their willingness and ability to operate the machinery and assist in collecting of funds to finance the project should be recognised. Women may also have unique knowledge useful for planning the design of the energy project, as was clearly evident in the pico hydro project where the women in the households had a good knowledge of the stream’s seasonal behaviour, etc.

Another lesson learnt from the project was the need to consider factors such as culture and working environment during the designing of projects. For instance, in Ratnapura the women are employed in the tea plantations and therefore unable to travel to attend meetings out of the village. In the morning women pluck tea leaves, while men garden. In the evening, men carry tea leaves bags to the selling centres and women are engaged in household activities. Therefore the project team there are compelled to consider their work schedules, timing and organise meetings closer to their homes or undertake home visits when planning pico hydro project activities.

8.2 Challenges encountered in the gender mainstreaming process

One of the main objectives of a gender mainstreaming initiative is for a change the attitudes and mind set of people. In order for this to take place there needs to be a smooth flow of project processes over a considerable period of time. The gender mainstreaming in EREO project lacked this continuity and smooth flow of operations. This was due to communication gaps with donors as well as lack of specific instructions and feedback for partners.

Furthermore, the project lacked adequate funding for direct implementation (purchase of machinery, etc.) and conducting of research activities. These setbacks posed difficulties for the project to meet the requirements of the villagers – leading to delays in meeting the objectives of the project resulting in a loss of confidence among villagers involved in the initiative. As the project was involved in testing technologies this also impacted negatively along with the limited financing available for the project mentioned earlier.

8.3 Suggestions for improvement in the gender mainstreaming methodology

Project work schedules should take into account gender initiations, the working environment, culture, income levels and patterns of women and men in the community.

The project should be designed and processes implemented to ensure a good flow of activity and communication from commencement to conclusion between the donors, implementers and beneficiaries.

