MODULE 4

GENDER ANALYTIC TOOLS

Overview

In order to plan in a gender sensitive way it is necessary to use a variety of analytic procedures that ensure the gender elements are not forgotten. There are a number of well-known procedures commonly used in rural development planning that are more or less standardised. Mostly these provide matrices for analysing data on the project. Five such analytical methods are included in the first topic. The strong and weak points of each method will be highlighted, and it is show how they could be applied in energy planning. A video "Gender Analysis for Forestry Development Planning", available from the FAO Forests Trees and People Programme, illustrates one of these methods vary clearly.

Another common kind of gender analytic tool is the checklist. A gender checklist is a standard list of questions used by agencies to assess situations or projects (in this case, energy projects). Topic 2 looks critically at a number of standard gender checklists as used in energy related projects and also consider the strong and the weak points of checklists as a methodology.
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Topic 1

What are gender analytic tools?

Gender analytic tools are systematic frameworks for diagnosing 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. They are intended firstly to draw attention to gender inequalities in a given community, and secondly to be a early warning system identifying problems that may arise if an energy initiative is started within this community, as regards impacts on men and on women. Most gender tools in themselves however give no direct guidance in how to determine desired development directions; they are simply tools which can be applied to describe the existing situation, or to predict what the impacts of a project will be.

For example, gender analytic tools may identify the fact that women have no say in what types of crops are planted on the family farm, thus the conclusion may be drawn that they are unlikely to be able to chose the tree species to be planted in a family woodlot. If it is thought that men and women have very different views about what trees are valuable and worth growing, then this is clearly an important piece of information to be considered, but the gender analytic tool itself cannot tell us how to resolve this problem. Or the analysis may show that women's working activities are so heavy during planting season that they will not be able to take on the extra activities involved in planting such a woodlot. It cannot however tell us what to do about this situation or what the best solution may be. For that, one has to embed the tool within a whole planning framework, to ensure that the result of the analysis carried out using the gender tools is carried through and made use of in later decision making. This module looks at tools; Module 5 looks at data gathering methods to supply data for these tools, and Module 6 shows how they can be brought together in a planning framework.

There are a number of gender analytic tools available, including:

- The Harvard Analytical Framework
- The Gender Analysis Matrix (GAM)
- Using stories to develop understanding
- Forcefield Analysis
- Capabilities and Vulnerabilities Analysis
- Gender Needs Assessment (Practical Needs and Strategic Interests)
In addition to these standard analytic methods, two other kinds of tools will be considered:

- Valuing women’s work
- Gender data bases

All of the tools mentioned have been developed for general use, not specifically for energy planning. The Harvard approach is the most widely known and used, and indeed in some circles, gender-aware planning begins and ends with the application of this method. However, it must be stressed that methods such as the Harvard approach are simply components in a planning process, components that can be selected for use when appropriate. Their strong and weak points need to be understood, as well as the fact that the different tools are in some cases alternatives to each other and other cases complementary. The gender approach to planning as a whole involves selection of appropriate tools and their proper use, followed by utilisation of the results of the analysis performed in the decision making process. Gender sensitive energy planning means application of such methods to any programme or project which is promoting energy, whether through conservation, or through use of new technology, or through increasing the supply.

1. The Harvard Analytical Framework method

The Harvard method was developed by Overholt et al. in the early 1980s. It is clearly intended for use by professional project planners and development workers and it requires a fairly sophisticated understanding of social relations and the factors underlying these. Although it relies on information that has to be collected in the field, it is essentially a desk tool to bring together and consolidate data, which will then (hopefully) be used in further decision making. Thus the method firstly suggests or prescribes what sort of information needs to be known (and therefore what type of data needs to be gathered in the field) and secondly provides a logical system for categorising this data in a standard format, so that it can be reviewed in the office. It consists of three main steps:

The first step is to draw up an activity profile. This means to identify what tasks and work are carried out by men and by women (the analysis may also divide the population further into boys, young men, middle aged men, old men, and similar categories for women, if such divisions are considered useful).

The tasks are grouped into those which are directly productive of goods and services, and those which are essentially for reproductive (maintenance of family members), and community support activities. Conventionally, it is often supposed that women contribute in the area of reproductive activities - keeping house, cooking, looking after
the sick and elderly etc - but although they undoubtedly do carry the major share of these tasks, in practice women are often also heavily involved in productive activities such as farm work on the family farm, or as agricultural labourers, or in production of crafts and foodstuffs for sale. They often contribute more than men also in the area of community work (support to school and communal religious activities etc). It is for this reason that women are often said to have a *triple role* in society.

The activity profile of the Harvard Analytical Framework sets out in matrix form the types of tasks that may be expected under productive, reproductive and community activities, against the gender divisions in society, and the analysis consists of identifying which activities are carried out by which gender group. This may also include estimates of the time allocation involved, and the activity locus - where the activity is usually carried out (at home, in the fields, outside the community area, etc). It should not be forgotten that gender groups may need to be further disaggregated into categories to fit the local circumstances: for example, it may be necessary to differentiate between richer and poor families as well as men and women. It may be necessary to distinguish between senior women and junior women, if their tasks, rights and responsibilities differ greatly.

The second step is to make a similar analysis focusing on the access and control of resources. Access means physical access to a particular resource: control means the power to make decisions about the use of that resource. A woman may have access to a field in that she works on it regularly, but she may not have control concerning the decisions about what is grown there, how much of it is sold and how much kept for family consumption, or even about what the waste products of the crop are used for.

The analysis therefore involves first identifying all the relevant resources and then assessing which of the gender groups has (firstly) access to these, and secondly, control over them.

The third step in the analysis is to analyse what factors or determinants lie behind the patterns of activities, access and control observed. This type of analysis cannot really be carried out and presented in matrix form, as can the earlier two steps, although it is often presented in this form for convenience. Rather, one has to work through a list of possible areas in which such factors are likely to be found. In looking at these factors, one needs to consider what type of impact they are likely to have on activity distribution, and access and control, and also what opportunities they offer and what constraints may be anticipated (thus include positive and negative influences). The general areas to consider might include:

- general economic situation, poverty, income distribution patterns, etc
- institutional structures and bureaucracies and their mode of operation
- demographic factors
- sociocultural factors
- community and family norms, including religious beliefs
- legal parameters
- training and education levels
- political events, internal and external

A schematic representation of the Harvard procedure is attached.

