The Gender Face of Energy

A Training Manual Adapted to the Pacific Context from the ENERGIA Commissioned Training Manual

October 2006

This training manual “The Gender Face of Energy” has been adopted from the ENERGIA commissioned manual “Concepts in Gender and Energy – Module 1” by Margaret Skutsch, Joy Clancy & Hanke Leeuw; Department of Technology and Sustainable Development, Centre for Clean Technology and Environmental Policy, University of Twente.

With the permission of the Author(s) and ENERGIA the Manual has been tailored for applicability to the Pacific region by including relevant and appropriate case studies. A few original case studies have been retained pending similar ones to be identified in the Pacific.

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Preface

Energy is a basic need and a component of all productive processes. It is essential for development. Improved energy sources can improve levels of welfare, increase standards of living, and liberate people from darkness and isolation. Billions of people in developing countries have no access to modern forms of energy such as electricity and gas, and often hardly use even kerosene, but depend on traditional biomass fuels for heat, light and their own metabolic energy for mechanical tasks. In many places, woody biomass is hard to find and people switch to using poor quality biomass.

There have been many programmes and projects set up to try to change this situation and to introduce improved energy technology – in particular, to introduce renewable energy technologies, such as photovoltaic systems, and technologies which conserve fuel, such as efficient woodstoves. Other approaches have tried to increase biomass supplies, such as fuelwood lots. By no means all of these programmes and projects were successful, and one of the contributing reasons is that they have mostly been planned with scant regard for gender aspects of the energy problem.

This manual is designed to support training of development planners and project managers to increase their capacity to bring the gender aspects of energy into the planning cycle.

Two major target groups are envisaged: energy planners and project managers whose background is in technology but who recognize the need to address gender issues in their work and want to know how to do this; and general development planners, and particularly gender specialists, who recognize that energy may be a basic component of development, but who are not sure how to integrate this with other aspects of their work.

The level of training assumes that trainees already have a professional education and some experience in the field of development work and development projects. Ideally training should be carried out by two trainers, one with a strong background in gender and the other with a good knowledge of energy technology for development.

The manual is intended to provide materials for a course, but the length of this will depend on how it is arranged. It is suggested that different modules be given at different times, or in different combinations. Experience shows that the first two modules¹ can be given together in one course, which will take about 8 working days, including one for fieldwork and a half day “free”. In a short course participants need to have a break from absorbing large amounts of new ideas and concepts. Such a break ensures that concentration in the second half of the course remains high.

Modules 1 & 2 focus on project planning and use a participatory approach, including many well known PRA methods of data gathering.

The manual does not use standard gender analysis tools, such as the Harvard Matrix, because these, in our experience, have not been very useful in the context of energy. Instead, a set of tools has been specially developed to help the planner work through gender aspects of energy problems in a systematic manner.

Future versions of the manual are planned, in which other topics will be addressed, including how to write project proposals which reflect gender issues in energy, and how to influence energy policy so that it becomes more gender sensitive.

¹ Module 2 is known as “Gender Tools for Energy Projects” – and is available separately.
Acknowledgements

The original manual [Concepts in Gender and Energy – Module 1] was commissioned by ENERGIA, the International Network on Gender and Sustainable Energy, and written by Margaret Skutsch, Joy Clancy and Hanke Leeuw of the Technology and Development Group (TDG), University of Twente, in the Netherlands. It replaces and completely revises an earlier training manual developed by the TDG called Gender and Energy: Training Pack.

Major contributions were made by a number of individuals:

Otto Wormgoor tested some of the tools and suggested others during fieldwork carried out together with ITDG Kenya. He also developed the prototype for the framework that is presented in Module 2. While in Kenya, he was ably supported by Lydia Muchiri, Justin Nyaga and Martha Mathenge.

Beatrice Khamati wrote an introductory paper together with Joy Clancy, much of which has been integrated in Module 1. The paper is available in its entirety on the ENERGIA website at www.energia.org (under ‘resources’)

Nourallah Ahmed provided the data from Sudan which has been used for the major case study in Module 2, which demonstrates how the method can be applied.

Chesha Wettasinha provided many of the case studies used in the manual, by searching through the ENERGIA database and library.

Margaret Skutsch wrote a critique of the suitability of standard gender tools in energy planning, which formed the skeleton of the approach presented here. This paper benefited from comments from a large number of gender and energy experts and can be downloaded from the ENERGIA website.

Marielle Feenstra wrote, together with Joy Clancy and Margaret Skutsch, an annotated bibliography which was used among other things to draw case study material from. Her bibliography is also available on the ENERGIA website.

Annette Geelink was involved in reviewing an earlier version of the manual and her suggestions have been incorporated in this new version.

Erik Kamphuis reviewed a draft and made some helpful suggestions, particularly as regards the practicability of the manual in training and the usefulness of some of the exercises.

Elizabeth Cecelski reminded us from time to time of the need for such a manual and encouraged us to revise the original version.

Sheila Oparaocha, from the ENERGIA Secretariat, kept the pressure on for us to complete the revision of the manual.

With the permission of the Author(s) and ENERGIA, the original Manual has been tailored for applicability to the Pacific region by including relevant and appropriate case studies where available.

The contributions made by Yogita Bhikabhai, Lala Bukarau, Denise Chand & Rupeni Mario in finalising the adopted version is also acknowledged.
A Note for the Trainers

The manual is divided into a number of Modules. The first deals with gender concepts and how these can be applied in the context of energy. The second presents a procedure and set of tools for examining the gender issues for a given project situation.

Each module is made up of a number of units, dealing with different topics. The time needed for each unit is indicated: it varies between two hours and one whole day. The first two modules, if done one after the other, will take about 8 days, on the basis of 7 to 8 hours per day. Depending on time available and the basic knowledge of the trainees, the trainer should select those units which are most appropriate.

In the first Module, each unit consists first of a section of text, which includes some short case studies and some discussion points. Ideally this text should be copied for each of the trainees. The idea is that the trainer will also present the material orally in classroom sessions, encouraging trainees to engage in discussion about the concepts given, and the case studies, both in a spontaneous manner as well as on the discussion points that are provided. There are also exercises which may help to deepen the trainees understanding of the issues at hand.

For each unit there is a short trainer’s guide which gives some suggestions about how to treat the material for that unit and a set of exercises, each on a separate page. The trainer should choose which exercises she/he wants to use (depending partly on the time available) and copy the instructions for these exercises for the trainees. Each unit is also provided with a set of sheets for making overheads and as a PowerPoint Presentation, which may be of use to the trainer in making the presentations to the class. The discussion points in the text are also provided in large format, and may be used as overheads/PowerPoint Presentation. The trainer is of course free to prepare their own presentation. There are also some suggestions for follow up activities.

Module 2 (available separately) consists of five units, of which the first two follow the same patterns as those in module 1. Units 2.3, 2.4 and 2.5 however are a little different. Unit 2.3 is a complete case study, or worked example, showing the methodology and how to use the gender tools in a real energy project plan (the case study is for a village in Sudan). Unit 2.4 presents all the tools one by one. Unit 2.5 describes some data gathering methods. These units are not provided with exercises and discussion points, and need to be tackled in small group discussions rather than in plenary. These three modules may best be presented in parallel rather than in sequence. Trainers’ notes explain how to do this.

At the end of each Module there is a reference list which gives the full bibliographic details of sources that have been used in the preparation of the manual, and also suggestions concerning how to get hold of useful materials such as audiovisual aids which could be ordered and used in the course.

Training Methods
Our experience is that in ‘gender and energy’ training courses, the participants come from both sides: there will be some who know a lot about gender but very little about energy, and others who are energy experts but who do not understand the gender issues. In our experience, mixed groups can be very stimulating and provide perhaps the best means of mutual learning. In particular when dividing the class into small discussion groups, be sure that they are as heterogeneous as possible.

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2 Module 2 – Gender Tools for Energy Projects; and is available separately.
3 It is with the hope that this case study will be replace by a similar one for the Pacific once identified and available.
Indeed, the very best training strategy may be to have two types of trainers – gender trainers, and energy trainers (although both will need to have studied the training manual in detail before carrying out the course). Our experience is also that the beset results are obtained when both male and female trainers are present. Although most gender trainers are women, there are also male gender trainers, and this in itself can be an object lesson for many participants!

Discussion groups are very useful when the exercises require reading and reflection, or discussion around a topic. But this is not the only means that can be used. A useful method can be ‘meta-planning’ – getting participants to brainstorm ideas on a particular topic, and write each one down on a card, which can then be stuck on the wall with tape. Choose two participants to help to sort and organize these cards into groups.

A number of films are recommended (make sure they are ordered well before the start of the course!). It is best if the trainer watches the film in advance, and decides on some topics or questions that the film raises. Before showing the film to the participants, list these topics or questions on the board, and say that you are going to discuss them after the film. This helps the participants to focus on these items and makes the learning value of the film much higher. It has been found that the three films recommended, are all very useful in this course.

A large number of exercises have been provided, but it is not the intention that every one of these has to be used. It is entirely up to the trainers, exactly which ones will be used, and how. The material provided is only a resource to be used as circumstances dictate.

Field Work
In order to test out and practice the gender tools, it is essential that at least one day is scheduled for fieldwork. This should be done in a village or community area where the trainees are able to meet with groups of local people and interview individuals. Arrangements for this should of course be made well before the course itself takes place (transport etc must be arranged, and the village needs to be alerted to the arrival of the training group – permission from the headman or chairman may be required).

The tools to be used during the field work should be decided in advance and the trainees should work in groups of 4 or 5 in the field.

Additional Resources for Trainers
Since gender analysis is new in the field of energy, we have included some useful reading materials in Appendix 1, of Module 1. These are intended for the trainers to familiarise themselves with the field of gender and energy before starting. We have also included one good article on how the field of gender has itself developed over the last decade or so, for the benefit of trainers who may have had less experience in this field. The material is supplied on a CD prepared by ENERGIA – not only is this good for the environment but it also makes the suitcases of participants less heavy to carry home! The trainer may decide to print some of the material for use in class or for the participants to read in the evening as a supplement to aid discussion.

Feedback
This manual is new and we regard it as still being tested; this can only be done by the trainers themselves. Therefore we welcome comments of all kinds which will help us improve it and make it easier to use, more relevant, and more useful. Please do not hesitate to make your opinions known.
Please send any feedback to:

Director
Secretariat of the Pacific Applied Geoscience Commission – SOPAC
Private Mail Bag
Suva
Fiji Islands
Email: director@sopac.org
Fax: +679 3370040

OR

Margaret Skutsch  m.m.skutsch@utwente.nl
Joy Clancy  j.s.clancy@utwente.nl
TSD/University of Twente
PO Box 217
7500AE Enschede
Netherlands

Thank you very much.
## Suggested Schedule

The following schedule is only indicative and Trainers can vary the schedule as required.

<table>
<thead>
<tr>
<th>Day 1</th>
<th>Topic</th>
<th>Time needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction and getting to know the participants</td>
<td>1-1.5 hours</td>
<td></td>
</tr>
<tr>
<td>Unit 1.1: What is gender and what are gender roles?</td>
<td>2 hours</td>
<td></td>
</tr>
<tr>
<td>Unit 1.2 Why is gender important in energy planning and how can energy help women?</td>
<td>4 hours</td>
<td></td>
</tr>
<tr>
<td>Day 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unit 1.3 How to address men's and women's needs in energy projects</td>
<td>2 hours</td>
<td></td>
</tr>
<tr>
<td>Unit 1.4 Identifying gender needs and goals</td>
<td>6 hours</td>
<td></td>
</tr>
</tbody>
</table>
Module 1 sets out some key ideas and concepts about gender, and argues that a clear understanding of gender and the way it is reflected in social and economic roles is essential for effective rural energy planning. This module argues that gender sensitive energy planning is required to realise the project goals set and to meet the needs of the people identified as the intended beneficiaries of an intervention.

aim of the module To introduce participants to key ideas relating to gender and gender in energy. The module aims to familiarise the participants with the gender terminology related to energy projects.

key concepts and ideas introduced in this module:  
- gender, gender roles, gender contracts  
- gender relations  
- triple roles in energy projects  
- what gender and energy is about  
- gender mainstreaming and ‘women only’ energy projects  
- practical and productive gender needs and strategic interests in energy projects  
- gender and energy for different gender goals: improving welfare, increasing, productivity, assisting in empowerment, and project efficiency

topics in this module:  
Unit 1.1. What is gender and what are gender roles? .........................11
Unit 1.2. Why is gender important in energy planning and how can energy help women?.........................................................28
Unit 1.3. Mainstreaming versus the ‘women-only’ approach............45
Unit 1.4. Relating energy to gender goals .......................................57
References and supporting materials for Module 1 ............86

Sources: Much of the material in this module has been derived from a training module prepared by TDG for SADC (TAU) in 1999, and from a paper by Khatami-Njenga and Clancy (2005), which was commissioned by ENERGIA in support of the current manual.
UNIT 1.1 WHAT IS GENDER AND WHAT ARE GENDER ROLES?

Learning objectives: After completing the topic the participant should be able:
- to define the difference between gender and sex;
- to recognise gender differences in his/her own society;
- to debate with others the nature and origin of gender differences;
- to classify tasks of men and women according to whether they are reproductive, productive, or community tasks.
- to identify which factors might influence gender roles and contracts.

Time schedule: 2 hours

What is gender?

Men and women are different in some ways, and alike in others.

Biologically, we all need to eat and to sleep and to breathe, we are all subject to malaria and flu and we all need exercise to keep healthy. But there are differences in body forms; and women bear children while men cannot.

In some ways men and women are similar in social terms. Both are sociable - they both like celebratory gatherings and festivities! - and both want to be valued as individuals, for example. There are however a lot of social differences between men and women in most societies. Girls are usually expected to grow up to be good wives and mothers; this sometimes implies that they are expected to be modest, and to be obedient, to be quiet when men are around. Boys in most societies are supposed to grow up to be the chief breadwinners, and the 'head of the family', and this may imply that they are expected to be brave, to take the lead, to speak up. Most of these behavioural differences are not innate (that is biological), but are learnt by a child at an early age, both directly by being taught by parents and by society in general, and through observation of the behaviour of adults in the world around the child.
**Discussion Point 1.1.1**

It is not always easy to say what differences are really biological and what are socially learned ones.

Is it a biological difference or a social one?
- Men are usually heavier than women
- Women are better at looking after children
- Girls are shyer
- Boys can run faster

All cultures have views on what men and women can and should do and what they are 'naturally' good at and what they are 'intrinsically' bad at. Some things, such as tasks around the household or types of employment, are just considered 'right' for women and 'wrong' for men, and vice versa. "Things" have always been done like this and mostly people accept these ideas without question.

**Discussion Point 1.1.2**

*Do you agree or disagree with the following statements:*
- "Men are more logical and rational, women are more emotional"
- "Women are unstable at certain times, for example during menstruation"
- "Women have more difficulty in working with numbers than men"
- "Women are quarrelsome among themselves and don't work well in a group, men get on with each other better"
- "Although it is true that women do some work on the farm, the farmer is really a man"
- "A family really consists of a man who is head of the household, a woman, and their children"
- "Women prefer to have a man to make the decisions for them"
- "Children suffer if their mother goes to work outside the home"
- "Men are much less sensitive than women: they don't notice how people are feeling"

There are different ways to describe what it means to be a woman or a man. Biologists use physical characteristics which they call sexual differences. While social scientists use social characteristics which they call gender. These characteristics include the tasks, roles, obligations and privileges in public and private life of women and men as well as the relationships between them. “Gender” is not the same as “sex” since the former is not determined by biology, but by society based on social, cultural, political and economic expectations. Since “gender” is shaped by society, it will have different forms from society to society.

**Gender roles** are roles assigned to men and women by society. Gender roles shape our identity, determining how we are perceived, how we are expected to think and act as women and men.
The manner in which women and men behave within their gender roles are shaped by *gender norms*, the accepted standards of behaviour shared by a particular society.

Linked to gender roles are certain rights and obligations based on cooperation and support. Within a household for example, men and women are able to negotiate to some extent what their rights, benefits and obligations are as regards carrying out certain duties or tasks that ensure the survival of the household. These negotiations are also about the use of household/family resources, such as land, labour and cash. This means that these negotiations are not always harmonious since there can be disagreements and competition for the resources. It is important to remember that these negotiations are not usually taking place between equals. In most societies, men have more power than women to make decisions about and exercise control over their own lives and resources, as well as other family members. This balance of power between men and women defines the relationship between the genders. The effects of differences in power operate at all levels in society: household, community, organisational, national and international.

*Gender relations*, like gender roles, are socially determined and are influenced by the same social, cultural, political and economic expectations. Gender relations are shaped by a range of institutions, such as the family and legal systems. Gender relations exist both within households (private sphere) as well as within the community and workplace (public sphere). An analysis of a given situation based on gender relations differs from one based on gender roles because it gives more focus to power relations and the connections between men and women’s lives.

Gender roles and relations are made on the basis of an informal arrangement, but if this were a legal matter, it might be called a ‘contract’. Therefore the term *gender contracts* is used to describe how the relationship in households between men and women is shaped and enforced, and the term can also be applied in a wider context of the society in which they live. This ‘contract’ is an invisible agreement which determines how men and women should behave and the sort of sanctions society “imposes” on those who break the gender contract. As was pointed out above, a gender contract is not a negotiated settlement between equals but one in which one of the partners (usually the man) holds and can exercise more power than the other (usually the woman). In other words, gender contracts tend to favour men. The modern legal system usually gives men and women equal rights of ownership and inheritance. However, traditional systems often grant other types of rights, for example, women might not be able to inherit property. These two systems are often found operating in parallel in a community and this can lead to tensions and conflict, as women try to assert their right under the “modern” system.
**Gender in societies**

In the previous section we were introduced to concepts related to gender. In this section we will look at some of these concepts in practice. Case 1.1.1 describes gender roles in a rural area of Fiji.