8.4 Next steps in gender mainstreaming for the energy project

Policy makers and stakeholders alike require be educating and training on the importance of gender incorporation in energy policy planning and implementation. Furthermore, sharing of project experiences with implementers and beneficiaries and Provincial Council staff should be carried out. Dissemination of project experiences to other South Asian countries such as India, where the need for gender mainstreaming is greater, is also important.
<table>
<thead>
<tr>
<th>#</th>
<th>Activity</th>
<th>Period (July 2009 to August 2011)</th>
<th>Status</th>
<th>Deliverables</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mapping the situation at national level – country context and literature review</td>
<td></td>
<td></td>
<td>Done</td>
<td>Report on literature and country context on gender</td>
</tr>
<tr>
<td>1.1</td>
<td>Conduct literature and country analysis regarding energy, gender and good practices</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 2. Assessing the current project scenario on gender, marketing and livelihoods perspectives (situational analysis) | | | Done | 1. Report of awareness raising activities of key stakeholders  
2. Report on gender assessment baseline of project document and organisation review |
<p>| 2.1 | Identify &amp; review existing project documents &amp; partner information | X | | |
| 2.2 | Organisational review: Assess the gender strategies of partner organisations | X | | |
| 2.3 | Organisational review: Assess available expertise for gender analysis and gender sensitive programming within project &amp; its partners | X | | |
| 2.4 | Produce a note on Gender Assessment | X | | |
| 2.5 | Organise a one day workshop to discuss the findings of the situational analysis | X | | |
| 3. Build capacity in mainstreaming gender in marketing &amp; livelihoods aspects in energy delivery interventions | | | Done | Report of awareness raising activities |
| 3.1 | Consult the communities and conduct awareness raising on gender &amp; energy | X | | |
| 3.2 | Organise training programmes on gender responsive project monitoring and evaluation methods to project staff and implementers | X | | |
| 3.3 | Select trainees and organise training programmes on a gender-responsive PMSD | X | | |
| 3.4 | Conduct a gender-responsive participatory market supply &amp; value chain analysis for the liquid biofuels and pico hydro sectors | X | | |
| 3.5 | Produce a report on main conclusions of training of the field team | X | | |</p>
<table>
<thead>
<tr>
<th>#</th>
<th>Activity</th>
<th>Period (July 2009 to August 2011)</th>
<th>Status</th>
<th>Deliverables</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Field work</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.1</td>
<td>Develop tools to identify the different gender roles and energy needs of men and women</td>
<td>Q1 X</td>
<td>Done</td>
<td>Based on the field survey the base line survey report done.</td>
</tr>
<tr>
<td>4.2</td>
<td>Conduct community based participative gender sensitive energy needs assessment through a field level data collection survey</td>
<td>Q1 X</td>
<td>Done</td>
<td></td>
</tr>
<tr>
<td>4.3</td>
<td>Seek women’s and men’s views</td>
<td>Q1 X</td>
<td>Done</td>
<td></td>
</tr>
<tr>
<td>4.4</td>
<td>Identify women’s and men’s views</td>
<td>Q1 X</td>
<td>Done</td>
<td></td>
</tr>
<tr>
<td>4.5</td>
<td>Identify gender differences in access to &amp; control over energy resources and services</td>
<td>Q1 X</td>
<td>Done</td>
<td></td>
</tr>
<tr>
<td>4.6</td>
<td>Identify factors that could limit women’s participation &amp; benefits</td>
<td>Q1 X</td>
<td>Done</td>
<td></td>
</tr>
<tr>
<td>4.7</td>
<td>Identify additional activities to ensure that gender concerns are adequately addressed</td>
<td>Q1 X</td>
<td>Done</td>
<td></td>
</tr>
<tr>
<td>5. Develop a gender responsive marketing &amp; livelihoods Action Plan for the project mainstreaming them in energy delivery interventions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.1</td>
<td>Identify gender roles within the project with particular emphasis on women’s triple role</td>
<td>Q1 X</td>
<td>Done</td>
<td>1. Gender Action Plan prepared.</td>
</tr>
<tr>
<td>5.2</td>
<td>Identify the potential gender dimensions of the project</td>
<td>Q1 X</td>
<td>Done</td>
<td>Report on Participatory Market Systems Development Model for the liquid biofuels and pico hydro sectors</td>
</tr>
<tr>
<td>5.3</td>
<td>Identify where gender mainstreaming initiatives need to be applied</td>
<td>Q1 X</td>
<td>Done</td>
<td></td>
</tr>
<tr>
<td>5.4</td>
<td>Establish gender related goal/goals for the project</td>
<td>Q1 X</td>
<td>Done</td>
<td></td>
</tr>
<tr>
<td>5.5</td>
<td>Formulate the expected outcomes and measurable indicators</td>
<td>Q1 X</td>
<td>Done</td>
<td></td>
</tr>
<tr>
<td>5.6</td>
<td>Plan gender mainstreaming initiatives and applied where necessary</td>
<td>Q1 X</td>
<td>Done</td>