In some texts the three stages involved in the Harvard procedure are considered each to be separate tools in their own right (for example in the CICC handbook which is listed in the references); other texts use the method but do not call it 'Harvard method'. Some of these add additional steps, for example the procedure illustrated in the FAO/FTP video 'Gender Analysis in Forestry' starts with an introductory step which suggests that the planner should first ask the question 'What is better here than it used to be? What is worse?' - to establish the trends. However what is important is to recognise the core importance of the issues of work, and of access and control of resources. Around this many other questions can be built to help explain and clarify the situation.

For further general explanation of the Harvard method, please see the publications by Overholt and by CICC listed in the references.

Applying the Harvard method to energy projects and programmes

The Harvard method is intended to be applied at the problem identification stage of planning, before an energy intervention is designed. If this or a similar analysis has not been done (which is very often the case), it may alternatively be used at the appraisal stage to assess what impacts the project may have, although this is usually less satisfactory. In practice this is generally what it is used for.

At the problem identification stage, the Harvard matrix lays down a framework for the gathering of relevant information in the field - it becomes a sort of checklist of issues to consider. For example in many cases there will be a distinction between men and women's role in energy supply and use. Mostly it is women's task to gather the firewood and to use it for cooking. However, in applying the Harvard method, attention should not be limited just to fuel related activities. The time women and men spend on other activities, such a agricultural tasks, may also be important in determining their potential availability for participation in an energy project. The extent to which they have access to and control resources - including common land, fields in private production, money, credit, etc - will also impact upon their willingness and ability to contribute to some projects. An important step is the third one - looking
at the determining factors. These should be considered in the light of whether they can be changed if so desired, and if so, how.

For example, it might be determined that women have little possibility to adopt any sort of new energy technology because they rarely have enough money and cannot get loans from the bank, while the men do not appear to be very sympathetic about their energy problems, or at least not sympathetic enough to give them money for this. This would alert the planner to the fact that different solutions to this bottleneck may need to be considered. What would it take to change this situation? Various possibilities may have to be considered: provision of job opportunities which will allow women to earn money in their own right? A special fund at the bank for women, for example a revolving fund that does not require collateral? The purpose of this step is to set the planner thinking what can be done and must be done to make the project possible.

If the Harvard method is used for the first time at the appraisal stage, it becomes a method of checking to make sure the project possible, checking that the basic conditions for project success are present. For example, suppose the project proposes a women’s woodlot for firewood on a piece of wasteland in the village area. What has to be checked is: do the women have control of that piece of wasteland; do the women have the time to plant the area with trees; do they have the right to sell any surplus wood and keep the cash benefit, etc. (and if not - the determinants analysis step - could any of these conditions be changed?)

Strengths of the Harvard method in energy planning
- focuses on resources, which may be at the heart of energy problems
- is systematic and easy to understand
- is flexible, can be used in a variety of ways and in combination with other types of analysis.

Limitations of the Harvard method in energy planning
- is more suitable for detailed analysis of a project are than for policy analysis
- is not goals oriented: descriptive only
- does not look at needs as such.

VIDEO: Gender Analysis for Forestry Development Planning

This video shows (for cases in Asia) how a method such as the Harvard method can help to make a success of projects. It starts by showing how even within one country such as Thailand, gender differences vary from community to community. It then shows how a number of projects failed because they were not sensitive to the fact that men and women had different needs and interests. It works through each stage of the Harvard procedure to demonstrate how this can be applied in village tree planting and management schemes.
Who decides what to plant in the homegarden?
## HARVARD ANALYTICAL FRAMEWORK, MATRIX 1: ACTIVITY PROFILE

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>Hours per day spent by women and girls</th>
<th>Hours per day spent by men and boys</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PRODUCTIVE ACTIVITIES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td></td>
<td></td>
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<td>4. __________</td>
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<tr>
<td>Income generating activities</td>
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<td>1. __________</td>
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<td>3. __________</td>
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<td>4. __________</td>
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<tr>
<td>Employment</td>
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<td>1. __________</td>
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<tr>
<td>2. __________</td>
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<td>4. __________</td>
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<tr>
<td>Other productive activities</td>
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<td>1. __________</td>
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<td>2. __________</td>
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<tr>
<td>3. __________</td>
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<tr>
<td><strong>REPRODUCTIVE ACTIVITIES</strong></td>
<td></td>
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<tr>
<td>Water related</td>
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<tr>
<td>Fuel related</td>
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<tr>
<td>Food preparation</td>
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<tr>
<td>Food preparation</td>
<td></td>
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<td>Childcare and health</td>
<td></td>
<td></td>
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<tr>
<td>Other</td>
<td></td>
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<tr>
<td><strong>COMMUNITY SUPPORT ACTIVITIES</strong></td>
<td></td>
<td></td>
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<tr>
<td>Labour on communal projects</td>
<td></td>
<td></td>
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<tr>
<td>Meetings</td>
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<tr>
<td>Helping others in time of need</td>
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<td></td>
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<tr>
<td>Other</td>
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</tbody>
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1 Time can be estimated by hours, but alternatively by days or in difficult cases simply by pluses and minuses to indicate heavier and lighter tasks.
### HARVARD ANALYTICAL FRAMEWORK, MATRIX 2: ACCESS AND CONTROL PROFILE

<table>
<thead>
<tr>
<th></th>
<th>Access</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Women</td>
<td>Men</td>
</tr>
<tr>
<td><strong>Resources</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Land</td>
<td></td>
<td></td>
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<tr>
<td>2. Equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Labour</td>
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<tr>
<td>4. Cash</td>
<td></td>
<td></td>
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<tr>
<td>5. Credit</td>
<td></td>
<td></td>
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<tr>
<td>6. Education</td>
<td></td>
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<tr>
<td>7. Other</td>
<td></td>
<td></td>
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<tr>
<td><strong>Benefits</strong></td>
<td></td>
<td></td>
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<tr>
<td>1. Income</td>
<td></td>
<td></td>
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<tr>
<td>2. Basic needs</td>
<td></td>
<td></td>
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<tr>
<td>3. Status/power</td>
<td></td>
<td></td>
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<tr>
<td>4. Other</td>
<td></td>
<td></td>
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</tbody>
</table>
Is biogas always a blessing for women?
HARVARD ANALYTICAL FRAMEWORK, MATRIX 3: INFLUENCING FACTORS

General economic situation, poverty, income distribution patterns, etc
(Impacts, constraints, opportunities?)

Institutional structures and bureaucracies and their mode of operation
(Impacts, constraints, opportunities?)

Demographic factors
(Impacts, constraints, opportunities?)