**Case 1.1.1: Gender roles in Fiji**

In a Fijian community in Sabeto (Nadi), an NGO started to work on getting women collective control over common lands. The Forest Department consulted the village council about the type of trees to be planted on common land. The council was solidly male and commercial timber species were always planted. Various women's groups began to oppose this strategy; one group passed a resolution that unless the Forest Department planted at least 50% fodder species, they would uproot all the trees and replace them with fodder crops. They also demanded that in future the Forest Department should consult with the women's organizations as well as the village council; later this was taken further, to demand that the government should give the women's organizations the power and responsibility for deciding how the common lands should be developed.

A group of men was invited to a village meeting to jointly plan a community forestry project. The men told the foresters that they wanted to plant hardwood tree species to make furniture and woodcarvings to sell. Three thousand hardwood seedlings were provided. They all died. This was because in the village it was the task of women to care for seedlings; no one had told them that the seedlings were coming. Another meeting was held. This time the women were included. Foresters reamed that the women preferred soft wood fast-growing species for fuel wood and fodder. When the project provided seedlings of both types, satisfying the needs of both women and men, the women planted and watered all of them.

(Nair, 1999)

The case from Fiji demonstrates that it is difficult both for men and for women to go against the gender roles in their community.

In each country and in different regions of a country, ideas about gender roles differ. This observation supports the view that gender is not determined by biology but by society. It is not only different communities that define gender roles differently but also different people in the same community can see gender roles in different ways. Case 1.1.2 illustrates this point from Solomon Islands.
Case 1.1.2: Men’s and women’s views on gender roles in Solomon Islands

Traditionally, women in the Solomon Islands have been involved in subsistence farming by doing shifting cultivation. They tilled traditional gardens, which were planted with traditional food-crops such as taro, bananas and yams. Women and their families usually worked together in the gardens. The Solomon Islands have matrilineal and patrilineal societies, where women’s and men’s rights to land ownership were recognized. Even though men were in charge of the land, women could exercise the right to cultivate their own garden.

However with the arrival of Europeans, introduction of cash cropping took place e.g. coconut, cocoa and chilli. In 1960s, when cash cropping was intensively promoted, most of the extension officers were men and at that point in time the needs and concerns of women were neglected. The men shifted to cash cropping whilst the women became the main producers of food crops. Despite the extension workers’ neglect of women, they nevertheless performed a lot of work in cash crop plantations. They were involved in the maintenance of the plantations as well as harvesting of coconuts, cocoa and chilli.

However, later the male extension officers realised by emphasising on cash cropping they had overlooked, where women were mostly found. They later suggested to the Ministry that there was a need for greater efforts in the food production. This led to the creation of the Women’s Agricultural Extension programme. It was designed to increase the Women’s ability to produce food crops, both for subsistence and cash generation. It encouraged women to go into crop diversification by cultivating new crops like Chinese cabbage. The programme was also concerned with nutrition and food security. Furthermore, women farmers were trained in methods of improving soil fertility, like mulching and planting leguminous trees and creepers.

Women in food production faced numerous constraints. These included the availability and cost of transportation, the need for training, marketing outlets, and credit facilities. Another constraint was time. Women had many tasks, both in the house and in the community. Programmes aimed at self-reliance and income-generation has to consider carefully this aspect of time constraint posed by women’s various tasks and responsibilities (Ului, 1998).

Discussion Point 1.1.3

Is there a term for ‘gender’ in your own language? Write it down and explain how it is used.

How you explain gender, depends partly on who you are trying to explain it to. Can you formulate an explanation of what gender is, for policy makers,

How would you explain it in a village meeting? Try to do this in a small group: one of you can play the gender planner, the rest can play ‘typical villagers’. Try to explain in ways that the ‘typical villagers’ will understand.
Changing gender roles, contracts and relations

Gender roles, contracts and relations are not static but change over time; do you remember your grandmother saying young men and women don’t behave today like they did when she was young? Gender roles and relations change in response to changes in social-economic circumstances, natural and man made disasters such as droughts and war, technological development, education and so on. In other words, gender roles and relations are generally dynamic and gender contracts can be renegotiated in response to changed circumstances. Moreover they can actively be encouraged to change, and many groups are working to change them at local, national and international levels. Others do not wish these things to change, because they see them as part of the culture and tradition of the society in which they live. Societies which feel threatened by external forces or ideas can react by calling for a return to “traditional values”, which can include the subordination of women, in other words gender contracts remain constructed to favour men.

Discussion Point 1.1.4

- Do you think that gender roles in traditional communities in your country should be changed?
- Do you think it is possible to change these roles? How?
- What influence does gender have on the ability of women to take part in planning and implementing energy projects?

It is sometimes thought that modern, urban society is more open to changes in gender roles and relations than traditional, rural societies. However, education and contact with foreign cultures does not naturally imply more openness and tolerance to changing gender roles, as is illustrated by Case 1.1.3 from Papua New Guinea. In the case study acceptance or rejection of non-traditional gender roles clearly has less to do with education and exposure (government officials are educated and relatively exposed to external cultures), but more to do with intrinsic dynamics within the local community. The second case from Fiji (1.1.4) describes a successful change of gender roles.

Case 1.1.3: Different views on changing gender roles in Papua New Guinea

Subsistence agriculture remains a vital part of life in Papua New Guinea (PNG). It provides food for human consumption, materials for housing, ceremonial goods, fuels, containers, and food for animals, among others. Yet, the importance of agriculture has yet to be fully recognized. The reasons for this are varied. On the one hand, there is the difficulty in understanding agriculture in PNG because of the country’s physical and cultural diversity. On the other hand, the government’s focus on large-scale export ventures (e.g. coffee, mining and forestry) greatly underestimates the critical importance of subsistence agriculture to the people, especially women who are usually far removed from the considerations of the national government.
Wanigela is a patrilineal community with a population of around 1,500 living in the 11 villages. The people are mostly engaged in subsistence agriculture for their livelihoods like gardening, hunting and fishing. For quite some time, a little cash was all the community needed and it was mostly used for school fees and health services. Understanding the livelihood of Wanigela is not easy. Like most rural communities in PNG, livelihoods for the Wanigela community do change and life must be adjusted to adapt to these changes. It is, however, the resilience and flexibility of subsistence agriculture that is its real strength, but the contribution of the women has still to be recognized by the governing bodies. They state that the contribution of women in agriculture is not that important. However, in the context of developing concrete actions to implement strategies for ensuring sustainable livelihoods for women, the government has acknowledged the importance of power relations among the people in the community. These relations of power include relation between men and women and also among women who differ by age, education, parity, and where they live.

In the highlands of PNG, there is an ongoing debate about how much control wives exercise, for example, over how many pigs can be given away, when and to whom. It has been seen that there was interactions within a relationship that did not carry abusive power – both husband and wife exercise power – but they exerted it differently.

Approaching agricultural policy from the gender perspective requires looking at the concept of gender as a set of power relations all aspects of life. This is different from the ‘women only approach’, which looks at women in relation to, for example, women in agriculture or women in forestry. The gender approach takes into account the many relationships a woman has. For example, a woman may sometimes hold the reigns of power over her children but in other instances, she is dominant or has less or no power over decisions. Women fetch water, collect firewood, look after children and invalids and at the same time participate in religious and secular activities. All these have local political implications. When we see clearly the power relations involved in communities, we can then target our interventions with more sensitivity and equitable for women (UNDP, 1998).

**Case 1.1.4: Successful change of gender roles in Fiji**

Many rural communities in Fiji have been involved with the Government’s Rural Electrification Programme (REP) of which a key element is community participation and ownership. The on-going management, repair, and maintenance of the project then became the responsibility of the community.

The Muana microhydro project was constructed and commissioned in 1999 with assistance through the Korean Government. The installed capacity of this system is 30 kW and provides electricity to three neighbouring villages, a primary school, and a medical centre. A monthly fee of F$5 is levied on each household.

Community participation is needed in the planning and implementation of any project hence for the three villages, the community runs the project, and various members of the community are involved in different aspects of the project’s operation. Women collect the monthly fees (i.e. they ensure timely payment of monthly household fees). The collection of monthly fees used to be carried out by men, but because they failed to collect on timely basis it was felt that women would do a better job – and they did. Youths are engaged in planting root crops as a means of compensating the systems operators, and the men and village elders take the leading project roles through the executive committee.
Village women have indeed learnt valuable lessons in their own area. When the project began, there were no special efforts made to involve women in the running of the project because committee members were all men sharing the perception that women should not do men’s work. However women’s involvement in fee collection has changed the perception and has contributed to the smooth running of the project (Sauturaga, M, 2004).

**Discussion Point 1.1.5**

What is the basis for the gender relations that underlie typical gender roles in your society?

What groups are trying to change gender relations?

What are the positive and negative aspects of attempts to change gender relations?

**Analyzing gender roles and relations**

Gender experts use a number of different ways to analyse gender roles. Gender analysis asks questions, in relation to men and women, about who is doing what, who owns what, who makes decisions about what and how, who gains and loses by a planned intervention. Gender analysis examines what is happening within the household and makes linkages with the different levels of the wider society.

Gender analysis is not about looking at women alone, nor is it about complaining that women suffer more than men, but rather gender analysis is about reaching a better understanding of how communities work from the perspective of relationships between men and women. Gender interests are not always obvious, neither are potential impacts of energy interventions. Sometimes inappropriate interventions are made because they are made on the basis of assumptions. For example, the emphasis in energy planning for the benefit of women has long concentrated around cooking, with firewood collection being seen as the central problem to be tackled. However, is this narrow focus justified? Is cooking the only activity women do? Do men get involved in fuelwood collection and make decisions about stove purchases?

Gender analysis is carried out using gender analytic tools. Gender analytic tools are a method of organising information in a systematic way which helps in understanding the existing gender situation in a given community, or for assessing what the impact of an intervention, such as an energy project, is likely to be on men and on women. Gender analytical tools can be used in a number of ways. For example, to draw attention to gender inequalities in a given community, and to be an early warning system identifying gender problems that may arise if an energy initiative is started within the community. (Unit 2.1 in Module 2 introduces some gender analytical tools for use with energy interventions.)
Unfortunately there are no standard ways of analysing gender roles, contracts and relations. However, to fully understand the gender side of energy, it is important to realise that gender contracts do exist, and that the underlying reason for gender differences in regard to energy may be found in the underlying gender relations that characterise the society in question. In this section, two of the most commonly encountered gender analytical frameworks are described: the triple role and practical needs versus strategic needs/interests.

### Triple Role

One of the first attempts at gender analysis was based on the gender division of labour and divides tasks for men and women into three main social-economic areas: reproductive, productive and community. This framework is known as the triple role.

- **Reproductive**
  This refers to all tasks undertaken to reproduce the labour force (bringing up the next generation) and includes child bearing and rearing, feeding the family, caring for the sick, teaching acceptable behaviour and so on.

- **Productive**
  This covers work done for payment in cash or in kind. It includes the production of goods and services for subsistence or market purposes.

- **Community tasks**
  Community tasks are those done not for individual family gain but for the well-being of the community or society: charitable work, self-help communal construction of village facilities, sitting on village committees, involvement in religious activities, visiting friends who need help and so on. For women their community tasks are often seen as an extension of their reproductive roles.

Of course these categories are not entirely water tight: there are fuzzy lines between them. For example, someone who runs in an election for a political position - is that community work or productive?

Because women are involved in tasks in all the three main areas, they are often expected to do a full day's work raising crops or working outside the home, plus housework and child-raising, plus community obligations. Men are mainly involved in productive and community tasks.

---

**The triple role: reproductive, productive and community tasks.**

**The three task categories are not water tight**

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Discussion Point 1.1.6

- In your society, do men or women take the greatest role in:
  - reproductive tasks?
  - productive tasks?
  - community tasks?
- Is it different between social classes?
- Compare with others if it is different for different cultures.
- Which of the three gender roles (reproductive, productive or the community) is most often addressed in the energy projects you know?
- Are men and women's roles, and hence needs, seen differently in this project?
- Do you think that the needs of men and women are equally met in these projects?

Practical, Productive and Strategic Gender Needs/Interests

Another analytical approach considers that gender roles have different assigned tasks which have different needs, including energy, to be met. These needs are usually divided into practical and strategic; they always depend on local circumstances and are influenced also by variables such as a person's age and civil status. In the context of energy however it is more helpful to consider three sets of needs or interests: practical needs, productive needs and strategic interests. These are described below:

Practical needs:
Interventions to meet practical needs aim to make women's and men's lives easier and more pleasant, but which do not challenge the accustomed tasks and roles of women and men in the household or in society, or their gender relations. That is to say, they do not upset the traditional balance of power and authority between men and women. They are mainly needs related to activities that keep the household running and the families daily survival ensured, which can also include improving household income.

Productive needs:
Many women, in addition to their reproductive work, are engaged or would like to be engaged in productive activities that earn income. Many of these may be an extension of household tasks, for example, cooking food for sale, or making clothes at home, for sale to others.

Strategic interests:
Strategic interests are those which relate to women changing their position in society and which help them gain more equality with men, and transform gender relations. Men also have strategic interests, for example, they wish to avoid conscription into a militia or they may resist women's attempts to transform gender relations.

Women's strategic needs are generally to do with addressing issues related to laws and gender contracts which tend to be biased against women. For example, in many societies certain groups of women (widows, divorcees, and abandoned wives) suffer economic deprivation.
as a result of their civil status, based on traditional or modern legal codes: their property can be removed from them by male relatives. In this context, a strategic need is to improve the status of women, for example, through laws which give women and men equal rights, and enforcement of these laws, which establishes their rights to land and other property. Other strategic needs for women may include laws on inheritance so that daughters have equal rights with sons, for example, and prohibiting violence against women. In most countries there are such laws but they are not always enforced. Some see these institutional approaches to addressing women’s strategic needs as too long term and look for other solutions which will bring changes in women’s societal status more quickly. For example, women earning an income through an enterprise have been found to increase their status, accompanied by greater influence in decision making and control over resources, within their family and community.

Discussion Point 1.1.7
Do you think women’s strategic interests can be met through energy projects?

Complexity of Gender

Gender is not just a binary condition, but is graduated by affluence and poverty; age; marital status; caste systems and other cultures and traditions, as well as physical and mental health. In other words, gender issues cannot be addressed without reference to the other inequalities.

It is important to recognise that different groups of women may have very different needs in a given society. Not all women are poor, and not all poor are women. In communities where there is a strong division (for example based on class, caste or ethnicity), the needs and capacity of poor women to meet them will be different from those of rich women. Not all women are disadvantaged (although they are generally subordinate to men of the same social group). One cannot assume that all women have the same problems. The needs and the capacity to meet those needs of poor women will be quite different from those of the rich. Nor should one assume that gender is the only basis for disadvantage. However, by taking gender into account, unexpected insights and solutions can emerge that would be missed by using standard planning approaches.

Discussion Point 1.1.8
Look at the material presented in Appendix 2 of this module. It consists of a set of drawings of hands; each pair of hands is doing a different task. The purpose of the drawings is to raise a discussion about gender roles, at village level, and to make people more aware of it. What other methods could you use to raise discussion and awareness of gender roles at village level?
EXERCISES FOR UNIT 1.1

Exercise 1.1.1  Gender Roles

List two things you like to do, which are considered typical for your gender in your culture:
_____________________________________________________________________
_____________________________________________________________________

List two things you hate to do, but which are considered normal for your gender in your culture:
_____________________________________________________________________
_____________________________________________________________________

List two things you like to do, which are considered non-traditional or even unsuitable for your gender:
_____________________________________________________________________
_____________________________________________________________________

List two things you really wish you could do but which would be frowned upon by society if you did them, because they are ‘of the other gender’.
_____________________________________________________________________
_____________________________________________________________________

List one thing, concerning energy, you like to do and which is considered typical for your gender in your culture.
_____________________________________________________________________

List one thing, concerning energy, you don’t like to do but which is considered typical for your gender in your culture.
_____________________________________________________________________

This exercise is suggested in the CICC handbook (see references)
Exercise 1.1.2  Gender Roles

Every culture has gender based norms about what is suitable behaviour and what are suitable activities. In some cultures, divergence from these norms is strongly disapproved of; in others it is tolerated but still considered 'odd'.

1. What are five unwritten ‘gender-rules’ that you consider determined in your culture? Where do they come from?

2. What are the ‘gender-rules’ and ‘gender-roles’ concerning energy in your culture? Where do they come from?

3. Who or what perpetuates these gender rules and gender roles?

4. How strongly is adherence to them valued?

5. How is an ‘eccentric’ (i.e. someone who goes against the norms) ‘punished’?

6. In your opinion, should these norms be changed, and why (or why not)? How can they be changed?

7. In your opinion, should these norms concerning the energy roles and rules be changed, and why (or why not)?

8. Would you say that most people agree with you on this? Who agrees, who disagrees?
### Exercise 1.1.3 Changing Gender Roles

Having considered or discussed all these points, make a judgement on a ten point scale on the following issues:

#### How important are gender norms in determining the behaviour of an individual in your culture?

<table>
<thead>
<tr>
<th>Extremely important</th>
<th>Not at all important</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
</tbody>
</table>

#### How important are gender norms in determining the behaviour of an individual in energy in your culture?

<table>
<thead>
<tr>
<th>Extremely important</th>
<th>Not at all important</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
</tbody>
</table>

#### To what extent do you think it is desirable to change these norms concerning energy roles and rules?

<table>
<thead>
<tr>
<th>Extremely important</th>
<th>Not at all important</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
</tbody>
</table>

#### To what extent do you think it possible to change these norms?

<table>
<thead>
<tr>
<th>Very easy</th>
<th>Impossible</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
</tbody>
</table>

#### To what extent do the norms affect the kind of energy work you do and the way you do it?

<table>
<thead>
<tr>
<th>Completely</th>
<th>Not at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
</tbody>
</table>
Exercise 1.1.4  Gender Roles in Different Societies

Describe in your own community the gender roles and responsibilities for men and women, concerning the following five issues:

- raising children
- cooking and household work
- work
- leisure time
- education

Now repeat the assignment for what you know about a Northern /Western culture such as the United States or a Western-European country. Compare the differences. In which society are the gender roles distributed more equal between men and women?
Exercise 1.1.5 Gender Roles

Choose a society with which you are familiar. Say what proportion of the tasks is carried out by men and women:

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reproductive</td>
<td></td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td>Productive</td>
<td></td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td>Community</td>
<td></td>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>
FOLLOW UP FOR UNIT 1.1

- How do the gender roles of men affect their attitude to energy?