<td></td>
</tr>
<tr>
<td>5.7</td>
<td>Incorporate gender related action plans</td>
<td>Q1 X</td>
<td>Done</td>
<td></td>
</tr>
<tr>
<td>5.8</td>
<td>Conduct gender analysis of the Market System Analysis</td>
<td>Q1 X</td>
<td>Done</td>
<td></td>
</tr>
<tr>
<td>5.9</td>
<td>Develop gender-responsive market chains</td>
<td>Q1 X</td>
<td>Done</td>
<td></td>
</tr>
<tr>
<td>5.10</td>
<td>Identify the gender responsive livelihood options</td>
<td>Q1 X</td>
<td>Done</td>
<td></td>
</tr>
<tr>
<td>5.11</td>
<td>Revise project plans</td>
<td>Q1 X</td>
<td>Done</td>
<td>Done, included in GAP</td>
</tr>
<tr>
<td>5.12</td>
<td>Develop monitoring plan for supply and demand sides of project</td>
<td>Q1 X</td>
<td>Done</td>
<td></td>
</tr>
<tr>
<td>#</td>
<td>Activity</td>
<td>Period (July 2009 to August 2011)</td>
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<tr>
<td>6.</td>
<td>Implementing the Gender &amp; Marketing Action Plan (gender sensitive technical and social integration approach)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.1</td>
<td>Revised the TOR of the part time consultant according to the plans</td>
<td></td>
<td>It was not necessary to revise TORs</td>
<td></td>
</tr>
<tr>
<td>6.2</td>
<td>Consult men and women on their choices of issues on technology options, facility design etc.</td>
<td>X X X</td>
<td>Based on PH the work completed</td>
<td></td>
</tr>
<tr>
<td>6.3</td>
<td>Design required changes &amp; adaptations on technology options, facility design, etc to ensure that they are in line with the GAP</td>
<td>X X X</td>
<td>PH machine designs were changed considering gender aspects</td>
<td></td>
</tr>
<tr>
<td>6.4</td>
<td>Assess whether any additional activities are required to ensure that gender concerns are adequately addressed</td>
<td>X X X</td>
<td>Needs identified but due to funding constraint, actions not undertaken yet</td>
<td></td>
</tr>
<tr>
<td>6.5</td>
<td>Implement technology options, facility design, location of installations, etc.</td>
<td>X X X</td>
<td>Not done</td>
<td></td>
</tr>
<tr>
<td>6.6</td>
<td>Ensure that women’s specific needs are addressed in project activities.</td>
<td>X X X</td>
<td>Implemented with partners</td>
<td></td>
</tr>
<tr>
<td>6.7</td>
<td>Implement implementation &amp; monitoring plans</td>
<td>X X X</td>
<td>Implementation not take placed</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Knowledge Management (Capture Learning, Documentation &amp; Dissemination)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.1</td>
<td>Conduct regular discussions with project team &amp; Energia</td>
<td>X X X X X X X</td>
<td>Done but there were some gaps</td>
<td></td>
</tr>
<tr>
<td>7.2</td>
<td>E-discussion on experience sharing of gender mainstreaming among practitioners and policy makers in South Asia</td>
<td>X</td>
<td>Done</td>
<td>Report</td>
</tr>
<tr>
<td>7.3</td>
<td>Document 2 case studies illustrating best / worst practices capturing key lessons learnt</td>
<td>X X</td>
<td>Done</td>
<td>2 case studies (one on bio-diesel and one on PH)</td>
</tr>
<tr>
<td>7.4</td>
<td>Influence relevant audiences to make gender sensitive interventions</td>
<td>X X</td>
<td>Done whenever possible</td>
<td></td>
</tr>
<tr>
<td>7.5</td>
<td>Two policy briefs highlighting the overall impacts that can be achieved through incorporating gender into pico hydro projects.</td>
<td>X</td>
<td>Two policy briefs completed</td>
<td>Printed version</td>
</tr>
<tr>
<td>7.6</td>
<td>A simplified training manual to train pico hydro project developers on mainstreaming gender project design</td>
<td>X</td>
<td>Training manual completed and printed</td>
<td>Printed version</td>
</tr>
<tr>
<td>7.7</td>
<td>Exhibition (models, posters with pictures and texts) targeting beneficiary groups on gender mainstreaming.</td>
<td>X</td>
<td>Exhibition held in central province.</td>
<td></td>
</tr>
</tbody>
</table>
Annex 2. List of documents produced

- Mainstreaming Gender in Renewable Energy Projects, Gender in existing documents of organisation & project and practice, July 2010
- Mainstreaming gender in pico hydro and biofuels projects, Gender and Energy in Sri Lanka: A Brief Analysis of the Situation
- Gender mainstreaming baseline survey report
- Report on Participatory Market Systems Development (PMSD) workshops held in Kalawana and Nikaweratiya, Sri Lanka (December 2009)
- ENERGIA Gender mainstreaming in Energy Projects (Liquid Biofuels and Pico Hydro), Gender Action Plan
- Case study on gender and biofuel intervention in Gurugoda village, Nikaweratiya, Kurunegala
- Case study on gender and pico hydro intervention in Kudumeeriya, Kalawana
- Gender mainstreaming in energy: Technical manual for pico hydro installations
- Gender and domestic energy needs in Sri Lanka: A policy brief
- Gender mainstreaming in pico hydro Technology: A policy brief
ENERGIA International Network on Gender & Sustainable Energy

Practical Action (Sri Lanka, India, Pakistan Programme)