Sociocultural factors
(Impacts, constraints, opportunities?)

Community and family norms, including religious beliefs
(Impacts, constraints, opportunities?)

Legal parameters
(Impacts, constraints, opportunities?)

Training and education levels
(Impacts, constraints, opportunities?)

Political events, internal and external
(Impacts, constraints, opportunities?)

Other relevant factors
2. The Gender Analysis Matrix (GAM)

The GAM is a gender analysis tool which was designed by Rani Parker of the Save the Children Federation and the Salvation Army World Service Office: it is published by UNIFEM. Unlike the Harvard method, which is designed for use by professional planners as a desk tool, the GAM is intended to be used in the field by grassroot workers facilitating participation by community members in groups. It is an analysis to be carried out by the community about the impacts of a proposed project on itself, with help of such a grassroots worker. The author has prepared a training manual to train groups of grassroots workers how to use the method, but the ultimate participants in the process are the members of the community itself. The purpose in using the GAM as a tool is said to be to assist in designing, planning, monitoring and evaluating community-based projects. In fact, as a tool it can be used to estimate the likely impacts of a given intervention (if the analysis is carried out before the project starts) and to monitor and evaluate the effects of the project (if the analysis is carried out during or after completion of project activities). Its contribution to design and planning, like that of all gender tools, can only be indirect: the planners can learn from the information generated by the analysis, but what they do with this information is not determined.

There are other purposes, however, for using the GAM. It is a means of stimulating participation of community members in a structured way, which in itself may have very positive impacts on the progress of the project. And further, since it involves analysis and discussion of gender issues, it may awaken consciousness of gender issues within the community and lead to other forms of development. The very process of sitting down with community members to discuss gender issues, in a given context, may itself stimulate positive changes, regardless of what happens in the project itself.

The matrix itself is very simple, consisting of a four by four table. Columns refer to: labour, time, resources and culture. Rows refer to women, men, household and community. Community members discuss among themselves, for example, what the 'labour' implications of a given project will be on 'women' and fill the relevant cell with notes indicating whether the impact will be positive or negative. It is hoped and assumed that both men and women members of the community will take an active part in this analysis, otherwise its validity is questionable. The analysis should be repeated, on the basis of real experience of the effects of the project, at regular intervals, to ensure the information on the matrix is true. It should be performed with different groups of people.

An example of an unfilled GAM matrix is attached. For further information, please refer to the publication by Rani Parker listed in the references.
### A GAM Matrix

<table>
<thead>
<tr>
<th></th>
<th>Labour</th>
<th>Time</th>
<th>Resources</th>
<th>Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Households</td>
<td></td>
<td></td>
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<tr>
<td>Community</td>
<td></td>
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</tbody>
</table>

**Applying the GAM to energy planning**

While the Harvard method is used for planning what information is to be gathered in the field before any energy project is planned in detail, and for organising this data to get a good overview when back at the office, the GAM is primarily a tool used in the field and with participation of the eventual beneficiaries. It is not just a framework that structures the data but also a means of getting people involved. It is a tool that might well be used by an NGO in community meetings to raise interest and commitment among the target groups.

Let us assume that the NGO has in mind a project to build smoke-free stoves, which are also more fuel efficient, and use less wood. The GAM may be used to focus discussion and to talk about this. Using a large 4 by 4 matrix drawn on a chart on the wall, the facilitator can call upon the meeting to suggest what impacts this project will have on a) labour, b) time taken, c) resources used and d) the culture, from the point of view of men, women, the household as a whole and the community.

It will be seen that although the use of this method may provide some data and insights that the NGO workers were not aware of, or at least insights into how the community views these items, its major function may in fact be to make the community more aware of these things.
Strengths of the GAM in energy planning

- can be used with people of very low educational status as a means of encouraging them to participate and recognise the basis of their energy problems

Limitations of the GAM in energy planning

- gives little detailed data for later analysis
- is time consuming/many meetings may be needed with different groups to fill the matrices
- is not goal oriented and does not look at needs as such

3. Using stories to develop understanding of problems

This method is not commonly found in other manuals of gender tools because it is not a structured as the others described here. Nevertheless it is included here as a gender analytic tool because it is very helpful in actively working with women in helping them to develop their own understanding of their problems. The idea is that images - presented orally in stories, or visually, in photos or drawings, can strongly stimulate discussion, and can draw attention to problems which were not consciously considered before\(^2\). They provide a starting point, an initial focus from which discussion can flow, particularly if they illustrate, or could be interpreted as illustrating, conflict, injustice, danger (to persons or the environment) etc. The point is not to find out how women and men interpret the stories or pictures: the purpose is to use them to get people to talk among themselves and with the planner, because in the identification of problems associated with the stories and pictures, an awareness raising process is going on. For example, Schenk uses drawings which show work being done, but only the hands can be seen, so that it is not clear whether it is a man or a woman working. Women may claim that this is work women have to do: men may counter that they do it too, which can lead to a discussion about proportions and who is really bearing the burden of this task. In recognising and talking about the problems and injustices, the empowerment process is beginning. In this, the method is similar to the GAM: its purpose is not to provide information to the planner so much as to initiate a process of awareness, and of the need and possibility for change.

There are no fixed stories or pictures: these need to be created to fit the local

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\(^2\) Paulo Friere used the technique of showing photos to groups of adult learners. Their interpretations of meaning the pictures varied and Friere used this to draw attention to the fact that what is obvious, is not obvious: there are always different interpretations of a given situation, depending on your own situation. This awareness raising is crucial to his ‘conscientisation’ process. The GRAAP method used in social forestry in Senegal uses pictures of environment to stimulate discussion on causes of degradation, and at a recent seminar (‘Gender Matters, Method Matters’ CERES Seminar at the University of Twente, 15 may 1997) Schenk presented drawings of activities in villages in Laos to get people talking about gender task division and gender problems generally. At the same seminar van Est and de Wit showed how allegorical story telling in the traditional mode can be used to raise environmental conservation issues for discussion among village communities, particularly those that involve difficult choices.
circumstances and naturally they should be recognisable to the people as they are intended to empathise with the conditions illustrated. The output from discussion is not fixed either. It results in a gender analysis of local problems, not by or for the planner but essentially by and for the people themselves; it is therefore unlikely even to be presented in written form, although of course the planner can record discussions and what appears to be the consensus of opinion at the end of the discussions. This is not a tool that can be used in isolation: it implies the presence of an on-going discussion and institution building process.