- How does the triple role of women affect your daily energy practice? Do you deal with some, or all of these roles?

- Are you able to change (some) of the gender roles and contracts? How?
UNIT 1.2 WHY IS GENDER IMPORTANT IN ENERGY PLANNING AND HOW CAN ENERGY HELP WOMEN?

Learning objectives: After completing the topic the participant should be able:

- to explain the importance of different types of energy in women’s lives (including metabolic energy);
- to account for the lack of attention to women's need in energy planning generally;
- to identify weaknesses in actual project plans as regards lack of gender content.

Time schedule: 4 hours or half a day

Energy

Everything we do involves energy. Some forms of energy make life easier and more efficient. For example, a flour mill may be run on electricity, which may be derived from fossil fuels. It saves the tedious and tiring work of pounding maize or hulling rice by hand. Kerosene (paraffin) lights are brighter than candles; electric light is even better for seeing at night. Cooking on wood usually means collecting wood from long distances, and it produces a lot of smoke and soot which is not only bad for your health but also hard work cleaning dirty pans. LPG gas, which is a fossil fuel, is faster, the flame is easier to adjust and cleaner and healthier than wood. Walking, especially when you have to carry a heavy load, uses metabolic energy (human energy, derived from the food we eat). We would often prefer to take a bus (which uses diesel, a fossil fuel), or perhaps a bicycle, which uses our metabolic energy more efficiently.

We often speak of an ‘energy ladder’ by which some forms of energy or fuels are less attractive and other much more attractive for doing particular tasks. The least attractive fuels are at the bottom of the ladder, and the most attractive fuels are at the top. The rungs of the ladder represent other, intermediate, fuels. Energy interventions can be targeted at trying to help users move up the energy ladder. The problem with the transition up the ladder is, of course, that the more attractive energy forms tend to be more expensive as well as the equipment required to use the energy. Cost influences the type of energy people use. As a consequence, poor people are at the bottom of the ladder using wood for cooking and even for lighting at night. But it is also true further up the ladder. For example, even rich people rarely cook using electricity, as gas is generally cheaper and more flexible.

Discussion Point 1.2.1

Why are women not making the transition up the energy ladder for cooking fuels?
Do you know of examples where women have gone down the energy ladder? What caused this to happen?
What is clear is that most of the fuel used in developing countries is derived from the traditional forms of biomass, that is to say from trees, agricultural wastes and dung, and a large part of this is used in its original form, which is generally inconvenient and not attractive to use. However, for most rural people it is “free” in the sense that they do not pay cash for it. Indeed, 2 billion people in the world do not have access to ‘modern’ energy types (electricity or gas) at all. One reason is that these are commercial fuels. Biomass is used not only in the rural areas, but poor people in the cities often also depend on wood or charcoal for their cooking. Traditional biomass and metabolic energy are the main energy sources in the lives of poor people. Many energy projects in developing countries are concerned with improving the efficiency with which biomass energy is used or transformed, for example, improved stoves or charcoal kilns. Other energy projects aim to introduce new and renewable small-scale (or decentralised) sources of energy which are considered more environmentally friendly than fossil fuels. These renewable sources include new forms of biomass fuels, such as biogas from cow dung. Others projects are concerned with bringing conventional energy, such as grid-based electricity or LPG, to areas which have previously been without since they are proven commercial fuels. The technologies to produce these forms of energy are considered more reliable than those associated with the renewable energies since the former have been commercially available for many years whereas the latter are not widely commercially available.

Metabolic energy is rarely measured, and is not in itself a fuel (food is the fuel that produces metabolic energy) but is nevertheless a very important part of the energy balance in people’s lives. Many of the tasks using metabolic energy are physically demanding and can be repetitive, boring and time consuming (drudgery). One of the aims of energy interventions can be to relieve drudgery and bring improvements to people’s lives, for example, men’s tasks (such as ploughing) and women’s tasks (such as pounding grain). For a full picture of energy needs, it is important to include tasks which today use metabolic energy. However few energy departments concern themselves with trying to include metabolic energy into official statistics.

**Discussion Point 1.2.2**

Why do you think metabolic energy is not included in official energy statistics?

What would be the consequences of including such data?

Despite the importance of biomass and metabolic energy for most people, and particularly for poor women, a typical report on a national energy situation in most developing countries will devote most of its attention to commercial energy use and supply, only a few pages to biomass, and nothing at all to metabolic energy. It is usually recognised however that much of the biomass energy is gathered by women and both the drudgery of this task and the presumed environmental consequences are often referred to. Where solutions are sought, this is as noted above normally in projects for tree planting or for energy saving stoves. However, national
energy policies only usually devote a small percentage of their budgets to biomass related projects.

<table>
<thead>
<tr>
<th>Discussion Point 1.2.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you think that one of the reasons biomass energy has received so little attention in national energy planning is that it is ‘women’s fuel’? In other words, if men were the prime collectors of firewood, would something have been done about it long ago?</td>
</tr>
</tbody>
</table>

In table 1.2.1, the main energy sources are listed, with their direct and indirect uses, the technologies that may be associated with them, and their end use.
Table 1.2.1: Main fuel sources and their end uses

<table>
<thead>
<tr>
<th>Energy source</th>
<th>Direct use</th>
<th>Can be transformed into</th>
<th>Conversion Technology</th>
<th>End use Energy service</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Traditional renewable energy sources</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wood</td>
<td>Heat</td>
<td>Charcoal, Liquid fuel</td>
<td>Cook stoves, Furnace</td>
<td>Household cooking and heating, Small industries needing heat process</td>
</tr>
<tr>
<td>Agro-wastes</td>
<td>Heat</td>
<td>Briquettes, Biogas</td>
<td>Cook stoves, Furnace</td>
<td>Household cooking and heating</td>
</tr>
<tr>
<td>Crop residues</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dung</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fossil fuels</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil</td>
<td>Motive Power, Transport</td>
<td>Electricity</td>
<td>Generators, Engines</td>
<td>Grain milling, water pumping</td>
</tr>
<tr>
<td>Diesel Petrol</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kerosene (paraffin)</td>
<td>Light and heat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gas</td>
<td>Heat</td>
<td>Electricity</td>
<td>Stove, Turbine/generator</td>
<td>Cooking, Baking, brick making</td>
</tr>
<tr>
<td>......LPG</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>......Natural Gas</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metabolic fuels</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food</td>
<td>Metabolic energy</td>
<td></td>
<td>Human and animal bodies</td>
<td>Work</td>
</tr>
<tr>
<td><strong>New, renewable energy sources</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sunlight</td>
<td>Heat</td>
<td>Electricity, Hot water</td>
<td>Solar dryer, Solar cooker, PV panel and battery</td>
<td>Drying crops, fish, Cooking, Light, communication s, TV, radio, computer</td>
</tr>
<tr>
<td>Flowing water (Hydro)</td>
<td>Mechanical energy</td>
<td>Electricity</td>
<td>Water Electric cooker</td>
<td>Grain milling, Cooking</td>
</tr>
<tr>
<td>Wind</td>
<td>Mechanical power</td>
<td>Electricity</td>
<td>Wind turbines</td>
<td>Light, communication s, TV, radio, computer</td>
</tr>
<tr>
<td>Modern biomass fuels</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vegetable oils</td>
<td>Mechanical energy</td>
<td>Electricity</td>
<td>Diesel engine</td>
<td>Transport</td>
</tr>
<tr>
<td>Ethanol</td>
<td>Mechanical energy</td>
<td>Electricity</td>
<td>Petrol engine</td>
<td>Transport</td>
</tr>
<tr>
<td>Producer gas</td>
<td>Heat, Mechanical Energy</td>
<td>Electricity</td>
<td>Burner, Generator</td>
<td>Bakery, Brick making, Water pumping</td>
</tr>
</tbody>
</table>
Energy projects are generally aimed at increasing the availability and reducing the cost of the more convenient types of energy. They may aim at increasing the supply of the original fuel – as in the case of woodfuel plantations, and in improved charcoal production. They may aim at utilizing a source that has up to now not been tapped – for example, sunlight, or wind, or flowing water. They may make a source available – for example, by introducing diesel-based electricity generators to a rural area far from the grid, or extending the grid to those areas. They may aim at transforming the energy into a more convenient form, for example, making briquettes out of agricultural wastes, or turning sunlight or wind into electricity, or turning dung into biogas. They may aim at increasing the efficiency with which a certain type of fuel is used, for example in improved woodstoves, and in better charcoal kilns. They may introduce new types of technology, which replace existing ones that use less attractive forms of energy: flour mills to replace hand pounding, electric pumps for raising water from the well, tractors to replace hand ploughing or oxen, lorries to carry the crops to market to save people carrying the sack on their heads. All these are examples of energy projects or interventions. In this training course we consider all these kinds of interventions.

Energy planning and the energy services approach

Energy planning is often viewed as simply the provision of an energy source and the appropriate conversion technologies. However, people do not express their needs in terms of a solar home system, rather that they need lights. They do not need a micro-hydro plant, rather they need to grind grain. They do not need a biogas digester, they need to cook. People want services which energy provides such as lighting, cooking, space heating, a mill, TV or radio, drinking water, or a telephone. Increasingly energy planning is coming to realise that by identifying what energy services people require and matching those needs with an appropriate energy technology then there is a much greater chance that there will be a sustainable use of the technology. Also the intended beneficiaries will have a greater sense of satisfaction that their needs are being met. The energy services approach means planners have to be much more aware of the social and economic circumstances of the target group and easily adapts to taking gender into account.
Energy makes important contributions to other sectors ....but it needs other inputs to be fully successful.

The energy services approach looks at technical and non-technical issues.............

...but its starting point is not with a specific technology but with people’s needs.

group which should easily link to taking gender into account. For example, an assessment in rural Sudan found that women wanted telephones to call their husbands working in the city to remind them to send cash for buying essential household items and paying school fees. The men in the village wanted electricity for irrigation.

Energy planning cannot be divorced from other aspects of rural development, such as agriculture, small and informal sector industries, health and education. Again, these sectors do not think in terms of diesel generators or PV systems but in terms of services energy can provide such as, water pumps, lighting, and refrigeration. Supplying a sector, such as health, with an energy technology to meet a particular service gives the opportunity to supply not on the need identified in the initiative, for example, a vaccine refrigerator, but to extend it to meet other needs, for example, lights to enable women to deliver their babies with a greater feeling of safety. Likewise energy services alone will not bring dramatic changes to rural areas, other inputs are needed at the same time. For example, solar driers for a women’s fruit drying enterprise might produce higher quality dried fruits but if there is no transport system to get the product to market, the women’s work will not succeed.

The energy services approach means that it is not only the technology which is important but also other non-technical aspects such as affordability which can be a key issue for women whose assets are usually less than men’s. Innovative ways are needed to enable women’s access to the energy services they require. Training in the use of the technologies is also important to ensure equipment continues to function well and women should not be overlooked from these opportunities. Experiences in the water sector, have shown that women are more effective at hand pump maintenance than men, because it is women’s role to provide household water. Men do not see the necessity for them to mend drinking water pumps (irrigation pumps are a different matter!)

Above all, an energy services approach means that you do not start with the technology but rather with an analysis of what the needs of people are, in their own estimation and with regard to their own priorities. Dozens of energy projects have failed because well meaning planners have arrived in a community with a plan already in their heads: for example, to provide a windmill with a pump for the water supply. This is planning from the supply side: “we have the technology, we want you to have it”. Far better and more successful is the demand driven approach: what do people actually want?

In this manual and especially in Module 2, the demand driven, energy services model is used.
Why should gender be taken into account in energy planning and projects?

By no means all energy projects succeed. Many have failed, leaving the energy technology that was introduced rusting and unused. There may be various reasons for this, but one of them is undoubtedly that many energy projects were planned far away from the area where they were implemented, and with little or no consultation with the people who would be the eventual users and intended beneficiaries. One important aspect of this is that women are often not consulted at all in the planning process. It may seem obvious that one should talk to the 'customer' before trying to 'sell' them a particular energy technology, but time after time planners have failed to do this, and above all, failed to talk to women. So taking a gender approach is a logical approach towards increasing the level of participation in the planning process.

A second reason for taking gender into account in energy projects is that men and women use energy for different things. Therefore their needs, and their appreciation of any particular energy intervention, may be different. It is important to understand these different needs well to be able to serve everyone well.

A third reason is that interventions in energy technology have different effects on women and on men. Women and men have different roles within the family and community in most societies and different customs and possibilities as regards activities which use energy, and as regards access to sources of energy (See Unit 1.1). Any change such as the introduction of a new technology is likely to be experienced differently by men and by women. Some technologies may help women; others may on the contrary have negative effects on them. For instance community-managed forestry programmes might promote good forestry management, but as a side-effect increase (instead of decrease) women’s work, which is illustrated in the case 1.2.1 from India\(^5\). Therefore it is important to understand and anticipate such effects, aiming to try to build on positive outcomes and certainly mitigate or prevent any negative ones.

Finally, many development agencies have a policy of active support to women, because of the generally lower position of women in most societies. Most agencies recognize this and consciously attempt to improve women’s position vis-à-vis men (change gender relations). To do this, it is important to understand what the situation of women is, relative to men, in a particular community, what their hopes and ambitions are, and to consider how energy interventions might assist in fulfilling these aspirations.

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\(^5\) This will be replaced by a Pacific case study once identified.
Case 1.2.1: Increasing women’s work caused by a community-managed forestry programme

In Gujarat (India) a community-managed forestry programme was initiated around 1985, when consecutive poor monsoons over 5 years resulted in a sharp drop in the water table and soil productivity, combined with a scarcity of timber for house construction and agricultural implements. Village leaders wanted to regenerate the forest before even the rootstock would disappear. Therefore the forest path was “closed” for 5 years and they installed protected areas. Entry was prohibited. Today, a number of villages have regenerated their forests in an impressive way.

However, despite the good intentions of forest protection, the community forest management sidelined women, burdening them with added responsibilities and hardships. Now the women could only collect one headload of fuelwood (instead of two) and they needed to walk for 5 km to an area where the forest protection was not in force. Only the strong women are able to walk the 5 hour distance. Additionally, the women become more vulnerable to humiliation from male family members and outsiders when they are travelling beyond their village boundaries because they are not "conforming to the rules" [In other words they are transgressing gender contracts – see Unit 1.1] (Ministry of Non-Conventional Energy Sources, 2001).

Why has gender not been considered in energy planning and projects in the past?

Energy is a prime ingredient in all productive, subsistence and leisure activity. The quantity and quality of available energy determines the efficiency and effectiveness of activities, as well as the quality of life of the users. As such, both women and men are stakeholders in energy development and use. Women’s problems are often under-addressed or neglected in energy planning. Although the intentions might be good, sometimes projects worsen the situation for the women involved.

Discussion Point 1.2.6

- In your experience have the energy needs of women have been neglected in energy planning?
- If so, what, in your opinion, causes this neglect?

If women’s needs are taken into consideration at all, it is almost always an energy project that focuses on the cooking energy needs of women. Even less attention has been paid to women’s non-cooking energy needs, both in the literature and in practice. There is very little written about women and renewable energy technologies and almost none on women’s metabolic (human physical) energy use and substitutions for this. The only new and renewable energy technologies which have been targeted at women have been solar cookers, which have not been very successful in general, and biogas plants, also for cooking, which have been successful only in a few places. There is also very little literature on energy use by...
women for non-household production and less still on energy for women’s transport. Not only improvements in supply and combustion of traditional biomass fuels for cooking, but also improved technology for its use for process heat, as well as electrification and the availability of mechanical power of various kinds, which could make enormous changes in women’s lives possible, are neglected. Much greater emphasis could be placed not only on the impacts of energy investment on women, but also on understanding the impacts that improved energy can have on women’s lives and on gender relations.

### Discussion Point 1.2.7

Non-cooking energy needs are insufficiently taken into consideration in energy planning.

A micro-hydro scheme is used for a few hours per day to generate electricity for irrigation pumps. Could this project be diversified to enable electricity to improve women’s lives? In what ways could the electricity be used and what improvements would it bring? (Think of the “Triple Role” or “Practical versus strategic needs” from Unit 1.1)

There are many reasons why gender has been a neglected factor in energy planning. Many planners do not fully understand that energy impacts differently on men and women. One explanation of why there is a lack of understanding is that energy professionals are nearly all men, so women are not able to bring issues that affect them to the fore. Women have recognised the gender blindness of energy policies and there are examples of women taking action to redress the balance. Case 1.2.2 from South Africa\(^6\) illustrates a group of women taking action to increase their influence on ensuring women’s needs are incorporated into energy policy.

### Case 1.2.2: Women influencing energy policy in South Africa

In 1993 a small group of women activists in South Africa attended a National Energy forum and were struck by the lack of women at the meeting. These activists requested that more women be able to attend the Forum, and initiated a support group for women participants. The women eventually formed a network - Women’s Energy Group (WEG).

WEG’s activities after 1993 included developing alliances in order to be heard, linking energy professionals and political organisations, pressuring political bodies to place women and energy issues on their agendas. WEG participated in drafting the Energy ‘Green Paper’, a preliminary policy paper.

The Green paper was explicit on the gender issues that need to be addressed in the final policy document. A team of 6 men and 2 women was then appointed to produce the final energy policy document in 1998.

\(^6\) This will be replaced by a Pacific case study once identified.
As a result of WEG activities, greater attention is paid to women’s needs and to addressing gender imbalances in the energy sector. In 1994 a female Deputy Minister for Energy, Minerals and Mines was appointed. In 1999 a woman who had long been a champion of gender issues was appointed Minister in the same ministry. In 1994, in spite of huge resource potential, only 44% of households were electrified- including only 12 % in rural areas. At the time, energy policies were driven more by a desire for security and self-sufficiency as a country, than by concerns about meeting the energy needs of the majority of the population. The final energy policy document published in 1998 demonstrated a paradigm shift towards equity, efficiency and environmental sustainability.

However, the final document- ‘the energy white paper’- gave little specific attention to women, despite an explicit acknowledgement of women’s subordinate position and gender imbalances in the sector: that women comprise only 11% of the total workforce and 5% of management in the energy sector. Women’s issues were assumed to be covered under ‘the poor’ and ‘low-income households’.

While biomass fuels dominate the energy budget of most women, biomass does not dominate the activities of Ministries of Energy or research institutes. Data on biomass energy is hardly collected. A reason for this is that energy professionals may not know how to collect the data. They are mostly engineers or economists and very few (if any) learn about biomass during their professional training. It is much more difficult to tabulate reliable statistics on biomass, because the fuel is dispersed over the whole landscape and collected by many individuals – unlike electricity or fossil fuels, which are sold by a limited number of dealers and quantities, can be measured with meters. Measuring metabolic energy is even more professionally challenging than biomass.

**Taking a broader view of energy, to include metabolic energy**

The importance of analysing how energy is used by men and by women during the initial stages of project planning cannot be over-estimated. Gender interests are not always obvious, neither are potential impacts of project interventions. Emphasis in energy planning for the benefit of women has long concentrated around cooking, with firewood collection being seen as the central problem to be tackled. However, a proper analysis of women’s and men’s workloads may reveal quite different priorities. This point is illustrated in case 1.2.3, which focuses on metabolic energy.
Case 1.2.3: Gender contracts in energy in eastern Zimbabwe

A study by Mehretu and Mutambira (1992) measured the time and energy used by different family members in transport connected with regular household activities. Chiduku Communal Area in eastern Zimbabwe is a resource deficient area with high population density. There is no electricity. Kerosene, which is used only for lighting, is very expensive.

Seven routine trip related to household activities were analysed:
- Fetching water for domestic consumption ("water" in the table below)
- Doing the family laundry ("laundry" in the table)
- Collecting firewood ("firewood" in the table)
- Grazing livestock ("Livestock, G" in the table)
- Watering livestock ("Livestock, W" in the table)
- Visits to local markets ("Markets, L" in the table)
- Visits to regional markets ("Markets, R" in the table)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Female Contribution %</th>
<th>Total weeks household time (hours)</th>
<th>Female Share of time (hours)</th>
<th>Energy cost (Calories)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>91</td>
<td>10.3</td>
<td>9.3</td>
<td>2,495</td>
</tr>
<tr>
<td>Laundry</td>
<td>89</td>
<td>1.3</td>
<td>1.1</td>
<td>304</td>
</tr>
<tr>
<td>Firewood</td>
<td>91</td>
<td>4.5</td>
<td>4.1</td>
<td>1,068</td>
</tr>
<tr>
<td>Livestock G</td>
<td>39</td>
<td>7.7</td>
<td>3.0</td>
<td>1,672</td>
</tr>
<tr>
<td>Livestock W</td>
<td>39</td>
<td>6.9</td>
<td>2.3</td>
<td>1,484</td>
</tr>
<tr>
<td>Markets L</td>
<td>63</td>
<td>15.0</td>
<td>9.5</td>
<td>3,585</td>
</tr>
<tr>
<td>Markets R</td>
<td>61</td>
<td>0.3</td>
<td>0.2</td>
<td>76</td>
</tr>
</tbody>
</table>

Source: Mehretu & Mutambira (1992)

According to the analysis in Case 1.2.3, the most significant energy intervention may be for water collection and market trips, because the metabolic energy costs are highest for these activities. So, from this analysis it could be concluded that interventions for these activities could be more effective in improving the energy aspects of women's lives than interventions for collecting firewood and cooking.

Discussion Point 1.2.8

In the case study, metabolic energy is seen as an important energy source. Many of the tasks could be done by machinery powered by energy.

- Do you consider the design or promotion of such machinery to be part of the work of your Energy Department? If not, which Ministry should be responsible?
- Why do governments and other development agencies not appear to recognise the use of metabolic energy?

Case 1.2.3 focused on metabolic energy in transport, but there are many other tasks which consume large amounts of metabolic energy. One of these is food preparation, and particularly the preparation of grain.

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7 This case study has been retained as per the original ENERGIA modules. This will be replaced by a Pacific case study as they come to hand.
(shelling and pounding maize and millet, de-husking rice). These tasks may use much more time and more human energy than fetching firewood, and yet they are often totally ignored in energy planning. Why is it that:

...an electric pump that transports water uses energy, but a woman carrying water does not. A water mill grinding grain falls within the energy sector, but a woman doing the same task with mortar and pestle, does not. Trucks transporting crops are consuming fossil fuels, but women head loading crops walk outside the energy balance.

(Cecelski, 1995)

What is evident is that tasks of this kind are highly differentiated by gender. Therefore it is very important to start with an analysis of the kinds of tasks that men and women do, and which tasks they themselves consider to be heavy work which could be lightened by the use of energy. To start with the assumption that cooking is a woman’s greatest energy problem may be to do her a great injustice. Is it not better to let the women state their own priorities in this regard?

Taking into account not just gender roles, but also gender relations

In Unit 1.1, we saw that the tasks which men and women do in most societies are different. Their gender roles are different, hence their energy needs will in most cases be different and their priorities for energy interventions will vary.

It is less easy to see that gender relations play an important part in energy use too. The relations between the genders will influence who makes decisions about, for example, who decides whether the household will pay to join an electricity scheme, who will pay the bills for this, whether kerosene or charcoal is used as the main fuel, and many other such decisions. Who is responsible for energy decision making within a household is tied very closely to the question of who has control of the major resources – money, but also time, and for example access to equipment such as means of transport. In many societies gender relations are such that the women in the household have less right to make decisions and less means of accessing resources, and so their choices as regards energy may be very limited. In planning energy in a gender sensitive way, it is important to understand these constraints and to recognise them, even if it is not possible to change them – although, if one is aiming for empowerment of women, then changing these ‘social rules’ about decision making power and rights to resources may indeed be a long term aim.

What it may come down to in many cases is asking the right questions – not just “what type of energy is being used here” but “why is this particular type of energy being used here and why not another, more convenient/less polluting type?” “Who is it that is controlling the choices in energy in this setting?” “Which decisions about energy are made by men and which by women?”. Such questions can be useful at the household level, but they can also be very revealing when asked at the community level.
1.2 EXERCISES

Exercise 1.2.1 Energy Projects and Women

Read the case study through. We will look at the possible impacts of the project on women and men.

**Cotton Stalk Carbonisation and Briquetting, Sudan**

Cotton stalk, which is an agricultural waste product, is a potential energy source for the domestic sector in Sudan and other developing countries. In Sudan it could replace up to 10% of charcoal consumption and thus save considerable tree resources. For agricultural reasons (destruction of crop pests) the stalk must be destroyed or sterilised within a short period of harvesting. At present they are usually burned in the fields. Previous prefeasibility studies indicated that small scale on-site carbonisation is an alternative. The disadvantage is that cotton coal produced like this involves high transport costs and possesses burning characteristics which make it unsuitable for domestic use (density is low), so it is not a marketable alternative. Briquetting is needed for improvement both in fuel characteristics and in economics.

Prototype briquetting machines were developed to fit the requirements (small investment, small production capacity, etc.). These appeared to be promising both from a financial and a technical point of view. After identifying feasible production scales and organisational options, a report was made which concluded that a pilot plant is needed to demonstrate the financial feasibility of the technology to potential investors.

The long terms aims of the project are thus:
- to develop cotton stalks as an alternative to wood as a source of charcoal fuel thus relieving pressure on forests
- to implement a technology for this
- to develop four small scale rural industries involved in i) the fabrication of charcoal kilns, ii) the maintenance and assembly of briquetting equipment, iii) production of charcoal from cotton stalks and iv) production of charcoal briquettes from the resulting charcoal.
- to generate employment opportunities; although there is expected to be only a small increase in income for the cotton growing farmers, the related industries should generate considerable numbers of jobs.
- to develop experience in this sort of technology and the organisational setting required which may be of value in other countries.

The strategy taken involved field testing of the cotton coal briquetting production, study of the marketing possibilities for briquettes, and a review and recommendations for production organisation. Several production scales were considered, and test briquetting plants were set up and run by project staff to test these.

A more realistic operating briquette production facility was then built under local ownership and management; project input here was only training and technical assistance. This was a village level unit with a production capacity of 800,000 briquettes per year. Briquette production and marketing was monitored.

At this point the project proposes a third phase for dissemination. It is considered essential that the plants are operated in the private sector, but project activities are necessary to stimulate this. Since the technology is new, there is a lot of training required, and there are possibilities to explore such as obtaining tax and royalty exemptions. Equally important is the identification and development of private producers (village cooperatives, individual tenant cotton farmers, agricultural schemes, outside entrepreneurs).

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8 This will be replaced by a Pacific case study once a similar one in nature is identified.
Expected results include scope for more rural employment opportunities for men and women alike. The individual rural families would benefit directly from such a development and this in turn will contribute to decreasing rural to urban migration.

Also there will be value added by upgrading of products that were formerly purely waste products. There is the possibility that in addition to cotton stalk waste, other agricultural residues could be treated in this way.

The project will be environmentally beneficial since cotton stalk briquettes substitute wood charcoal. About 300,000 tonnes of (wood) charcoal enter the borders of Khartoum annually for consumption in the city and in the (dry) northern areas. It is estimated that Central Province, the primary cotton production area, could potentially produce 200,000 tonnes per year of charcoal briquettes. The extent of the regional benefits could be even greater if the technology spreads to other countries.

The immediate results are that an attractive product has been created as well as a technology that works and which has commercial applications. This technology is mature for the case of Sudan, including the local manufacture of equipment, maintenance, and operation of tools and machines and management of all operations involved.

Source of data:

It will be apparent that there is hardly any reference to women in the report. This is a very common characteristic of energy documents!

1. In what ways might women in fact be affected by this sort of project? List them as systematically as possible (think of the triple roles of women).

2. What sort of information might you want, in order to assess what the impact of this project would be upon women? List the types of information you think might be important to have.
Exercise 1.2.2  Adopting Energy Interventions in a Village

Read the case study through. The case study looks at the different reactions of men and women to a new energy technology introduced into a village. It represents a not untypical energy planning situation.

Community biogas plant, Fiji

In Benau, Savusavu (Fiji), a community biogas was installed to provide cooking energy. Technologically this plant can be considered a success, but socially it was a failure. Male community leaders were not interested in energy for cooking – they would rather have energy to power chaff cutters and mill machines. Women were extremely critical of the plant. They were not consulted when it was decided that the gas would be limited to two hours (8am – 10am) in the morning when the women were in the fields – a fact completely ignored by the plant organizers. The gas therefore did not provide even 25 percent of the day’s cooking energy and the women had to look for wood as a substitute for the dung cakes, which were used for the biogas plant.

(Adopted from Ministry of Non Conventional Energy Sources, 2001)

- What are in general the advantages of using community biogas plants? In which situations are community biogas plants useful?
- What could be the possibilities of the biogas plant for the women in this village?
- What could be the possibilities of the biogas plant for the men in this village?
- What are the disadvantages of using the biogas plant? Who will have to perform most of the work for the biogas plant?

Both the men and women in this case are critical about the community biogas plant. The men decided to limit the gas supply to 2 hours. As an energy planner you want to promote the use of the biogas plant and you decide to visit the village.

- Who would you talk to? Why? Would you address the men and women separately or at the same time? Why?
- What arguments would you use to promote the use of the biogas plant in the village? Would you use the same arguments for both the men and women?
Exercise 1.2.3  Meeting Women's Needs in Energy Projects

Read the case study through. In this exercise we will analyse a project that consciously aimed to help women.

Involvement of Women and Improved Stove Projects

In Fiji, improved stoves had been dissemination by Fiji Department of Energy (DOE). They have assessed the use of these improved stoves in rural households and found widespread rejection of the stoves. Although several reasons accounted for women's refusal to use the stoves, an important one was inconsistency between the government's goals and women's needs. The government aimed to save fuel use through the introduction of improved stoves. Women wanted to improve their welfare by reducing the smoke. Unfortunately the stoves did not meet this requirement. A new strategy for dissemination of household stoves was needed. DOE engaged rural women in dialogue about their needs and expectations regarding improved woodstoves, and developed a stove dissemination strategy for rapid penetration of improved stoves without subsidy.

(Fiji Department of Energy, 1985)

In this project, considerable effort was made to "help women", yet these efforts were not very successful initially.

1. What are the underlying reasons for this lack of success in helping women?

2. Can you suggest some alternative ways in which women's needs could be met more effectively in such a project?
1.2 FOLLOW UP

Consider an energy project in which you have been involved recently.

- Has there been sufficient attention for women’s needs in your organisation in the energy planning process?
- What were key factors in ensuring women’s needs were addressed?

If there was not sufficient attention to women's needs:

- What aspects were overlooked?
- Why did this happen?
- What have been the consequences of not including those needs?
- If you could do it again, what changes would you suggest?
UNIT 1.3 GENDER MAINSTREAMING VERSUS THE ‘WOMEN-ONLY’ APPROACH

Learning objective: After completing the topic the participant should be able:
- To classify projects as gender blind, gender neutral, gender biased or gender aware.
- To explain the difference between the mainstreaming and the ‘women only’ approach to energy project planning.
- To argue the advantages and disadvantages of mainstreaming and the ‘women-only’ approach.

Time schedule: 2 hours

Energy policies and projects assume men and women benefit equally….they are gender neutral ….but in reality they are gender blind …. they fail to recognise men and women have different needs.

To have their needs fully met women need gender aware projects.

The traditional approach to energy policy and planning has assumed gender neutrality. It has assumed that energy policy, programme or project benefit both men and women equally. It has assumed that any differences in the needs and capacities of men and women do not affect the extent to which they benefit from and contribute to energy development and use. What we find in reality is that energy planning is gender-blind, that it fails to recognise that needs of men and women are different. The consequences of gender-blind policies are that they tend to exclude women and do not change gender relations. However, if we aim to ensure that women, as well as men, benefit from energy policies and programmes we aim to ensure that the policies are gender aware. Gender-aware policies and projects recognise that women have different interests, needs and priorities which may sometimes conflict with those of men. For example, a solar water-pumping project would ensure that there was tapped water for drinking (women’s practical need) and for irrigation (men’s practical need).

Another category is when a policy or project is said to be gender biased. That is when it favours either men or women and it leads to an unequal outcome or access to benefits for either gender.

Discussion point 1.3.1
- Do you have experience with a gender blind energy project? What was the result?
- Do you have experience with a gender aware energy project? How were the diverse needs for men and women met? What influenced the organisation to be gender aware?
There is a debate still going on what is the best approach to ensure that policies and programmes are gender aware. The debate is about whether programmes aiming at helping women should be mainstreamed or whether separate, special programmes should be set up for women (‘women-only’ projects). (In energy planning, this is very close to the difference between promoting ‘women and energy’ programmes or using a gender approach.)

The two approaches differ because they were developed to address different issues related to women’s position in society. The “women only” approach has its origins in trying to gain recognition for women’s productive activities, mainly in the informal sector, in official statistics. By gaining the recognition of women’s contribution to economic development, it was considered that more resources and benefits would be allocated to women. Gender mainstreaming of projects has its origins in efforts to secure equality between women and men and gained in prominence after the 4th International Conference on Women held in 1995 in Beijing. One of the outputs of this conference was an international agreed strategy (known as the Platform for Action) for governments and development organisations to promote gender equality. A major tool for achieving gender equality is through gender mainstreaming. Gender mainstreaming aims at shifting gender relations in a direction more favourable to women.

‘Women only’ projects

The idea of ‘women only’ projects gained support in the 1970s from a growing understanding that many interventions have done, unintentionally, harm to women while benefiting men. An example is mechanisation projects in which tractors and other equipment have increased the field area which a farmer can cultivate in a given period of time. Since weeding and harvesting are not mechanised, but are primarily women’s tasks, it follows that they have to do more manual work than before. Another example is land registration, in which plots of land which have been cultivated for generations by a family are made ‘official’ (the family receives papers of ownership, giving them more security). In practice it is not the family, but the (male) head of household that receives such land titles. The consequence is that women, who do much of the farm work, have no legal hold over the land and so are not able to use the land titles as collateral should they want to raise credit at a bank. Supporters of ‘women only’ projects believe that it is only by targeting projects specifically at women that there is any certainty that the benefits will actually flow to women. They also argue that women will learn skills such as management and decision making if they are made responsible for these (in most projects, the majority of the managers are men).
Many energy projects recognise women’s role as chief cooks and household energy managers, and a number of special programmes have been set up for women, mostly to introduce more efficient or less smoky stoves, or to encourage a switch over to solar power or biogas for cooking. Other programmes have tried to involve women in the growing of trees to increase the level of firewood supply. Many women only projects focus on women’s productive role, as we can read in the next two cases from Solomon Islands (Case 1.3.1) and Bangladesh\(^9\) (Case 1.3.2).

**Case 1.3.1 A successful ‘women only’ energy project. Micro Hydro Electricity Project in Solomon Islands**

In the province of Zuke (Solomon Islands) a series of workshops were conducted to increase the confidence and capabilities of rural women to make decisions on technologies, which were available. The awareness workshop was held in Vavanga village on Kolombangara Island and was conducted from April 1995 to August 1996. The clients were Rural Melanesian Women. The objective of the Zuke workshop of women was to introduce all aspects of a village micro-hydro electricity (MH) project, and the implications for a village of the installation and upkeep of the system. Women’s role in the successful running of the system was crucial and it was ensured that the following components were vividly put forward; understanding the MH system, as an appropriate technology: its components, the work involved in building the system, and the village contribution of resources (especially women), time and labour. For the project to be successful it was certain that the community worked together, which involved all members in decision-making, sharing of load and creating a management community. In this workshop women were recognized as an important part of the community and that they stayed in the village for life. They were to recognize the electricity needs and uses as well as incoming generating projects. Women’s need for rural electricity was focussed on. The understanding and experience gained by Vavanga women through the workshop had to be shared.