An extension of the method is to allow people to write (or, more probably, draw) ‘dream stories’ - that is to say, visions of how the future should be, a method also suggested by Schenk. This could be applied for example in designing tree planting, to make it clear that men and women may have very different ideas about where trees should be planted, for what purpose and what type for example. Sketches of the ‘future village’ in this respect could firstly be used to continue dialogue between men and women about what is important, but they can also be used to convince decision makers that there are indeed very different views on such matters between men and women at village level.

**Applying the use of stories to rural energy planning**

The use of stories to generate a gender analysis would be applicable in cases where a strong equity approach is being taken and where the purpose of carrying out the energy planning is primarily gender development rather than energy or environment per se (although there is always overlap). It could be very useful for example if one of the possibilities to be considered is devolution of responsibility and rights to local forests from the Forest Department to the community. Such situations often have very strong gender components, such as who (i.e. which gender) is using the forest now? Who needs it most? Why is it being overused/degraded? Who should be responsible for it in the future? What kind of management committee is best? Who should be represented on the committee? Should households be represented, or just individuals? How will punishment for rule-breakers be carried out? It would be possible to create a number of scenarios, some similar to the existing situation, some different, some idealistic, and give these one by one to the discussion groups as ‘kindling’ to start an in-depth analysis of the real local situation and the real local possibilities. As noted, some of these scenarios could be ‘dream stories’ of the participants themselves.
Charcoal seller: man or woman?

Charcoal buyer: man or woman?
4. Forcefield Analysis

This is a tool used for analysing complex problems and helping to identify solutions. The technique dates from the late 1940’s when it was first used in Social Science research for analysing group dynamics. Force-field analysis is based on the hypothesis that a given situation arises as a result of a number of balancing forces (or factors), some of which are constraining forces, resisting or blocking change, and others which are driving forces, facilitating or promoting the process of change. If we want to change a given situation then identifying the particular forces for that situation and assessing their influence can help design a strategy to minimise the constraining forces and/or increase the driving forces.

The first step is to define the problem/present situation and then the desired situation (goal) when the problem has been solved. The forces working against and for the desired change are listed. These forces can be related to people, money or time. The forces can be internal or external to the organisation. Internal forces include beliefs, religion, education, finance, physical resources, physiological condition, and organisation. External forces can be national (including policies and laws), international, political, local (eg community groups), cultural and economic. The next step is to construct a force field diagram. The most important forces are underlined (or some organisations use a numerical weighting system of classification from strongest to weakest). The next stage is to list actions which could reduce or eliminate the most important restraining forces and steps which could be taken towards solving the problem and identifying resources available to help achieve this objective. The process is repeated for the driving forces, with an emphasis on increasing their influence/effectiveness. The strategies are then evaluated and for those accepted the implementation steps are put into sequence. The situation needs to be periodically reviewed because forces change and new strategies may have to be devised. The steps of a force-field analysis can be summarised in a work sheet.
FORCE FIELD ANALYSIS WORKSHEET

1 The Problem

<table>
<thead>
<tr>
<th>2a Present Situation</th>
<th>2b Desired Situation</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Constraining Forces</td>
<td>5 Driving Forces</td>
</tr>
<tr>
<td>4 Actions to Reduce or Eliminate</td>
<td>6 Actions to Increase</td>
</tr>
<tr>
<td>7a Steps towards influencing the forces</td>
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<tr>
<td>7b Resources required</td>
<td></td>
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</tbody>
</table>

8 Steps

<table>
<thead>
<tr>
<th>How</th>
<th>When</th>
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</table>

Applying Force Field Analysis to energy planning
Different organisations are involved in energy planning, and they have different mandates, different political positions and different internal cultures. Their potential for adopting new approaches to planning therefore also varies. Small NGOs may perhaps be more flexible than large ministries, although this is not necessarily the case. Identification of the constraints and opportunities is however essential in any organisation if such changes are to be made.

A number of organisations or institutions (such as OXFAM) have used force-field analysis to assess the problems of introducing a gender sensitive planning system. The technique may be best used by members of particular organisation working together, but it can also be used in a more general way by individuals or with a group of people from different organisations.

Force-field analysis could also be used during the project cycle, in the formulation and implementation stages. It provides a framework in which complex problems can be analysed, forces identified and strategies devised to influence these forces so that a particular objective or goal can be reached. It can be applied to socio/cultural problems, such as increasing the participation of women in an activity, or to physical problems within a project or small scale enterprise, for example, reducing the percentage output of low quality household stoves in a co-operative. The diagram below illustrates how it could be applied to the case of an electrification project.

**FORCE-FIELD ANALYSIS DIAGRAM**

**Problem:** Less than 5% of women headed households in a recently electrified area have applied to be connected to the supply.

**Goal:** An NGO aims to increase the number of connected women headed households to 40% in the next two years.

** Constraining forces **

<table>
<thead>
<tr>
<th>% women headed households connected to electricity supply</th>
<th>Lack of information about benefits of electricity</th>
<th>Low incomes</th>
<th>High connection fee</th>
<th>Cost of appliances</th>
<th>Two years time (goal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Present situation</td>
</tr>
<tr>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Driving forces**

- Government policy to promote electricity use
- Active women and health group
- Increased income generation opportunities
- Opportunity for children to study in evenings

**Strengths of Force-field analysis**
- Provides a framework for analysing complex problems where many different factors are involved.
- It is one of the few tools that directly confronts institutional aspects of gender.
- It can be used in combination with other analytical tools.
- It is goal oriented.

**Weaknesses of Force-field analysis**
- Problem needs to be identified prior to the analysis; this may be difficult in practice.

Forcefield analysis is a tool used to organisations or institutions likely to be involved in the project to assess the problems of introducing a gender sensitive planning system. It may be best done by members of particular organisation working together, but it can also be used in a more general way with a group of people from different organisations.

It consists of four main questions:

What *constraints* within your organisation make incorporating a gender approach difficult? List them and rank them from the strongest to the weakest.

What *driving forces* (strengths and opportunities) exist in your organisation that can support the introduction of a gender approach?

What actions can realistically be taken in the near future to reduce or eliminate the constraining forces?

What actions can be taken to increase and build on the driving forces?

**Applying Forcefield Analysis to energy planning**

Different organisations are involved in energy planning, and they have different mandates, different political positions and different internal cultures. Their potential for adopting new approaches to planning therefore also varies. Small NGOs may perhaps be more flexible than large ministries, although this is not necessarily the case. Identification of the constraints and opportunities is however essential in any organisation if such changes are to be made.
5. Capacities and Vulnerabilities Analysis

Capacities and Vulnerabilities Analysis (CVA) is based on the idea that people respond to crisis or other problems according to their various strengths and weaknesses. Some groups are more vulnerable, others have greater capacity to deal with particular circumstances. Mostly the method is applied in crisis situations, such as in planning for refugee settlements or disaster relief, but there are aspects which can be applied also in the case of energy.