Five women from the village of Vavanga-Mona, Hayleen, Aerish, Nerole and Hini- were facilitators of discussion groups. Information and experiences were exchanged in fluent pidgin and from the same cultural perspective. With the beginning of the workshop different aspects of the technology was introduced to women. There was a discussion about the terminology of the system, drawing of pictures and writing definitions of the different components of the system. The facilitators told several stories about what it was like before the MH project, the creation of the MH committee, disputes, the roles of the women and the work involved and ideas for using the electricity, skills and facilities. Furthermore it was emphasised that MH project were not development in them but development could only come from the possible end-use of the electricity.

Comments from the participants showed that understood varies aspects of the lesson and that they admired the sense of unity and strength in the Vavanga community, which did not exist so strongly before MH. It was put forward that everyone who can benefit from the project or had a interest in its success must be involved. It was recognized that women were essential on an MH committee, especially if they were to have any say in how the electricity was to be used.

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\(^9\) This will be substituted with a Pacific case study once a similar one is identified.
Technical aspects of the MH project were of more interest to women who raised concerns about management issues, development projects for women, or technology and how electricity was made. Surprisingly they had a keen interest on the principle of the generator and were eager to know of how the electricity could be measured with appropriate units such as watts and volts. Power consumption of different machines was also discussed. And on application of what was portrayed that day in the workshop, they calculated the flow of a river by making appropriately measuring the speed of flow and the cross sectional area involved. They also talked about changing flow rates at different times of the year and the effect of this on electricity supply.

The workshop ended with a record of the attitude of women of the Western Province towards electrification. Consideration was placed on what support was needed by women to help get an MH project in their villages and how the government could assist them.


Discussion point 1.3.2

- In your opinion, is the Solomon Islands Micro Hydro Electricity project a gender and energy project or just a successful project implemented by women?
- Why do you think so?

Case 1.3.2 A successful ‘women only’ energy project. Producing and selling battery-operated lamps

In 1999 the project “Opportunities for Women in Renewable Energy Technology Utilization” in Bangladesh started. Through consultations with community members and non-governmental organizations about energy needs in an area of remote islands outside the reach of the grid, electric lightning was identified as a high priority. Modern battery-operated electric lamps replace kerosene lamps. The project trained rural women to produce the lamps in a micro-enterprise manufacturing facility and distribute them to local markets. At this point 33 rural women are engaged in constructing and selling efficient fluorescent lamps that use direct current batteries of 12 or 8 volts. More than 600 lamps are being used.

The women gained full employment in a sector where access to jobs and tasks normally is reserved for men. The women acquired technical skills and the lamp production provided a new opportunity for women to earn a living, one in which their labour is highly valued. Additionally, living conditions have been improved through better lightening and the status of the women has been increased (Khan, 2001).
There is always a risk, with women-only projects, that they may fail, if the men in the community are strongly opposed and don’t accept the intervention. Various strategies may be used to sabotage such projects, either physically (uprooting trees planted by women, burning down the workshop etc) or more often by coercion (denigrating the women involved, putting pressure on their own womenfolk at home not to participate etc).

Women only projects have also been criticised for treating women as a homogeneous group and not taking into account the other socio-economic factors which shape women’s lives. In addition, the approach has also been criticised for focusing on practical and productive issues while not addressing changing gender relations.

Discussion Point 1.3.3

The two cases of ‘women-only’ energy projects given above, were both rather successful in terms of income generation for women. Do you know of any other cases? Were they successful or did they fail? In what way(s) did women benefit?

What do you think were the factors behind the success of the two cases given? Could these be replicated easily elsewhere? What guidelines could be draw from these cases?

Mainstreamed projects

In response to women only projects the view was expressed that women should not be deliberately "segregated" or "separated" from the mainstream activities of development. Those who argued against women-only projects considered that women’s as well as men’s concerns and experiences are integral to the design, implementation, monitoring and evaluation of all legislation, policies and programmes so that men and women benefit equally and inequality is not perpetuated. Experience had shown that in order to reach objectives that aimed for women to be the beneficiaries it may be better not to try to deal with women's problems in isolation, but to see them in the context of the society in which they live. In other words women’s problems had to be seen in terms of their gender roles and relations. Solutions to meeting women’s needs had to be formulated in the mainstream policy making and decision making forums of governments and other organisations active in development (such as international development agencies and NGOs) and not confined to “separate, special units”. It was argued that it is not “women’s issues” but “gender issues” which have to enter the mainstream and this could be done through a gender approach. A gender approach aims to ensure that men and women benefit equally from all legislation, policies and project and that any inequalities, such as in human value, opportunities and life chances, are not perpetuated.
Gender mainstreaming has gained in prominence since the Platform for Action from the 4th International Conference on Women in 1995 called on governments to mainstream a gender perspective in all policies and programmes to ensure equalities of outcome. As a consequence, when we talk of gender mainstreaming we are aiming to re-organise, improve, develop and evaluate policy making processes in order to incorporate a gender perspective in all policies and programmes at all levels and at all stages in the process.

At the project level, mainstreaming means that projects have to be designed to ensure that women as well as men are entitled to participate and benefit from a project. Sometimes this means that special provisions have to be made so that women can overcome the obstacles that have prevented them participating in the past. One approach to reducing inequalities in project participation is positive discrimination in favour of women enabling them to take up management and decision making positions.

However, even in gender mainstreamed projects success is not guaranteed. Two cases (1.3.3 from Fiji Islands and 1.3.4 from Solomon Islands) provide contradicting results when women are involved in decision making processes.

**Case 1.3.3 Solar Refrigeration Project at Driti Village, Bua, Fiji Islands**

This project provides solar refrigeration for a women’s small-scale enterprise in Driti village, Fiji. The project was initiated by the Ministry of Women and Culture in 2003 with assistance provided by the Fisheries Department, University of the South Pacific (USP) and SPC. The enterprise is a fisheries aquaculture project comprising 6 freshwater ponds. In mid 2004 after a visit to the Driti village and seeing the need for a refrigeration system, the DOE implemented a solar refrigeration project for the village. The construction, installation and commissioning of a Solar Refrigeration System cost around $22,000 for the equipment, installation and transportation. The Refrigerator house has 8 solar panels. The Solar System in Driti is a 24 Volt DC to a 240 Volts AC system.

In the initial stages of the project the solar refrigerator was looked after by a village headman and after few years the operation of the system was totally given to women. It was ensured that the village headman provided sufficient lessons to the village women regarding the handling of the system. At this moment the head of the Seatura Women’s Club is responsible for the proper operation of the solar refrigerator.

It is seen that every Wednesday women get together to work on the pond, which include cleaning of the pond and feeding of the fish. Benefits from this project were well expressed by women who commented that it has reduced their workload such as before they had to travel at such a distance to get fish for special occasions and transportation is a major problem as well and is very expensive. Further to this the solar refrigerator has really helped since before they could not harvest more fish because there was nothing to store them in and were just wasted but now they can harvest more and store them. This is later sold to other neighbouring villages and this has generated more income for them. Also in the case of hot and dry weather conditions, the pond get really hot and dries up so the fish are harvested earlier and stored in the fridge.

Since 1995, governments have an international commitment to taking a gender perspective.

Sometimes women need additional help to ensure they can participate equally in projects.
Now with the implementation of these project village women now know that they also play a major role in the developments of their communities whereas before it was always the men that were involved. They have learnt to be bold to voice out their opinions and also that working together will help in the success of this project.

Source: http://www.fdoe.gov.fj/2nd_solar_refrigeration_project_at_d.htm

Case 1.3.4: Women’s participation in the community forestry decision making process in Solomon Islands.

The last census in the Solomon Islands was taken in 1986 with an estimated population of 285,175, of whom 85 per cent lived in rural areas. The country is characterised by cultural diversity. A range of languages and custom variations and the co-existing of matrilineal and patrilineal societies, illustrate this. The status of women in the Solomon Islands is therefore complex and cannot be easily generalised.

Fifty percent of the Solomon Islands’ economy is derived from the export of logs. The rural community usually owns the forests. It has been stated that the forest had brought in more problems and further poverty to the people, than benefits and improvement of their living standards. Many village women are actual eyewitness to the disappearance of their forests, but they have no idea where the money from logging is going.

The impact on women is quite distinct. Women make their garden in the forest, where they also harvest vines and tree plants, to feed their family. Aside from food and medicine, the forest also provides building materials, game hunting, fish in the rivers, and wood for crafts and fuel. Due to the large scale logging operations, women have been forced to move further and further into hills and mountains, where the gardens they cultivate are usually destroyed by roaming wild pigs.

Problems associated with forestry were that some of the foreign countries resorted to bribery in obtaining logging concessions. Shortage of land was another problem faced by the people. Land was getting scarcer and land disputes increased. In these situations of conflict, women were excluded when decisions were made about land and logging rights, even if they had rights as landowners. In some instances women faced the major problem of ensuring that their land rights were protected, but they did not know where to go for legal advice. Nevertheless, women were really vocal in trying to stop logging activities. But for many years, the men in power have neglected their cry. With the growing orientation of the country towards a cash economy, women’s contribution to agriculture and forestry was less and less recognised. (Kari, 1998) or Source: Ministry of Forestry – Fiji Islands

Discussion Point 1.3.4

The two projects (Cases 1.3.3 from Fiji Islands and 1.3.4 from Solomon Islands) describe a successful and less successful project in involving women in decision making. The community forest project is not really successful in giving women a voice in decision making.

How could you give women a voice to express their opinion in the community forest case?

Women may not express their opinions in public if these go against the opinions of seniors ….
**Discussion Point 1.3.5**

Do you consider that the main objective of the two projects was (i) to improve the energy situation in the community (ii) to change gender relations or (iii) both?

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**Advantages and disadvantages of mainstreamed and women only projects**

There are advantages and disadvantages to both approaches in meeting women's needs. Mainstreaming may not work, because women may not be in a position to participate on an equal basis with men (too heavy a workload already, no experience in making financial decisions, entrenched gender taboos for example, speaking up in front of men etc). On the other hand, women-only projects may be even more strongly opposed by the men in a society, who not infrequently feel emancipation of women as threatening and express this in terms of the need to maintain social or religious traditions. There are cases in which men in a village have sabotaged women's small industry projects or woodlots because they see them as 'immodest' and leading to 'trouble between men and women at home'. Men do worry about how women will use their extra "free time" when new technologies are introduced which result in considerable time saving for women.

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**Discussion point 1.3.5**

These days mainstreaming is considered very important for improving gender balance in project planning, even though, as noted in the text, it sometimes does not work as intended.

Why is mainstreaming so important?

How can it be made to work more effectively?

How can policy makers be persuaded that this is a better approach to project planning?
1.3 EXERCISES

**Exercise 1.3.1  Mainstreaming versus ‘women-only’ discussion**

It has been suggested that there are two points of view regarding the way to conduct gender-sensitive project planning, gender mainstreamed projects and ‘women only’ projects.

On the one hand the mainstreaming point of view advocates project designs to ensure that women as well as men are entitled to participate and benefit from a project. Let us call this ‘point of view A’.

On the other hand we have the ‘women only’ point of view which advocates that only in such projects there is any certainty that the benefits will actually flow to women needs and constraints. We will call this ‘argument B’.

- Which point of view do you sympathise with more, and why?
- Write ‘A’ or ‘B’ as appropriate on a piece of card and attach it to your clothing.
- Walk around the room and join up with others of the same opinion. Share your reasons with them.
- Select one or two from your group to present your views in a debate.
Exercise 1.3.2 When to use Mainstreaming or Women-Only Approach

For each project it has to be decided which approach fits best, a ‘women only’ or a gender mainstreamed approach. What do you think is the most appropriate approach for the following cases? Why do you think so?

- Installation of an electricity grid in a village
- Production and selling of solar cookers
- Installation of 50 battery-operated lamps in a rural village of 25 huts
- Development of an improved stove
- Installation of a water pump
- Tree planting for fuelwood
- Producing and marketing biomass briquettes

Under which conditions would you use a gender mainstreaming approach in energy project planning?

Under which conditions would you use a women only approach in energy project planning?
Exercise 1.3.3  Women only projects

Read the case study through
This is an example of a project planned and organised by women for women.

- Is there evidence that this is more successful than a 'traditional' project, i.e. one dominated by men as organisers?

- Consider the nature and strengths of women's organisations that you are familiar with. Are they capable of carrying out planning and/or implementation of energy projects, and if not, what are the problems they face in doing this?

- Do you think it is a good idea to transform this project into a gender mainstreamed design? Why (not)?

Voko Women’s Bakery

A small project for the Voko tribe of the Western Solomon Islands enabled women to group together in an enterprise with nutritional as well as economic value. This project saw the works that were involved with the women of the Voko tribe in order to facilitate their aspirations for economic and social empowerment. Women’s existing skills in bread making were combined with Australian skills in design and modification of a suitable electric oven that could reduce drudgery, eliminating the use of rainforest timber and further utilizing their existing APACE micro hydroelectric power system. It was seen that with implementation of this method the output increased which enabled wider distribution of the product to the nearby school and provisional town settlement at Gizo. The project is now owned and operated by Voko Women’s Committee. The duration of this project has been established as two years with support from AusAID, APACE, Iriri Community Development. The clients are basically Women’s Committee of the Voko Tribe of Kolombangra. Solomon Islands.

1.3 FOLLOW UP

List all the projects and programmes which your organisation is involved in which are supposed to benefit women.

Which ones are mainstream projects and which are 'women-only'?

Which are more successful in achieving their objectives, on the whole? Why?

If you would have the possibilities to redesign some of the energy projects in your organisation, for which projects would you choose a 'women only' design and for which projects would you prefer a gender-mainstreamed approach? Why?
UNIT 1.4 RELATING ENERGY TO GENDER GOALS

Learning objective: After completing the topic the participant should be able:
- to explain the importance of gender sensitive energy project planning;
- to explain and identify the difference between practical and productive gender needs and strategic interest in energy projects;
- to distinguish between four different goals as regards using a gender approach in energy project planning: (1) to improve women’s level of welfare, (2) to increase women’s productivity, (3) to help to empower women and increase their equality relative to men and (4) to improve project efficiency
- to explain the relation between gender needs and project planning goals
- to formulate consistent gender goals that meet the needs of the target group involved;
- to identify shortcomings in project planning approaches aimed at meeting needs and gender goals.

Time schedule: 6 hours

The importance of gender sensitive project planning

Why is it important to consider gender in designing policy or planning projects and programmes? Although the answer may at first sight seem obvious, there are in fact several different perspectives or motivations for involving or not involving women in projects and in what ways women should benefit and what the outcomes for women should be. You may not have the same perspective or motivation as I do. But the approach we take, the actions that we chose, will, consciously or unconsciously, have their roots in some underlying motivation. The consequence of this in energy projects is that different stakeholders in a project might have different motivations for their involvement (including some who may see no reason to specially benefit women). So it is important that before going ahead, we make sure that the motivation is clear, and agreed upon by all parties. Too often, the gender goals are left vague, with the result that it is difficult to assess whether the policy or project is having the desired effect, and some people may feel that it has failed to meet women’s needs.

Leaving aside those who do not think gender issues are important at all, there are a number of positions with regard to incorporating gender that can be taken from a project planning perspective. We will start by looking at the implications of energy projects in terms of how gender needs are met.
Gender needs and issues: practical needs, productive needs and strategic interests

Men and women are physically different, have different roles in society, do different work and thus have different needs. As we saw in Unit 1.1, these needs can be classified in different way. One approach is to divide needs into practical needs, productive needs and strategic interests:

- **Practical needs**
  Practical needs are interventions needed to make women’s life easier and more pleasant, but which do not challenge the accustomed tasks and role of women in the household or in society, or their gender relations. That is to say, they do not upset the traditional balance of power and authority between men and women. They are needs primarily related to the reproductive functions of women, activities that keep the household running and the families daily survival ensured. Examples of energy services to meet practical needs are household lights, improved cooking stoves for household use, improved supply of fuel wood for household use etc.

- **Productive needs**
  Productive needs are those that if resolved, allow women to produce more and better products (usually for income gain). Cleaner energy forms and new technologies might also make the work easier and reduce drudgery. However, does meeting productive needs change gender relations within the household and community? Some researchers do claim that a woman’s status within the household improves when she contributes to the household income. There is no universal answer since the outcome depends on the context and the objectives of the project. Examples of energy services to meet productive needs are power supplies which facilitate the use of food drying installations, sewing-machines etc; knowledge concerning manufacturing and selling of cooking stoves etc.

- **Strategic interests**
  Strategic interests are those which relate to women changing their position in society and which help them gain more equality with men, and help them towards empowerment in all its senses. Examples of energy services which meet women's strategic needs are street lights which enable women to participate the village council, radio and T.V. increasing women's knowledge.

It is important to realize that the boundaries between these needs are not fixed. Case 1.4.1 describes a project in Mali which addresses not only the practical and productive needs of women, but also their strategic interests. Their daily tasks which used to take a lot of human energy, have been relieved (their practical needs). Additionally, they are able to produce new, better and more products to gain income (their productive needs). Finally, the creation of a decentralized energy enterprise owned and managed by women generates strong dynamics for structural transformation, in a setting where land and agricultural assets are traditionally owned by men and tasks are performed by women as unpaid obligations to men (part of the gender contract). The enterprises enable women to change their
position in society (alters *gender relations*) and therefore also serve the strategic interests of the women.

**Case 1.4.1 Energy for women’s practical and productive needs and strategic interests in Marshall Islands**

In this case study review has been made on the Namdrik Atoll Solar Project, Marshall Islands. The Namdrik community has benefited from this project not only in terms of having electricity but also reducing their workload. The Namdrik Atoll solar project has been flagship for the government of the Republic of the Marshall Islands (GoRMI). The South Pacific Applied Geoscience Commission (SOPAC) provided funding for the investigation with the main aim of characterising the technical and socio-economic conditions on Namdrik. The solar systems were initially installed with a capacity of 2 x 40W panels, however with the increasing demand of electricity per household, recommendations were put forward to proceed with a 2 x 75W system. Several surveys were carried out to access the importance of electricity, and it was found that women and youths benefited most from the improved energy services. It has been stated that Women were almost invariably the biggest winners from electrification. Better light alone greatly facilitated household chores, and enabled women to spread their workload over longer hours; “Now we don’t want to rush”. The solar programme lengthened their working day by two or three hours, but they are happy about this. Their ability to work on handicrafts at night became the positive economic impact of the solar programme mentioned; limited through it was by the market, transport, and sometimes shortage of raw materials. Further to this, through this project the women and youths of the village were empowered through the technical training in terms of managing the project, and extra income earned going towards education and other needs. The success of this project has been attributed to the participatory approach and involvement of all groups, women, youths and men in the project.

(SOPAC 2005)

**Discussion Point 1.4.1**

The Namdrik Atoll Solar Project, Marshall Islands. (case 1.4.1) addresses women’s energy needs. In what way does the project meet:

- Women’s practical needs?
- Women’s productive needs?
- Women’s strategic interests?

Having classified women’s needs into these categories we can see that women’s energy needs extend beyond cooking. In table 1.4.1 some examples are given about how different forms of energy could serve women’s different types of needs.
Gender goals in energy project planning

Understanding that women have practical and productive needs, and strategic interests, that can be addressed by energy projects, leads to the question of what, exactly, are the gender goals of any given project. In other words, what is the reason for taking a gender approach in planning the project? What do we hope to achieve by it? Some general reasons were given above, but in energy project planning, clear choices have to be made.
The gender goals will differ from one project to another, from one community to another, from one situation to another, but it is important that both the planners and the community involved in the project are clear about what the gender goals are in the particular case, and agree on this. Often projects are said to be aimed at ‘empowering women’ when in reality they are not able to do this – or local people may not be in agreement that this is the aim. It is better to be clear and realistic about what gender goals have been set, so that the target is visible and evaluation of the project can be made on the basis of an agreed and accepted aim. Also participants in the project need to be clear about the aims. This can help overcome resistance to projects and avoid disappointments.

There can be four different goals when it comes to using a gender approach in energy project planning. Careful thought is needed to decide which of these should be the guiding goal for any given project.

1. **To improve women’s welfare through energy technologies**
   This first goal is in some way rather old fashioned one, but still important and relevant today. It notes that women’s lives involve a lot of drudgery, recognizing that they work longer hours than men, when their household tasks are considered as well as their other work in the family fields or in the family business, or as wage labourers. Many of the household tasks require considerable physical effort and negative effects; fetching water, fetching firewood and cooking over smoky, open fires, for example. Sympathy for the unpleasantness of these conditions has rightly given rise to the idea that such tasks should be lightened for women.

   Poor women in the developing world use cooking energy systems that are unsafe and polluting and food-processing technologies that are rudimentary and laborious. With limited access to appropriate energy, household sanitation and hygiene is at best inadequate, exposing women and children to a host of pathogens that lead to debilitation, morbidity and mortality. Children tagging along with their mothers are exposed to burns and scalds from cook stoves and inhalation of noxious productions of combustion.

   Health and safety are major concerns of women in their use of biomass fuels. Smoke reduction and improved safety for children are often the two most important reasons cited by women for adopting improved stoves and fuels. The largest energy-related health impact on women and children on a global basis is their high exposure to indoor air pollution in the more than half of the world’s households that cook daily with wood, crop residues and untreated coal. Typical indoor concentrations of important pollutants, such as respirable particulates, carbon dioxide, benzene and formaldehyde, are excessive by comparison to the World Health Organisation’s (WHO) guidelines on acceptable limits for exposure. Thus it is obvious that improved stoves that are safer and produce less smoke, relate to *welfare* goals for women. But energy projects aiming to improve women’s welfare may also focus on issues like drinking water, as the case shows.
Discussion Point 1.4.3

- What examples can you think of how energy is able to influence women’s well-being?
- What other programmes do you know that are designed to improve women’s welfare?

Case 1.4.2 Solar Dryers in Navua, Fiji Islands

Navua is a small town located 40 km from the capital city (Suva). A group of displaced farmers have set up a small-scale solar dryer for long-time storage and household consumption of fruit and vegetables. However, the women’s groups were more interested in solar dryers for income generation than for food security. Subsequently a small business was formed in 2005 to link the farmers with the market for dried fruits. Within a month, more than 20 women joined the group and started to dry their produce in the solar dryers for selling purpose on Fridays and Saturdays at the Navua market. When the women were not drying for profit, they use the solar dryers to preserve vegetables and fruits for home storage and consumption.

(Baleinavutoka, 2005)

When the project goal is to aim at improving women’s welfare in most cases this relates very closely to satisfying women’s practical needs.

2. To increase women’s productivity through energy technologies

Some energy projects have the potential to help women produce more efficiently and to produce more in a quantitative sense and better quality products, leading to higher incomes for the women and their families and to development in an economic sense. Examples include: electric sewing machines to replace hand machines, solar driers which give a better quality product (dried fish or fruits); improved small scale bakery ovens for women’s enterprises, electric light allowing work in the evenings, refrigerators allowing the sale of cool drinks; and computers supporting business enterprise. There are in fact a huge variety of interventions possible, most of which have an important energy component.

Case 1.4.3 Energy project to increase productivity. Village Biomass-Steam Power Generation Plant Utilizing Waste Heat for Copra Drying, Taveuni, Fiji islands

A wood-fired steam power generation plant producing electricity for village lighting and hot air for crop drying was installed in Navakawau village, on the Fijian Island of Taveuni, in November 1987. The steam plant is reportedly used only intermittently and only for the purpose of copra drying.

Navakawau village comprises a population of approximately 370 people in 47 households and is located on the southern Taveuni, at the end of the main road. Navakawau village was selected as a suitable village for the demonstration of the steam power generation because the village displayed the social cohesiveness necessary to implement and support the project and contributed to the project financially and through the donation of its labour for the establishment and running of the plant.
When the project was implemented all the 47 houses in the village received electricity. The net available power to the village that was supplied was 4.86 kW leveling the domestic requirement of 4.70 kW (47 houses at 100 W/house). Due to the steam power generator plant, the copra quality improved, elimination of drum dryers took place, there was a net increase in wages for copra drying/plant operation and saving in kerosene and battery purchase. Village women were able to do more sewing at night and cooked their afternoon meals late in night. Not only this, children enjoyed studying under the light bulbs compared to the kerosene lamps.

*Source: Pacific Islands Forum Secretariat (PIFS)*

In case 1.4.3 above the biomass-steam power generation plant enabled women to increase their productivity.

*When the project goal is to aim at improving women’s productivity in most cases this relates very closely to satisfying women’s productive needs*

### 3. To promote women’s equity, equality and empowerment through energy technologies

These terms are often used interchangeably, although they mean different things. Equity means a ‘fair’ distribution, but what is fair, has to be decided. To you, it might mean that women and men get paid the same daily wage for the same work in transporting bags of grain. To someone else it might mean that women get paid less, because they are less strong and cannot carry so many sacks. What is meant by ‘equity’ has to be decided.

#### Discussion Point 1.4.4

You support a community in establishing a stove producing enterprise. Both men and women are involved in manufacturing new stoves. Men have more time available per day and manufacture more stoves than women; as a result they have become more skilled and faster (more stoves per hour worked). The project planners have an equity goal with this project in mind.

What is in your opinion a fair distribution of wages between men and women?

If you would be the responsible project planner how would you establish what is a fair distribution of wages?

On the other hand ‘equality’ means equal distribution. The women’s movement worldwide is striving not for equity but for equality between men and women: that they should have equal rights in all sectors, even within the household. An obvious example is that girl children should get just as much education as boys, but also that decisions over household expenditures should be shared. There is, of course, a lot of opposition to this in some quarters, because – particularly at the level of the household – this is a very threatening idea to many people (not just to men: many...
women find the idea unpleasant). Outside the household, equality relates to whether women are treated equally in the workplace (pay, promotion, conditions etc) and in public arenas where collective decision making is made, such as politics – for example, how many women representatives are present at different levels of government, but also in organizations in the civil sector. However, it does not mean that women and men become the same. Nor that there should be equal numbers of men and women.

It is evident that goals related to equity, equality and empowerment all relate to changes in gender relations, in other words, to a redistribution of power between the genders. Cases 1.3.3 from Fiji Islands and 1.3.4 from Solomon Islands (see unit 1.3) have tried to increase women’s involvement with an equality goal in mind.

*Empowerment* is an extension of the equality idea; it refers to enabling people – in this case, women – to take charge of their own lives, where formerly they were under the authority of other people (fathers, husbands, brothers, male bosses), and had to obey or agree, whether they liked it or not (*gender contract*). Women’s empowerment implies that they should have more autonomy and be able to make decisions on issues that shape their lives, both at household level but also in society in general. This autonomy can be financial; if women as individuals have means of making money and can spend it as they chose. But it can also mean more social freedom. Empowerment of women might mean for example that in cases of divorce, they have equal rights over the children and inheritance; that they can claim protection in cases of household and sexual violence, not just in theory but in practice; that they have the right to control their own sexuality and reproductive functions; and generally that educational and career opportunities are open to them where these were formerly restricted.

The term empowerment is much used and probably misunderstood. In addition, to the definition in the last paragraph, there are other definitions. Some take it to be a goal, others see empowerment as a process which leads to certain outcomes – for example the UN HDR sees empowerment as participation to contribute to economic goals while Oxfam sees it as challenging oppression and equality. The consequence is the same as we saw with gender goals, people in the same project will be using their own, sometimes conflicting, definitions that are implicit rather than explicit.

How can energy help “empower” women? This is an interesting and indeed intriguing question. An example is the creation of new career opportunities for women in the energy sector, for example energy entrepreneurs in any one or more of the following: producing, processing, distributing and selling energy resources (eg electricity) or technologies (solar cookers). Several projects have succeeded in educating women as energy entrepreneurs. The case study from Solomon Islands, below, shows a case where women became felt empowered.
In 1993 Western Provincial Assembly signed a MOU with APACE to plan and design a provincial village electrification program based on the community development model first trialled in Iriri. The MOU contained a unique section (for such an agreement at that time); it acknowledged the central role women hold in village life, the protection of the land and natural environment. It attempted to ensure that all project stakeholders took into account the energy needs and aspirations of women and that adequate provision would be made in all project stages and levels to actively involve women.

To begin social, economic and environmental assessments and technical surveys of all the villages in the Western Province a field office was opened in Gizo. Stronger community participation and pride became conspicuous characteristics as the residents spoke often of their modern villages and changes that had come about. Other communities did not enunciate women’s participation as a “success” factor but they did identify the extend of women’s participation as a strength of the electrified villages.

APACE, based at the University of Technology Sydney held responsibility for the program which was managed by women and coordinated by a team of women and men; a Women’s Officer was appointed to plan for, and monitor women’s participation at all levels of the program. The local staff team of 4 men and 6 women was mentored by the Sydney based management team. Technical management of the program was eventually devolved to Nixon Silas and coordination to Claudine Lilo two of the young people originally recruited to the program. A Women In Development (WID) Policy and Manual and the “Zuke” (“I see the light”) Women’s Energy Awareness Workshops were developed. Women throughout the province, and the nation, attended these workshops.

Several polices has been formulated that provide incentives and opportunities for women to be constructively involved in the development process. The policy aimed to achieve the following: Women being involved as decision makers, addressing women’s needs as primary energy users at the village level and equitable distribution of benefits to women, men and youth

The policy and accompanying manual adopts an equal opportunity (and sometimes affirmative action) methodology for village assessment; pre-feasibility studies; project design, implementation, monitoring and evaluation; electricity use; training and role modelling.


Although ‘empowerment’ is a major issue in development, it may be difficult for most energy projects on their own to really bring empowerment to women. The reasons that women are not empowered today are complex and many sided; energy is only one of many resources to which women have little access that might contribute to their lack of empowerment. In general we can say that it is not a particular energy technology that has the potential to really empower women, but the process by which the energy technology is introduced or as a consequence of having the technology (saving time to do other things or increases status from increased income). A project can be planned in such a way that women get new types of opportunities, such as
management positions, or technical training in maintenance, which are non-traditional. Projects can be carried out in such a way that women are properly represented in decision making, and given scope to take on decision making where they were previously ignored. This will depend not on the technology, but on the attitude and working practice of the implementing organization, which will have to be very sensitive to gender issues and to really involve women. However, there are examples where women have had access to T.V. and radio as a result of rural electrification projects that have enabled women to learn about their fundamental rights although this was not an aim of the project. We can say that women are empowered as a planned or unplanned outcome of an energy intervention.

*Empowerment, equity and equality all relate to the strategic interests of women.*

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<tr>
<th>Discussion Point 1.4.5</th>
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<tbody>
<tr>
<td>Imagine a project which offers solar cookers for women with a credit programme to assist in purchasing them. Would you say that this is:</td>
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<tr>
<td>- A welfare approach?</td>
</tr>
<tr>
<td>- An empowerment/equity/equality approach?</td>
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<tr>
<td>Imagine now a programme which sets out to train women to assemble solar cookers and sell these in the district. What category would fall this under?</td>
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<tr>
<td>In your opinion, which category do most rural energy projects for women fall under? Why do you think this is the case?</td>
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4. **To improve the likelihood that the energy project is successful and efficient in itself**

The previous three approaches to gender planning reason from the perspective of benefits to women. Another approach focuses on the benefits for the project.

The project efficiency goal begins with the idea that projects often fail because the planners fail to understand the people’s needs properly. Hence the idea of participation was developed, as a means of listening more to the people and finding out what it is that is needed. An extension of this is that men and women may have different needs, thus it is necessary to encourage women to participate to understand better what their needs are. It is acknowledged that unless special care is taken, men’s voices will always be heard more than women’s, for example at public meetings, or when a survey interviewer goes to a household, since generally it is the male head of household (if there is one) who is expected to be the respondent. Many such surveys ask questions about ‘the household’ as if it were an undifferentiated unity. In this way, women’s needs are not noticed. By finding out what women need as well as what men say is needed, more economic efficiency can be drawn out of the project.
When energy projects do not take into consideration the needs of both men and women, efficiency will suffer (as shown in case 1.4.6 from Northern Thailand, where the gender contracts of women were not taken into account sufficiently and the whole forestry planting project failed).

Setting up collaborative structures between men and women may also facilitate the successful implementation of energy projects, as the case of biogas cooperatives in India shows.

Case 1.4.5  Improving efficiency. Involving women and men in management

The women in Bulelavata, a small, remote village in the Western Solomons accessible only by sea, lived a subsistence lifestyle typical of women in ten-thousand other PIC villages until 1998 when the community chose to begin the process of establishing an energy-for-development project. In 2001 the community owned micro-hydro system, funded by the Australian International Greenhouse Partnerships, Caritas and the Provincial Government. The system produces 24 kW and has 1.5 km high voltage transmission line enabling the community to sell power to the Provisional Secondary School.

Before the commencement of the series of training workshops were held in the village including women’s energy awareness workshop which lasted for one week. The project had a significant impact on the village women ranging from practical, quantifiable advantages of lighting and community income to qualitative outcomes of solidarity and empowerment. The Bulelavata community micro-hydroelectric project design used a women’s participatory action agenda, exploiting “action learning”, or learning-by-doing.

This affirmative agenda designed to encourage and facilitate active and meaningful opportunity for participation of the village women operated within existing Melanesian cultural and village religious mores while at the same time challenging the boundaries of perceived gender roles through the medium of the new technology. The Bulelavata village men say that the electricity project has changed their women; that they are now more confident and outspoken and participate in more community development activities.

The men think this is a good outcome in terms of the whole project, and rate it second only (by consensus) to the community’s understanding of “planning for tomorrow”.

It has been reported that the hydro system has saved considerable amount of money for the family, the electricity is cheaper than kerosene and batteries. Women are more engaged in sewing and weaving and they usually do it at night when they are free from home duties. One of the women reported that before the hydro, their family only had one or two small kerosene lamps and the first priority went to men’s work and second to children for studying. In addition to this with house light children do their homework and the school principal say Bulelavata children are attaining better marks at school. Mothers state that there is less argument between their children as the later find their clothes and get ready for school more efficiently. They believe that electricity has provided a much better future for their “pikininis” (children).

Women in the village have gained experience and confidence from observing and participating in the establishment and operation of the community’s Village Hydro Management Committee (VHMC). The women have now formalised their own ‘Bulelavata Women’s Committee’ (BWC) in which the women work together to support other village women in times of crisis, organise income generating and community welfare projects (the first being...
the establishment of a small kindergarten), help each other with transport for marketing and stocking stalls at the markets. The women own and manage their committee money. The BWC’s work is carried out with acknowledgment of the women’s roles in their own families and in their community and with respect to, and encouragement from the village men. The income generated from BWC projects belong to all the women although it maybe given to individual women when need arises.

The growth in personal and group strength, for the women of Bulelavata has taken place over a period of six years and with each step being initiated by the women themselves. This leads us to believe, from our observation, knowledge and relationships with these women that the changes in daily life style and in the broader perspective of quality of life, will be sustained and that there are indications of further strengthening of the women’s individual and collective aspirations and roles.


An interesting aspect of case 1.4.5 is that the men saw for themselves that it was necessary to involve women in running the project if the project was to succeed.

When gender differences are not taken into account the efficiency of projects suffer. The FAO film “Gender Analysis for Community Forestry” illustrates the efficiency problems caused by an insufficient performed gender analysis.

Case 1.4.6 Problems caused by lack of gender analysis. Gender analysis for community forestry in Northern Thailand

A tree planting project in northern Thailand was motivated partly for environmental reasons, and partly to reduce women’s drudgery in fetching firewood. Households were interviewed, and it appeared that both men and women supported the idea that a tree plantation should be started. So the project management delivered the tree seedlings at the beginning of the rainy season – but they never got planted. Why not? Because planting, as an activity, is a women’s task in that community, and in the rainy season they were 100% occupied with planting the staple food crop, which had of course a greater priority in their minds. Through lack of sensitivity to traditional gender roles, project management had assumed that men planted crops and therefore that women would have had time to plant trees. Had the planners talked to women in more detail beforehand, this kind of fact might have been discovered and a more efficient plan could have been made: possibly a deal could even have been made by which the men planted the trees! But as it was, the resources were wasted, because the men did not see it as their work – the benefit was, after all, to be for the women.