The long run idea is to promote people’s capacities to cope with problems, and to reduce their vulnerability as regards suffering from problems; but in the short run simply identifying strong and weak points can help to alert planners to potential problems in the introduction of energy interventions. Therefore this tool is one to use in the early stages or problem identification stage of the planning process.

Capacities can be physical or social or attitudinal, and get built up over time. Vulnerabilities are not the same thing as needs; they can be material, they can be social and they can be attitudinal, but they are the long term factors which make it difficult for people to cope with a situation. Thus CVA takes a long term view. It is clear that capacities and vulnerabilities differ by gender as well as by social class, age etc. What is interesting about this method is that it relates the social and the attitudinal aspects of the situation to the material, something which is not strongly stressed e.g. in the Harvard method.

The method uses a matrix as its basis, as the attached scheme shows. When using such a matrix, much more room should be allowed in the cells so that an adequate amount of information can be inserted. It may also be necessary to subdivide the categories ‘men’ and ‘women’ if in practice there are different classes with very different types of capacities and vulnerabilities. For further information, please refer to the publication by Oxfam and by Anderson and Woodrow listed in the references.
### A CVA Matrix

**Applying CVA to energy planning**

Material or physical capabilities could include time, cash or land resources which the different groups mentioned would be able to bring to the energy project. Vulnerabilities would include the opposite side of this coin: the fact that women may not have any land at their disposal, for example, or that even men may not have cash resources or time during the busy agricultural season to contribute to an externally promoted energy project.

Social and organisation capacities and vulnerability reflect the existence or lack of existence of institutions within the community such as cooperatives, support groups,
market garden clubs etc., which might for the basis for a participatory energy project. It would also include an evaluation of such institutions: are they strong enough to take on implementation and/or management of community biogas plants for example? What might the hazards of such an innovation be? If a women's organisation was chosen as the primary agency, would it be able to sustain itself or would opposition from men in the community be too strong?

Under motivational capacities and vulnerabilities there are a number of things to consider. Firstly there are social norms and taboos concerning the involvement of different groups of people in certain activities. To what extent do women participate in communal meetings and how seriously are their opinions taken? What level of trust exists in the community between families, and between the general public and the leadership (this may also have a gender slant). What have been the experiences of the different groups with interventions in the past and what is their faith in the idea of an energy project? Are they genuinely interested in improving the energy situation?

Strengths of CVA in energy planning

- can be used to cover the same kinds of factors as the Harvard method, but then in a more flexible form
- it explicitly covers assessment of local institutions' strengths and weaknesses

Limitations of the CVA in energy planning

- requires more thought and input from the planner than Harvard or GAM methods
- not so well known or accepted as these methods
- it is not goal oriented and does not explicitly look at needs

6. Gender Needs Assessment (GNA)

This tool (GNA) is designed to assess the probable impacts of proposed projects and distinguish whether these are going to help meet the practical, or the strategic, needs of women. It is therefore a tool which is most suited for use at the appraisal stage. Most energy projects focus on practical needs (they offer technology to make life easier or more comfortable) but the manner in which they are implemented may nevertheless contribute to strategic goals. The tool ensures that these impacts are made explicit.

The procedure is relatively straightforward and involves asking two sets of questions:

1. how, and to what extent, do programme or project activities address the practical needs of women and of men?

2. how, and to what extent, do programme or project activities address the strategic interests of the community in general and of women in particular.
It is helpful if these questions are asked of different stages of the project; these are considered to be the planning phases, the adoption phase, and the management phase, as shown in the schematic. Note that in the matrix, the adoption phase is listed first.

<table>
<thead>
<tr>
<th>What practical needs will the project help to resolve?</th>
<th>What strategic needs may be assisted through the project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>Women</td>
</tr>
<tr>
<td>As a result of the use of the technology to be delivered</td>
<td></td>
</tr>
<tr>
<td>As a result of involvement in planning in the project</td>
<td></td>
</tr>
<tr>
<td>As a result of managing the technology once it is installed</td>
<td></td>
</tr>
</tbody>
</table>

**A GNA Matrix**

*Applying the Gender Needs Analysis (Strategic and Practical Needs) to energy planning*

Use of a tool such as Gender Needs Analysis immediately raises the question of what sorts of needs *ought* to be dealt with by energy projects, and this is indeed what makes it a particularly interesting tool. It is evaluative, unlike the tools discussed earlier, which are simply descriptive. It is evaluative in the sense that it sets goals - certain needs are stated, and that enables a proposed project to be ‘measured’ against how far it caters to these needs.

Most small scale energy projects are eminently practical in their approach: they are certainly designed primarily to solve practical needs (improved stoves to save firewood and gathering time, biogas to save firewood, to improve health and to provide fertiliser; mechanised mills to save labour in food preparation etc). Yet energy can also provide for strategic needs too. Electricity may enable women (or indeed men) to enter into new kinds of production activities and earn higher or steadier incomes; it may attract services to the village allowing for further economic growth; it may make evening literacy classes possible. A communal biogas plant may create the need for a management organisation which may stimulate women to organise themselves in other
Application of this type of analysis therefore has to start with consideration of what the strategic as well as the practical needs of the target group or community are by gender, but also quite possibly by class, etc. Some of these may seem far from energy concerns, and indeed may be difficult to resolve through energy interventions. Nevertheless, the exercise of determining in a holistic way what peoples’ needs really are, is in itself instructive. To some extent this exercise could be carried out in the field but it is unlikely that the people themselves see their needs as divided between strategic and practical: this is an artifice which is introduced by the planner because it gives the planner a better understanding. Deciding what the strategic and practical needs are then becomes a matter of judgement, a subjective choice by the planner. Using this method however forces the planner to be explicit about which needs are, and which needs are not, being addressed, and that is in itself a big step forward in energy planning procedure.