(Wilde & Vainio-Mattila, 1995).
Gender goals and needs

From the above discussion, it is clear that there is a relationship between peoples’ expressed energy needs (for practical, productive and strategic purposes) and gender goals (welfare, productivity, empowerment).

Moreover it is clear that energy cannot always produce empowerment for women; it is more likely to have an efficiency or a welfare effect, but this does not mean that it cannot ever have empowerment effects. It is really important to succeed in a careful tuning of project goals, project planning and the needs of people involved, before the project starts.

Table 1.4.2: Overview of the meaning of gender goals

<table>
<thead>
<tr>
<th>Gender Goal</th>
<th>Meaning</th>
<th>Implies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welfare of women</td>
<td>Drudgery of women’s work and the related ill health reduced, but gender roles and relations are not changed</td>
<td>Practical needs to be met</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Relates mainly to so-called reproductive activities</td>
</tr>
<tr>
<td>Productivity of women</td>
<td>Women able to participate in economic activities or increase their productivity / efficiency</td>
<td>Productive needs to be met, but gender roles not necessarily changed</td>
</tr>
<tr>
<td>Empowerment, equality, equity for women</td>
<td>Opening up of new roles and opportunities for women outside traditional ones, in economic, social, and political sphere</td>
<td>Strategic interests need to be addressed</td>
</tr>
<tr>
<td></td>
<td>Women able to participate on equal basis with men in the economic sphere; earn and control income for themselves, if this was not the case before</td>
<td>Relates to new types of activities and new roles and freedom for women. Gender relations are altered to be more favourable to women. More emphasis on strengthening women’s productive activities or opening new opportunities for women’s production</td>
</tr>
<tr>
<td>Project efficiency</td>
<td>Gender roles properly understood; the household no longer seen as the unit in planning.</td>
<td>Project should be more carefully targeted.</td>
</tr>
</tbody>
</table>
Table 1.4.3: Examples of energy interventions to match different gender goals

<table>
<thead>
<tr>
<th>Gender goal</th>
<th>Types of needs/issues addressed</th>
<th>Could be met by energy intervention:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Welfare</strong></td>
<td>Practical need</td>
<td>Improved wood stoves</td>
</tr>
<tr>
<td>Reduce drudgery associated with cooking on woodfuel</td>
<td>Reduce the time taken and the load that has to be carried</td>
<td>Bottled gas</td>
</tr>
<tr>
<td><strong>Productivity</strong></td>
<td>Productive need</td>
<td>Electric sewing machine</td>
</tr>
<tr>
<td>Women to increase their output in their tailoring businesses</td>
<td>More efficient sewing machine</td>
<td>Water supply pumped and grain milling automated rather than by hand</td>
</tr>
<tr>
<td>Women should be able to devote more time to productive activities</td>
<td>Speed up housekeeping tasks</td>
<td>Electric light for work in evenings</td>
</tr>
<tr>
<td><strong>Empowerment:</strong></td>
<td>Strategic interests:</td>
<td>No direct energy solution, but the management of the energy project could (a) work with women’s groups to help them develop their public speaking skills, and (b) project committees should have minimum 50% female members. Street lighting may encourage attendance at meetings</td>
</tr>
<tr>
<td>Women should participate on an equal basis with men in decision making regarding communal activities</td>
<td>Women need confidence to enter into discussion with men and time in the evenings to participate in meetings</td>
<td>Reduce girl’s housekeeping tasks through modern energy: electric pump to bring water closer to houses, powered mill to grind grain. Lightning in the household allowing for school work in evenings.</td>
</tr>
<tr>
<td>Girl children should have as much education as boys</td>
<td>Girls need time to attend school and do homework</td>
<td></td>
</tr>
</tbody>
</table>

As is demonstrated in table 1.4.3, a welfare gender goal strongly relates with the practical needs of women. A project goal to increase women’s productivity strongly relates to the productive needs of the women. Thirdly the goal to empowerment women strongly relates to strategic interests.
A gender approach to increase the project efficiency of an energy project can not be linked directly with the needs of the women, because it reasons from the point of view of the project instead of from the point of view of the women.

**Discussion Point 1.4.6**

What other examples can you think of to expand this table? Formulate

- an energy intervention that serves a strategic interest and an empowerment goal (formulate the goal and interest as well)
- an energy intervention that serves a productive need and an efficiency goal (formulate the goal and need as well)
- an energy intervention that serves a practical need and a welfare goal (formulate the goal and need as well)

Table 1.4.2 describes some examples of energy technologies which match different gender goals. Naturally, one should aim at matching the goals of the project and the needs and issues as expressed by the individuals concerned. Additionally, the project planning (of activities, kinds of intervention, technology) should match the project goals. This is not as self-evident as it seems. Much donor policy is written in terms of women’s empowerment. However, in contrast, most energy projects are planned in welfare or efficiency terms. Often a gap between gender policies or goals and actual practice occurs. A case from the Tumkur district in India describes an example of inconsistent project planning from the government.

**Case 1.4.7 Inconsistent energy project planning, failure to match needs and goals**

Surveys were carried out in the Navua area in Fiji on the status of the ‘JALEF’ woodstoves. It was found out that of the 16 stoves installed in 1986, only three were still kept in the kitchen whilst the rest were dismantled. The reason given for non-use of the stoves was because of material deterioration, in particular cracked firebox tops and rusted chimneys.

The Fiji stove project was designed to help communities interested in wood stoves and which were willing to meet part of the cost and provision of certain materials for the stoves. The Navua project was divided into three sites namely Naitononiti, Viwawa and Waldradra.

It was found that the ‘JALEF’ was used only when the family needed more than three dishes per meal which usually would be during family functions and Sundays, however all the homes surveyed had “backup” to the ‘JALEF’ and these included kerosene stoves, gas stoves (2 and 4 burners) and open fire.

Women used backup during family functions and at times when meals were to be prepared within a short period of time. The quick meals required on
average between 15 and 25 minutes to cook, which the users claim, could not be achieved by the ‘JALEF’. However in all the homes surveyed the users were satisfied with the performance savings, but expressed concerns as to its short lifetime. Mishandling and poor maintenance may have contributed to the limited lifespan (19 months) of ‘JALEF’ stoves. It is believed that some users did not regularly remove ash from the firebox and remove creosols inside the chimney. These deposits restrict airflow and rates of burning thus affect the stove’s overall performance. It was recommended that the community workshops be organised to teach users the proper ways of handling maintenance and use of stoves before users actually used the stoves (Tuamotu.J, 1989).

Case 1.4.7 above illustrates that at the start of the project the needs of the user were not taken into account sufficiently. Hence, at the start this caused poor project efficiency. When the needs and goals were properly matched project efficiency increased.

**Ensuring consistency of goals**

It has been noted that it is difficult for energy interventions to deal with strategic gender interests, to really empower women. Yet most donors have strong policies supporting gender empowerment and equality, for example the OECD / DAC gender policy (OECD, 1998).

This means that many projects, including energy projects, state that they are following “empowerment” goals when, in reality, they are aiming at welfare or productive goals for women. It would be better if the planners concerned were honest and admitted that they are unlikely to really empower women through energy technology if this is the case. If they are able to create a better life for women is this not a sufficient reason for going ahead with the project? On the other hand it is clear that there is a challenge to planners to design energy interventions that are empowering, and to justify them as such.
Case 1.4.8: An example of inconsistent goals

A Western development organization called “Empowerment 4 All” says in its mission statement that it works “to bring equality between all people, regardless of race, religion or gender”. “Our aim is empower women and give them the same opportunities as men”, says its website. It also states that its policy is to work with a high level of participation of local people.

“Empowerment 4 All” is working in Kenya with a partner organization, “Safi Sana”. Safi Sana is a local NGO which has been promoting the use of latrines in remote villages, but which has recently decided to include smokeless stoves in its work, because of the high incidence of respiratory diseases which women and children suffer as a result of cooking indoors using biomass fuels. A stove made of bricks, with a chimney, has been designed and one is built in the house of the village head, in one of the project villages.

After some time it is evident that the stove is not popular; only one family has asked to have one built in their house. A senior planner from Empowerment for All comes from Europe on a visit, and complains that Safi Sana has taken the wrong strategy. “The problem is not the stoves” says she, “the problem is that the women do all the cooking. You should be educating the men to do the cooking too, not introducing new stoves!”

The women at the meeting laugh at this. Cooking is their job, they do not want the men to take this over. They do not like the stove because is gets too hot and takes too much space in the house. What they really want is better transport so that they could get their vegetables to the town more easily and sell them.

Empowerment 4 All has strong empowerment goals and expects the project to work towards this. Safi Sana has essentially welfare goals; it is concerned with health, of both men and women in fact. The women want more economic opportunities.

Clearly, it will not be easy to find an energy intervention that satisfies everybody!

Many donors and international development agencies work with the so-called Millennium Goals. It is therefore worthwhile to examine the extent to which they address gender and energy issues. There is only one related to gender, and that is expressed in terms of education:

| Promote gender equality and empower women |
| Eliminate gender disparities in primary and secondary education preferably by 2005, and at all levels by 2015. |

There are no Millennium Goals directly for energy. However, a number of attempts have been made to draw out from the general Millennium Goals their energy implications. Table 1.4.4 taken from the journal Energy for Sustainable Development demonstrates how energy intervention can be directed to meeting the Goals and in particular to bringing benefits to women and girl children (Havet, 2003).
<table>
<thead>
<tr>
<th>Goal</th>
<th>Target</th>
<th>How energy contributes to achieving goals and targets</th>
<th>Gender perspective</th>
</tr>
</thead>
</table>
| **Goal 1: Eradicate extreme poverty and hunger** | Target 1: Reduce by half the proportion of people living on less than a dollar a day | ▪ More efficient fuels and fuel-efficient technologies reduce the time and share of household income spent on domestic energy needs for cooking, lighting and keeping warm (poor people pay proportionately more for energy) [Reddy, 2000]  
▪ Reliability and efficient energy can improve enterprise development  
▪ Lighting permits income generating activities beyond daylight hours  
▪ Energy can be used to power labour-saving machinery and increase productivity of enterprises | ▪ Women and girls are generally responsible for the provision of energy for household use, including gathering fuel or paying for energy for cooking, lighting and heating  
▪ When women’s time and income is freed up from these activities, they can reallocate their time toward (1) tending to agricultural tasks and improving agricultural productivity (2) developing micro-enterprises to build assets, increase income and improve family well-being |
| | Target 2: Reduce by half the proportion of people who suffer from hunger | ▪ Improved access to cooking fuels and energy-efficient technologies increases the availability of cooked foods (the majority (95%) of staple foods need to be cooked before they can be eaten)  
▪ Pumped water for drinking, cooking needs and irrigation systems that deliver more water than what can be carried  
▪ Mechanical energy can be used to power labour-saving machinery and increase productivity along the food chain (for example, to process agricultural outputs, such as milling, husking)  
▪ Improved access to efficient fuel and technologies reduces post harvest losses and water needs through better preservation (for example, drying and smoking) | ▪ Women are generally responsible for cooking and feeding their families and often for subsistence agriculture and food processing  
▪ A well-developed agricultural sector helps to promote economic opportunities for women, allowing them to build assets, increase income and improving family well-being |
| **Goal 2: Achieve universal primary education** | Target 3: Ensure that all boys and girls complete a full course of primary schooling | ▪ Access to efficient fuels and technologies frees up children’s time, who are often pulled out of school to help with survival activities (fetching wood, collecting water, cooking inefficiently, crop processing by hand, manual farming work)  
▪ Energy can create a child-friendly environment (access to clean water, sanitation, lighting and space heating/cooling)  
▪ Lighting in schools allows night classes | ▪ Girls are more likely to be taken out of school to help with domestic and agricultural chores than boys  
▪ Spending on schooling, especially for girls, increases with higher incomes for women  
▪ Girls are more likely than boys to be affected by a lack of access to clean water and sanitation facilities reducing school attendance |
# Module 1 Concepts in Gender and Energy

## Unit 1.4

### The Gender Face of Energy

| **Goal 3:** Promote gender equality and empower women | **Target 4:** Eliminate gender disparity in education | **Electricity enables access to educational information and information communications**  
**Street lighting improves the safety of women and girls at night allowing them to attend night schools and participate in community activities**  
**Women are more likely than men to be illiterate**  
**Women are less likely than men to have access to information and be included in political and community life** |
|---|---|---|
| **Goal 4:** Reduce child mortality | **Target 5:** Reduce by two thirds the mortality rate among children under five | **Cleaner fuels and technologies help reduce indoor air pollution which contributes to respiratory infections that account for up to 20% of the 11 million deaths in children each year**  
**Traditional stoves can be unsafe (for example, burns and household fires)**  
**Cooked food, boiled water and space heating contributes to improved nutrition and health**  
**Women have primary care for the health of children**  
**Women and young children spend the most time indoor**  
**Women and girls are generally responsible for cooking, often with unventilated open fires** |
| **Goal 5:** Improve maternal health | **Target 6:** Reduce by three quarters the maternal mortality ratio | **Energy services are needed to provide access to better medical facilities, including medicine refrigeration, equipment sterilization and operating theatres**  
**Energy can be used to produce and distribute information on sex education and contraceptives**  
**Excessive workload and heavy manual labour (for example, carrying heavy loads of fuel wood and water; arduous and repetitive agricultural and food processing tasks) may affect pregnant women’s health and well-being**  
**Women and girls are generally responsible for gathering fuel wood and collecting water**  
**The chances of sexual assault and other risks (for example, of snake bites) increases the further women and girls must travel** |
| **Goal 7:** Ensure environmental sustainability | **Target 9:** Reverse loss of environmental resources | **Over harvesting, land clearing or environmental degradation can make fuel wood more scarce forcing the poor to travel farther and spend more time and physical energy in search for fuel**  
**Availability of cleaner fuels and energy-efficient equipment reduces demand for fuel wood and charcoal, increases availability of dung and agricultural wastes for fertiliser, and reduces air pollution and greenhouse gas emissions**  
**Motorised pumps help provide more clean water for drinking and sanitation than amounts that can be carried by people or animals**  
**Women and girls are generally responsible for gathering fuel wood and collecting water**  
**The chances of sexual assault and other risks (for example, of snake bites) increases the further women and girls must travel** |

### Discussion Point 1.4.7

Most of the Millennium Development Goals refer to sectors outside the energy sector.

- How can you introduce the energy component in these other sectors?
- What kind of actions does the energy department have to take to satisfy the energy needs of these other sectors?
EXERCISES MODULE 1.4.

Exercise 1.4.1. Gender Needs and Issues

- Read the three cases thoroughly (two of them have been presented earlier), and try to identify any practical or productive needs or strategic interests.

<table>
<thead>
<tr>
<th>Upesi stove project in Kenya</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Upesi project was initiated in 1995 to promote the adoption of more efficient stoves in rural areas of Western Kenya. Its goal was to improve living and working conditions of women in rural households by enabling a significant and increasing number of women and families to benefit from fuel-saving wood-burning stoves. The project has cooperated with women’s groups and involved them in design and field-testing of the stove. The women have been trained in producing, distributing and installing the stoves. Additionally, their marketing skills have been improved as well. Therefore their ability to earn their own income from stove-related activities has increased. Over 16,000 stoves have been installed, providing significant poverty alleviation. The benefits to men and women in the project areas include improved health and time savings for users of the energy efficient stoves, as well as relief from pressures caused by wood fuel shortage (Khatami-Njenga, 2001).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Battery-operated lamps in Bangladesh</th>
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</thead>
<tbody>
<tr>
<td>In 1999 the project “Opportunity for Women in Renewable Energy Technology Utilization in Bangladesh started. Through consultations with community member and non-governmental organizations about energy needs in an area of remote islands outside the reach of the grid, electric lightning was identified as a high priority. Modern battery-operated lamps replace kerosene lamps. The project trained rural women to produce the lamps in a micro-enterprise manufacturing facility and distribute them to local markets. At this point 33 rural women are engaged in constructing and selling of efficient fluorescent lamps that use direct current batteries of 12 or 8 volts. More than 600 lamps are being used (Khan, 2001).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Solar Dryers in Navua, Fiji Islands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Navua is a small town, which is located 40 km from the capital city (Suva), Fiji Islands. A group of displaced farmers have set up a small-scale solar dryer for long-time storage and household consumption of fruit and vegetables. However, the women’s groups were more interested in solar dryers for income generation than for food security. Subsequently a small business was formed in 2005 to link the farmers with the market for dried fruits. Within a month, more than 20 women’s joined the group and started to dry their produce in the solar dryers for selling purpose on Friday’s and Saturday’s at the Navua market. When the women were not drying for profit, they used the solar dryers to preserve vegetables and fruits for home storage and consumption (Baleinavutoka, 2005).</td>
</tr>
</tbody>
</table>
**Exercise 1.4.2 Gender Needs and Issues Role Play**

A role-play.

Two project planners visit the village of Anakapalatanam in Andhra Pradesh, India, to study what kind of energy intervention will help the people from the village. In this role-play several parts should be played.

- Two trainees will perform the role of project planner (one man and one woman).
- Divide the rest of the group in two groups the male trainees and the female trainees. Half of the male trainees will perform as the men of the village and the other half as the women in the village. Repeat this for the female trainees. Now equally large male and female groups have been formed. Make sure that in the male and female groups some act as Scheduled Tribes, some as Scheduled Castes as well as Caste population.

**Men and women in the village: Preparation about 30 minutes**

Read the Anakapalatranam case thoroughly.

The men and women identify (in their separate groups) their energy needs (allow 20-30 minutes). One spokesperson from each group summarises the identified needs to the other group (5-10 minutes).