Strengths of the Gender Needs Analysis method

- the method clearly exposes the goals the energy project is intended to achieve as well as those it is not going to achieve in terms of benefits to women
- it is evaluative, not merely descriptive
- can be used for programme/policy assessment as well as at project level

Weaknesses

- it uses categories not recognised local people (‘strategic’ and ‘practical’ needs) and cannot therefore be used easily in the field
- it does not explicitly identify barriers or determinants and therefore needs to be used in combination with other methods

7. Valuing women's work

One of the reasons why little attention has been given to women's problems in development in the past is that a large amount of women's work is unpaid. Not only that, but a portion of it is in the sphere of reproductive work rather than productive work, which has only recently be recognised. Economic reports tend to list monetized activities, and where they include subsistence production (as is the case in many reports on national economic statistics), this refers only to agriculture or small crafts, and is reported by household, not disaggregated by gender.
Let us consider three cases.

i. Installation of water pumps in a rural area may be considered too expensive because women are generally not willing to pay for the water; the capital cost will not be 'repaid'.

ii. Electrification of a similar village may not be justified because people want to use it for 'consumption (lighting and TVs) rather than to start small economically productive or income generating businesses.

iii. Introduction of commercial fuels cannot compete with fuelwood because fuelwood is gathered free from the forests, so the forest continues to be chopped.

In all these cases good energy solutions to real human problems and to fulfil real human needs are the victims of market economics: because some elements in the equation are non-monetised, they have no weight in the decision.

The fact that things are not monetised however does not mean that they have no value. Obviously, the forest has value, and if it is to be protected, measures must be taken to circumvent the workings of market economics in this case. Generally in cases such as this where the safety of property in the public domain is central, it is expected that the government will step in to counter balance the negative effects of the market.

There has been a movement recently which suggests that if women’s work were valued officially (note: this is not to say that they will get paid for this work, only that it would be allocated a nominal value) and such valuations were entered into calculations, from the National Accounts down to cost-benefit analysis of projects, a much more realistic overall valuation could be made.

For the case of water pumps mentioned above, the 'cost' of the work women do in fetching water from the river, which would be 'saved' if water pumps were introduced near the residential area, would be a 'benefit' in a CBA to be weighed against the physical cost of installing such pumps. Although this has no meaning in market economics, it might be a powerful tools in justifying the public expenditure nevertheless.

Rural electrification presents a similar case. The financial costs of electrifying a village is rarely borne by the electricity consumers in a village in their monthly bills (capital and overhead costs are subsidised by central government). This is because there are much higher overheads involved in extending electricity lines to small groups of people in relatively remote area than to dense urban populations. But because there have to be subsidies, rural electrification has almost ground to a halt in many countries ("it is not economic"). If the value of women's work were entered into the equation - the amount of drudgery saved in household work by the use of household appliances, then the economic benefits of the project may look more rosy.

Thus simply from the perspective of comparing real costs with real benefits (rather than market costs and benefit), it is important that women’s work is assigned monetary
value in many cases, particularly in cases where government or NGOs or donors (who are not totally controlled by market forces) are involved. However, it is recognised that increasingly policy is moving against financial subsidy in the energy sector, and towards full cash payment by the consumer for energy services provided (so called financial sustainability). In this climate the ‘unvalued’ value of women’s time is bound to remain unvalued.

The methodology to value women’s time is not yet well developed and there is no one standard accepted method.

There are several alternative ways of proceeding, most of which rest on the concept of opportunity cost, that is to say, the idea that women could (theoretically) invest their time in paid activities if they did not have to do unpaid household chores. Since much of women’s unpaid work is done on the family farm, one method recommended is to estimate the gross margin of the produce (that is, the market value of the produce minus all the cash input costs such as fertilisers and pesticides) and divide it proportionally to the amount of time that the men and women worked on the fields and in preparation of the crop (winnowing etc). Dividing by the numbers of hours actually worked would give an hourly ‘rate of return’ for labour which puts women’s inputs at an equal ‘pay rate’ with men.

The alternative is to use a fixed level such as:

i) the prevailing women’s wage rates as the notional value for non-paid labour in family and community work; for example the rate paid to women agricultural labourers by larger farmers.

ii) a standard basic value; for example, the national minimum wage rate if there is one.

Some would argue that as the possibility of working for such wages in reality does not exist (otherwise the women would probably be employed), the opportunity cost of women’s labour is much lower that these levels. How to establish a fair rate is not clear.

For this reason it may be better to estimate the value of women’s fuel gathering time by using the prevailing price of marketed fuelwood. If the rate of collection is say 19kg per hour, and de fuelwood sells in bundles of 5 kilos for $1, then the ‘value’ of women’s time is $2 per hour. However in some areas there is scarely a market for firewood so finding a base price becomes difficult.

A alternative is to tie the valuation of women's work into the problem that is being tackled. For the case of energy (and ignoring the value of the forest in environmental terms) one can argue that the work women do in fetching firewood should be valued equal to or higher than the cost of kerosene or alternative energies, if the aim is to switch from firewood to alternatives. Women themselves clearly rate their time at less than this otherwise they would all be purchasing kerosene or alternative energy technologies themselves.
8. Genderised data bases

One of the problems in introducing a gender approach into energy planning is that the data bases in so far as they exist are not set up to reflect gender considerations. Mostly they are constructed from household level data and offer no means to look more carefully at gender differentiation in energy use and supply.

Clearly, if gender is to be taken as a serious factor in planning, then data bases need to be adapted to take this into account. Standard formats need to be developed for recording data relating to rural energy use, not only to ensure that such data is always considered, but also to allow comparisons to be made and lessons drawn from the situations in different communities. Information that might be regularly included in energy data based might include:

On the demand side:

- fuel use disaggregated by household type (male headed, female headed; landowning, landless; by occupation of wife, by occupation of husband etc)
- primary responsibility for provision of fuel, by gender (the rule of thumb that women gather the firewood and men pay for kerosene and electricity is not true everywhere and is changing in many societies)
- gender preferences and 'willingness to pay' for different energy sources and fuels

On the supply side:

- access to different sources of fuel by gender
- gender disaggregated perceptions of shortage

Compilation of genderised data both on involvement in energy use and in attitudes towards it could not only raise the planner's understanding of the problem, but could also bring it more forcefully to the attention of decision and policy makers.

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3 I am grateful to Dr. W. Hulscher, Chief Technical Advisor of the FAO Regional Wood Energy Development Programme in Bangkok for suggesting this item.
Exercise 1.1

Using the Harvard Analytic Framework

Apply the Harvard Analytical Framework to analyse activities, access and control by gender in the Case Study which deals with Paje Village in central Botswana.

Use the tables provided to structure your analysis. Where you are unable to fill a category because of lack of information, you could enter a question mark. But it would be better to discuss with fellow participants what you would expect a reasonable solution to be.