**Project planners: Preparation 30 minutes**

Separate yourself from the men and women in the village (preferably use another room). You are not provided with the case description, but you have to plan how you are going to do a needs analysis when you ‘arrive in the village’

Who are you going to address? Identify questions you need to ask. You want to ask them about their practical and productive needs (but not in these terminologies, because these people won’t understand, so how are you going to explain what you are interested in?). How are you going address them? Are you going to separate the men and women and address each group individually? Or all at the same time? Or individually? Or per social group?). In what way will you get the best response?

**The role-play (45 minutes)**

The villagers should all be sitting in a room, probably in the social groupings. The project planners ‘come in to the village’, introduce themselves, explain their mission, and then start to carry out their ‘needs analysis survey’.

**Discussion (45 minutes)**

- The project planners present their findings concerning the needs in the village. The project planners divide the needs in practical and productive needs and strategic interests. They should use flipcharts or overhead sheets for this (15 minutes).
- Subsequently a discussion is held, to see whether the village men and women agree with this needs analysis (15 minutes).
- The project planners and the other trainees reflect on what happened in the needs analysis. Did they get the responses they expected? Will it be like this in reality? (15 minutes)

**Total time needed: 2 hours**
The village Anakapalatranam

Anakapalatranam is a large village of about 7000 inhabitants in the north of Andhra Pradesh, India. It is in the hills above the coastal plain, an area once heavily forested and now partly cleared. Its population is mixed. About 40% of the village is from the Scheduled Tribes, which is to say, descendents of people who traditionally were forest dependent. Although many now do some farming (a few have their own small fields in the valley to grow cereals, some have illegally cleared cultivation plots within the forest), most continue to gain some income from the forest by gathering Non-Timber Forest Products such as beedi leaves, berries, flowers, and medicines. About 15% are Scheduled Caste, which is to say people traditionally considered (like the Tribal people) to be outside the caste system and who had the lowest position in society, and who traditionally carried out tasks not permitted for Caste Indians such as removing dead carcasses from the fields. Most of them are today agricultural or industrial labourers or servants. The people of the Scheduled Tribes and Castes are generally poorer than the rest of the population and most are illiterate. The remaining part of the population is divided between various different castes, and primarily engaged in farming (irrigated rice, cereals, cotton) although some are also in trade, owning and running village shops, a small ceramics factory, a bus company etc. One or two of these families are quite wealthy

There are about 15 shops selling food, cold drinks cloth and kerosene, and these shops and the large houses in the centre of the village are connected to the electricity grid. Poorer households cannot afford this and there are a lot of farms in small hamlets (both larger and smaller farmers) which still rely on traditional lighting systems. The Panchyat or village council is elected, and there is one member of the Scheduled Tribe and one woman on this council. The Sarpanch (leader of the council) is a wealthy man with a large farm and a large herd of dairy cattle.

Women in Anakapalatranam

The position of the women differs according to their social group. The tribal women in many ways have more freedom than women in the caste community, although they are less well educated. Traditionally there was no property, so unlike the caste community in which sons inherited the family wealth, in this group girls were treated more equally with boys. Until recently there was no dowry although some tribal families are also accepting this practice. They are known to be more outspoken than most of the caste women, and especially when there is a big group of them together, they are not afraid of standing up in a village meeting and making their opinions known quite loudly. The women of wealthy families generally have at least some primary school education, but very few have jobs outside their homes. Their time is spent managing the household, not least organizing meals for the many labourers who are employed (a hot meal is part of the wage). They also take care of the milk cattle and milk the cows themselves, or supervise the milking and the cooking of milk to thicken it. It is rare that they attend village meetings, and it is not their custom to make their opinions known, because this is considered the proper role of the men folk. Women of poorer caste families work on the family farms during most seasons of the year and are often engaged as labourers on the larger farms too. They tend to be even more shy.

Cooking in most households is done using dried cow dung cakes, firewood, and agricultural wastes such as rice husks and stalks, and pigeon pea stalks. The richest households use bottled gas, but not when they are cooking large quantities eg to feed the labourers or to prepare food for the calves. The richer families eat rice twice or even three times per day, the poorer people each rotis, a kind of thick pancake made from coarse grains and baked.
Exercise 1.4.3  Gender Goals Discussion

It has been suggested that there are four points of view regarding why a gender-sensitive approach is necessary in planning and implementing development projects.

On the one hand we have the equity, equality and empowerment point of view that women have been systematically underprivileged in the past and that they want and need to be emancipated. Let us call this 'argument A'.

Secondly we have the productivity point of view, in which the main aim is to ensure that women become more productive and economically active as a result of the project. We will call this 'argument B'.

Thirdly, we have the welfare approach in which is striving to improving the welfare of women without changing their roles at all - we may call this ‘argument C’

Fourthly, we have the project efficiency point of view, that is that projects will not be effective unless they are constructed on a proper understanding of both men's and women's needs and constraints (D).

- Which point of view do you sympathise with more, and why?
- Write ‘A’, ‘B’ ‘C’ or ‘D’ as appropriate on a piece of card and attach it to your clothing.
- Walk around the room and join up with others of the same opinion. Share your reasons with them.
- Select one or two from your group to present your views in a debate.
Exercise 1.4.4  Matching Gender Needs and Goals: A Case from Yemen

Read the case thoroughly. This case describes a project in which the needs of the villagers are taken into consideration. These needs are matched with the project goals.

- What are the needs of
  - Female villagers (in terms of practical needs, productive needs and strategic interests)
  - Male villagers (in terms of practical needs, productive needs and strategic interests)

- What are the project goals (in terms of welfare, productivity and equity/equality/empowerment)?

- Do you think that the goals and needs match each other? Do you have some additional suggestions for improvement? What are they?

- Do you think that this is going to be a successful project?

- Do you think the careful project planning contributes to its success?
**Diffusion of Biogas Technology: Development of Women in Al-Habeel Village**

**The village**
Mansourit Al-Habeel is a typical village in southern Yemen. The village consists of scattered groups of houses, near which are located open animal sheds. It has 270 households totalling about 1500 persons, of which 70 households are located in Mansourit Al-Habeel. The area of land owned ranges between zero and 3.5 acres per family. The number of landless families totals 57. The animal holding in the village is about 0.2 animal units per person compared to 0.23 animal units per person for the overall rural sector in southern Yemen. About 16% of the families own more than 50% of the animals with the density of 2 animal units or more per family. An appreciable part of the village water is obtained from underground sources. Latrines of the village are connected to deep pits which pollute the underground water, thus constituting dangerous sanitary problems. The village had been recently supplied by electricity which is used only for lighting. Waste water in the village is drained around the houses, forming small ponds of stagnant waste water thus causing an additional source of pollution. The main source of pollution in the village is in fact organic waste, which consists of animal dung, human excreta and waste water from the households.

**Women in the village**
Women have to walk distances of more than three or more kilometres for fuelwood and they are exposed to snake and scorpion bites. This fuelwood is burned directly in open stoves without grit or chimney for cooking, baking, and other domestic uses. The combustion in these stoves is incomplete, thus producing harmful smoke containing a considerable amount of toxic carbon monoxide, which accumulates near the stove and in the kitchen. Al-Habeel women also indicated that they dislike baking because it involves a high risk of burning their hands.

Women are also responsible for cleaning the animal sheds where the fodder is placed on the ground and eventually is mixed with animal manure. Since animals do not eat this mixture, a substantial part of the fodder is wasted. Also this mixture makes the cleaning of the sheds more difficult. The women are also responsible for collecting the dung which is not used as fertiliser because it usually contains large amount of seeds that grow unwanted grass. The women pile the animal manure outside the houses waiting for the annual rainfall to sweep it away. With the all-year round hot weather, these piles become a source of health hazard to all the community. Both the manual handling of the manure and the presence of the piles increase the health hazards affecting women and children in particular. Al-Habeel women are also responsible for milking the cows.

**Biogas technology in the village**
Organic waste can be properly handled by introducing an integrated biogas system which includes a biogas digester, properly designed shed, simplified waste water treatment plant, and latrine, as demonstrated in the block diagram shown in the figure. A product of this waste management is a clean energy source to replace direct burning of biomass, seedless germ-free fertiliser which does not attract insects and flies and which can be used for increasing the fertility of the land and the green area in the village, more efficient use of fodder, and improved sanitary disposal facilities. The treated water, supplemented by the fertiliser, can be utilised to irrigate the newly formed home gardens. The local people can participate in the design, construction, operation and maintenance of the biogas system, which is constructed of locally available materials.

**The project**
The project went through many phases which consisted of both surveys as well as actual field operations. The first phase consisted of a case study on the techno-economic and social aspects of the introduction of biogas technology in Southern Yemen. Three different designs were constructed in a test in order to select the most appropriate design for the local conditions. The cost effectiveness of each system in terms of the investment in the construction, returns from the gas and fertiliser outputs as compared to the conventionally used fuels and fertilisers was considered. A social assessment demonstrated the values and practices of the villagers especially women, regarding their acceptance of using an unfamiliar technology and using the biogas produced from animal manure and human excreta as a fuel for cooking and baking. It also indicated the social values related to the acquisition of skills by women once they are liberated from fuelwood collection and other hardship responsibilities. The three biogas systems used, were Egyptian-Chinese, Borda and Indian designs. The Egyptian-Chinese design proved to be the most appropriate for the village conditions. Successful operation of the three models, and the enthusiasm of the villagers, moved the government to request ESCWA to
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pursue this activity further by implementing a pilot project in Mansourit Al-Habeel.
The participation of the local people in planning, monitoring, and assessing the activities of the project was considered a primary factor in adopting the technology and introducing social change especially to the conditions of women. This was translated operationally by the formation of a village committee composed of the local peoples’ organisations, including the General Federation of Yemeni Women, and representatives of the beneficiaries. This village committee undertook the promotion of objectives and activities of the project in the community, participation and formulation of detailed work plan, selection of beneficiaries, site selection for biogas plants, selection of labour force, determining the financial responsibilities of the beneficiaries, solving the problems arising from sharing the output of the multi-family digesters, monitoring the implementation of the extension programmes for women, and ensuring the provision of the necessary requirements from the village for the construction of biogas systems.

In order to assess the impact of the technology on the community at large, and women in particular, a base-line data survey of the village was undertaken. It addressed the families, heads of households, and women. The survey confirmed the conditions of rural as described above. In addition, it revealed that women were ready to acquire new skills and knowledge that would improve their lives and that of their families. It also indicated that the male heads of households welcomed the release of women from their difficult tasks, within and outside the home, and the utilisation of the time for education and improvement of family conditions.

Twenty one biogas digesters of the fixed dome Egyptian-Chinese type were constructed in Mansourit Al-Habeel serving 28 families out of 70 families of the village; they represent 40% of the villagers. Five digesters were community units serving more than one family and the remaining ones were family units. These twenty one units are in addition to the four constructed in Al-Habeel village in the test phase.

The digesters were constructed within an integrated biogas system consisting of: the digester, feeding chamber, outlet chamber, animal shed, wastewater treatment plant, simplified drip water irrigation system for the house gardens, simplified gas transportation network, modified stoves and ovens. In addition the kitchens and latrines were modified to fit the biogas system. The beneficiaries participated either in cash or in-kind in many aspects of the project. They contributed in cash about one third of the cost of the system or in-kind through work days equivalent to the same amount.

The female beneficiaries participated with commitment in the extension programme provided by the project. Initially the centre of the Local Defence Committee was provided for the extension activities in Al-Habeel village and later the programme was conducted in one of the homes of the villagers in Mansourit Al-Habeel itself. About 50 women from the village were introduced for the first time to basic life skills as literacy, health education, home economics, sewing, child care, poultry raising, vegetable gardening and the operation and simple maintenance of the biogas equipment inside the house.

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**Local impacts**

In terms of the environmental conditions in the village, the piles of animal waste and the stagnant wastewater around the houses of the beneficiaries disappeared completely. Connecting the latrines directly to the digesters solved the sanitary disposal problem in the houses of the beneficiaries. The green areas around the houses have become more prominently visible in the village. These improved environmental conditions had direct impact on the quality of life of the villagers. The children have cleaner and safer areas to play. Improvement in the general health conditions of the community was witnessed.

Financially speaking, the villagers who used to buy kerosene or firewood to supplement their energy needs now save money by the use of the biogas. Part of the fertiliser is used in the home gardens, while the major part is transported to the fields after drying and have replaced the purchase of chemical fertilisers, and increased the productivity of the land and safeguarded the farmers and the land itself from the adverse effects of chemicals. In addition, the home gardens irrigated by the treated wastewater and enriched by the fertiliser started producing fodder for the animals, vegetables and fruits for household use, thus bringing further savings to the budgets of the beneficiaries. By eating
clean, green and abundantly available fodder, the animals in the newly constructed sheds appear healthier and fatter thus producing more milk.

Besides the saving of family income, the economic benefits of the project also included creating employment opportunities during construction for the local labour in the village and creating working opportunities for the female extension workers from the village. The project also assisted the beneficiaries in generating income from selling excess fertilisers, animals and animal products such as milk.

Women are the real beneficiaries from this project simply because they are responsible for many of the difficult tasks that are alleviated by the technology. They are relieved from collecting and carrying fuelwood, thus saving them the long and arduous transportation of the fuelwood along with minimising their exposure to poisonous bites. Also the time spent in baking and cooking decreased thus allowing more time for them to take care of their families and to acquire new skills. During the cooking and baking process, women are not exposed anymore to the smoke from woodstoves and ovens, thus minimising susceptibilities to respiratory and eye diseases and burning their hands. By not handling the manure and milking the cows in a cleaner environment, the women and children are spared intestinal diseases. Also their children are drinking cleaner and healthier milk.

Through the extension programme, the women began to read and write, acquire new values and skills regarding cleanliness, home management, nutrition, child care, personal care, in addition to productive skills of poultry raising and home gardening.

The financial analysis of the biogas system revealed that the simple rate of return on the investment can reach 17.2% based on the international prices and 8.4% based on the local prices (which include high taxation) of the building materials. In southern Yemen, a project is included in the national plan, once its components are exempted from taxation. Here lies the importance of the awareness of the decision-makers of the real benefits of this technology and their decision to include such a project in the national plan.

**Wider impacts**

The benefits are however not confined to the one village where the pilot project took place. The project had a direct impact nationally through its clearly identified outputs. The awareness among decision makers at the national level regarding this renewable energy technology grew to such an extent that the introduction of this technology was included in the national plan for the socio-economic development of the country. A trained team of engineers, technicians and skilled labour was formed as the nucleus for the diffusion of this technology in other parts of the country. Another team of field data collectors was trained to conduct surveys and a third team of extension workers was trained to implement extension programmes in other villages. This is very significant for the future spread of biogas technology in Yemen.

Source of data
Exercise 1.4.5 How can energy interventions meet gender goals?

Consider a poor, slum area of a city that you know. Several families live in one house usually, if they are lucky there is a space at the back where the cooking is done. There is no electricity – partly because people are too poor to pay for it, but also because the houses are of such poor quality that the electricity company says it is not safe for them to get wiring. Some of the houses closest to the main road, where there is an electricity line, have illegal connections, but from time to time the police come and cut them off. Most people use charcoal for cooking, and they buy it in small quantities, usually daily, which means that they pay much more per kilo than if they were to buy a sack once every two weeks or so. If they have lighting at all, they use small wick lamps with kerosene. The community is made up of some families (parents and children), but also a large number of single young men, who have come from villages in hope of a better job in the city, and women on their own (sometimes two sisters together), with their children but without an adult male. The men get jobs when they can as labourers carrying goods in the nearby city market, the women try to earn money by petty trading and other means, because there are few labouring jobs available for them. The men in particular have a tendency to get drunk in the evenings, women are frequently molested, and especially young girls are afraid to go out at night.

The buying power of the people is obviously very low, and their use of energy is also low.

What types of energy might help women to support themselves and give them income earning opportunities? What sort of opportunities might these be?

What types of energy might improve the welfare of women and reduce the drudgery of their daily lives? Would this also improve their health?

Can you think of any energy interventions that might make a long term difference to women’s position in this community?
1.4 FOLLOW UP

In your last projects were the goals, planning and needs consistent?

On what issues has it been inconsistent?

What causes the inconsistency?

What would you change if would have improve the consistency, the goals or the project planning? Why?
References and Supporting Materials for Module 1


CCIC (Canadian Council for International Co-operation) Two halves make a whole: Balancing Gender Relations in Development. Ottawa: CCIC.


Module 1 Concepts in Gender and Energy


TGNP, (1996): Gender Relations Study: Gender Roles in Village Development Programme, Tanzania Gender Networking Group


Martina Ului, Women’s Agriculture Extension Service Programme (WAESP), Ministry of Agriculture and Fisheries 1998 – 26

UNDP/ADB/GAD/APDC, 1998, Natural Resources Management and Sustainable Livelihoods for Women, Coral Coast, Fiji, pp 11 – 32


If it’s about Cooking then ask the Women: Biogas Project in Benau, Savusavu. – Fiji doe, 2003 - (Adopted from Ministry of Non Conventional Energy Sources, 2001) #60

Involvement of Women and Improved Stove Projects, DoE, 1998? - #61

Source: (http://www.apace.uts.edu.au/docpublish/zuke.html);

Source: http://www.fdoe.gov.fj/2nd_solar_refrigeration_project_at_d.htm


Primary source: Ms Baleinavutoka – Fiji Ministry of Women, Social Welfare and Poverty Alleviation (MWSWPA) 2005 (verbal)
Source: Pacific Islands Forum Secretariat (PIFS) 1.4.3

Audio visual materials
Three videos are recommended for use with this module:

Pacific Energy and Gender Network (PEG), hosted by South Pacific Applied Geoscience Commission (SOPAC) produced a video “Linkages between Energy and Gender in the Pacific”.
FAO’s Community Forestry Programme has a video describing its gender approach which illustrates the project efficiency approach or goal: It is called Gender analysis for forestry development planning why? & how?. To order it, consult the webpage http://www.fao.org/forestry/fon/fonp/cfu/pub/en/av/avab03-e.stm
UNDP Mali has a video illustrating the Mali Platform programme. It is called Overcoming Rural Women’s Poverty with the Multipurpose Platform.