The first matrix should as far as possible be filled in quantitatively (how many hours spent on each activity). If this is not possible, you could use a scale of 5 (5 = a great deal of time, 1 = little time).

The second matrix can be filled with pluses (++) and minuses (--) to indicate which resources and which benefits are within access to, and controlled by, men and women respectively.

The third matrix is not really a matrix but just a structured list: against each point you should try and list any factors you think relevant from the text of the case study. Some of these points will certain have to be left empty or unanswered.

When you have competed the table, consider the four development programmes which are being carried on in the village. Two of these (ALDAP and FAP) are supposed to have a special benefit for women.

Which of the programmes in fact seems to bring the most benefits to women? Can you explain why this is, based on the data you have summarised in your table?
CASE STUDY FOR GENDER ANALYSIS

PAJE VILLAGE, CENTRAL DISTRICT, BOTSWANA


Paje is a village with a little over 1,400 inhabitants, according to the census of 1991. It lies at the edge of the Kalahari desert in Central District, 17 km north-east of Serowe (figure 1).

Paje is situated amidst a hilly terrain. Lower areas are sandy, and higher areas rocky. The village has a primary school, a clinic, a community vegetable garden, two grocery shops and three little kiosks, which sell a limited number of groceries, a post-office, a telephone booth and two bars, one of which is the only facility with electricity. A junior secondary school, 5 km outside the village, serves both Paje and the next village. Standpipes dispersed over the village provide water, which comes from a borehole just north of the village, where a diesel engine pumps up clean, drinkable water. There is no surface water. The compounds, malwapa, are spread out over the village. Traditional mud huts make up about 90% of the shelters, the other 10% are made of bricks with corrugated iron roofs. A tarmac road, completed in 1990 and connecting Serowe (32,000 inhabitants) with Orapa, encircles the village. Both the modern and the traditional administration are situated in Serwo.
The inhabitants of Paje belong to the Bamangwato, the largest of the eight Tswana groups that inhabit Botswana. The population structure is shown by Table 1 (census 1981). The higher number of female inhabitants is due to the incidence of male migration. From the 1940s onwards, more and more men between the age of twenty to sixty-five went to work in the mines in South Africa or elsewhere in the country. A large number of younger boys are sent to cattle posts, which explains why fewer boys than girls reside in the village. Half of the inhabitants of Paje are younger than fifteen years old, indicating a high fertility rate.

The heads of households in Paje are identified in Table 2. Out of fifty households, 28 are female-headed (54%).

Table 1: Population structure in Paje

<table>
<thead>
<tr>
<th>AGE</th>
<th>TOTAL</th>
<th>Male%</th>
<th>Female%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>1216</td>
<td>41</td>
<td>59</td>
</tr>
<tr>
<td>65-</td>
<td>86</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>60-64</td>
<td>27</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>55-59</td>
<td>32</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>50-54</td>
<td>39</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>45-49</td>
<td>32</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>40-44</td>
<td>43</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>35-39</td>
<td>37</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>30-34</td>
<td>55</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>25-29</td>
<td>73</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>20-24</td>
<td>73</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>15-19</td>
<td>110</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10-14</td>
<td>128</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>5-9</td>
<td>232</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>0-4</td>
<td>249</td>
<td>11</td>
<td>10</td>
</tr>
</tbody>
</table>

Table 2: Marital status and head of household

<table>
<thead>
<tr>
<th>MARITAL STATUS</th>
<th>woman interviewed</th>
<th>other female</th>
<th>husband</th>
<th>other male</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>married</td>
<td>1</td>
<td>1</td>
<td>19</td>
<td>-</td>
<td>21</td>
</tr>
<tr>
<td>widow</td>
<td>10</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>single</td>
<td>15</td>
<td>1</td>
<td>-</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>total</td>
<td>26</td>
<td>2</td>
<td>19</td>
<td>3</td>
<td>50</td>
</tr>
</tbody>
</table>

In the village of Paje, labour division is based on gender roles. The household and the work on the fields are predominantly the responsibilities of the women, while cattle is the domain of men. Work on the fields can be divided into several main activities: men, women and children are
involved in these activities differently. First, the fields have to be cleared for ploughing: bushes and stumps have to be removed. This is a strenuous job, which is mainly done by women. Ploughing is the second activity, which takes a day by tractor but about a week when done by oxen or donkeys, depending on the size of the field. Ploughing is predominantly a male activity. Planting is done simultaneously with ploughing. This is almost exclusively a female job, although some elderly married women get some assistance from their retired husbands. Whereas row planting is highly recommended by agricultural extension workers, all people scatter the seeds, a less labour-intensive method of sowing, which only takes a few hours. Weeding and bird scaring, both time-consuming tasks, are done by women and children. When the harvesting process starts, women receive the most assistance, some married women from their husbands and the widows and single women from as many female family members as possible. Finally, threshing, winnowing and storing the harvest are performed by the same people who do the harvesting. One-third of the women accomplish all the above-mentioned tasks on their own, including the ploughing. Old norms and values, which prevented women from handling cattle, seem to disappear, once economic necessity and the absence of men force women to take over male tasks. This is even more evident when looking at the number of women who look after their own cattle. Although cattle belongs to the responsibilities of the men, 10% of the women look after the cattle themselves. Women, with the help of children, also look after smaller livestock like goats and chicken. The activities within the domestic sphere are exclusively performed by women, with the help of the children. Stamping sorghum, cooking, washing, collecting wild fruit and vegetables, repairing huts, looking after children and fetching water and fire wood are all done by women only. The age of the woman is the crucial determinant when looking at the workload in the household. With increasing age and growing daughters the household burden decreases tremendously for these women.

All routine activities connected with firewood (energy) are carried out by women: fetching the wood, transporting it to the homestead, making fire, cooking and heating the house in winter time. Children often assist the women with the fetching of firewood. Boys under ten years old help collecting wood, but they never carry a bundle on their heads. Girls on the other hand start helping and carrying from the age of six years onwards. On the rare occasions that men go out to collect wood, their approach is very different from the women’s. Men do not set off on foot, but with trucks or oxen or donkey carts, bringing along axes and saws. At the collection site, they do not search for the best quality wood, but take what is nearest. As the collection of wood became commercialized, around the early eighties, what was once traditional women’s work has been taken over by men. The routine wood collection by women is organized as follows: the women set off very early in the morning, around 5 am (to be back home in time to prepare breakfast, before the children are up), or late in the afternoon (women without children). Generally wood collection trips are made once every three days, the women have to walk distances of approximately 5 kms. During rainy periods women sometimes collect wood twice a day or on consecutive days in order to build up a stock of dry wood. Crop residues are rarely used as fuel in Paje. Table 3 shows the distribution of bundle weights over the distinguished age categories of collectors, and the proportion of these categories expressed as its % of the total of collectors (in total, 242 collectors were part of the sample).
Module 4: Gender Analytic Tools

Amounts of money sent to family members vary from absolutely nothing to substantial support. Twenty-two of the fifty households have no family member in wage labour and, thus, receive no remittances. Another four households with family in wage labour do not receive any money. Among the non-cattle owners there are sixteen households without remittances (64%). Single women rate highest on this scale (no cattle, no remittances). Of the twenty-two households receiving remittances, only seven households receive monthly amounts of substantial economic value (>50P a month), of whom two are headed by single women and one by a widow. The three women receive these monthly amounts from their sons. Table 3 gives an indication of the economic stratification of 50 households in Paje.

Table 4: Economic Differentiation of Households

<table>
<thead>
<tr>
<th>CATTLE</th>
<th>REMITTANCES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>total</td>
</tr>
<tr>
<td>male-headed</td>
<td>22</td>
</tr>
<tr>
<td>female-headed (widow + married)</td>
<td>13</td>
</tr>
<tr>
<td>female-headed (single)</td>
<td>15</td>
</tr>
<tr>
<td>total</td>
<td>50</td>
</tr>
</tbody>
</table>

The number of women from households without cattle who brew beer indicates the importance of this source of income: in twenty-one of the twenty-five non-cattle holding households women brew beer. In contrast, of the twenty-five cattle holding households, only twelve women brew beer. Particularly for the single women without cattle and no other source of income, beer brewing is the main source of income. There are very few other sources of income. Except for beer brewing and remittances from husbands, all of the above mentioned income sources are incidental and unreliable. Beer brewing is a major user of firewood. Generally, the women purchase this firewood rather than gathering it themselves. Women often complain about the prices men ask for this wood but for beer brewing they need large logs which are difficult to headload. The inflation in the prices of wood, however, is larger than general price inflation.

The frequency of poverty in the village of Paje is evident. Women, and especially the single women who head a household, are the most vulnerable group, as shown by the data. It can thus be expected that, due to their precarious economic situation, women make ample use of the opportunities development programmes offer. Are development programmes a final source of income and resources women can depend on? To what extent are these programmes used?

On a national scale, two programmes are implemented with the objectives of upgrading agricultural activities, and of diversifying economic activities by supporting small entrepreneurship in rural areas. These are the Arable Land Development Programme (ALDEP)
and the Financial Assitance Policy (FAP) which both include a policy of affirmative action towards women. Two other programmes are especially developed to fight the consequences of the long period of drought in the 1980s. These programmes, the Drought Relief Programme (DR) and the Arable Rainfed Agricultural Programme (ARAP), are targeted at the poorest section of society. In principle, villagers in Paje have access to all these programmes.

Only seven households in Paje participate in ALDEP, of which five are male-headed and two are female-headed (single women). In fact, two households (one male-headed, one female-headed) are too wealthy to supposedly be able to make use of this programme, so, consequently, only five households who belong to the target group of ALDEP make use of the programme. The question arises as to why more households do not make use of the programme. One of the reasons can be found in the long period of drought, which gives no incentives to people to invest in crop cultivation. The drought relief schemes are also responsible for the limited use of ALDEP. The implementation of ARAP for example hampers the ALDEP programme. Not surprisingly, the drought relief scheme ARAP is used on a much larger scale than ALDEP. ARAP provides assistance to farmers with ploughing (70P per hectare, up to a maximum of 7 hectares), row planting (20P per hectare), destumping (a compensation of 70P per hectare) and offers low cost fencing and water facilities. Forty-two households make use of this programme, all make use of the ploughing scheme and receive free seeds, whereas other packages are not used. The labour based relief programme of DR is also a more frequently used scheme, especially by women. This programme provides employment opportunities for the poorest, and at the same time infrastructural services for the village. In Paje, the labour projects undertaken range from dam construction, a vegetable garden and woodlot, to erosion control and the building of houses, offices and shelters. Each project employs forty people for a period of one month, normally three times a year. Each person earns 3P a day. This income is however negligible, considering the incidental participation in the programme of once a year or less, with a maximum income of 60P. Of the fifty households, thirty-eight have members participating in the labour projects in Paje. Participation in DR seems to be a predominantly female affair. Eighty percent of the participants in the labour projects are women. Twelve households participating in DR have 20 head of cattle or more. These households are not among the poorest, the target group of DR. Finally, FAP, which includes a credit scheme for small income-generating activities like brickmoulding, sewing, knitting and carpentry, with affirmative action for rural women, is not used at all by the villagers of Paje. In fact, most people do not even know the programme exists. Consequently, access to and use of development programmes has been mainly restricted to the labour intensive work programmes and ARAP packages as part of the Drought Relief Programme, which addressed acute poverty. However, the scheme was terminated by mid 1990. The unfamiliarity with FAP indicates the failure of the responsible government institutions to promote more structurally-oriented solutions to confront rural poverty.
Exercise 1.2

Using the Gender Analysis Matrix (GAM)

You should consider yourselves to be the villagers of Paje (see exercise 1). Divide into two groups: men and women. Try to represent the opinion of your group (i.e. do not take the role of the planner, but of the villager).

Use the GAM to compare the probable impacts to two alternative projects: one which would provide subsidies for the construction of biogas plants for households in Paje village, and the other which would extend the electricity grid to the village: individuals would then have to pay the cost of connection to their own houses. The estimated cost to the government of these projects is about the same, so they will support one or other of these projects, but not both.

We will assume that the cost to the individual household of installing a biogas plant is 200P after subsidy (including cost of a small gas stove) and the cost of connection to the grid is 100P. Maintenance costs of the biogas plant are not known with certainty, but are low. However, dung has to be gathered to supply the biogas plants daily. Biogas would be used for cooking and lighting.

Monthly costs of electricity for lighting and minor appliances would be about 10P. If it is used for cooking the costs would shoot up to about 50P per month.

Fill a GAM matrix first for the case of biogas and then for the case of extension of the grid.

On balance, which alternative appears to be more favourable, considering the information in your matrices?

What proportion of the village do you think could afford (a) the biogas and (b) the grid connections?

On the basis of this information, what will you recommend to the Ministry of Energy?
GENDER ANALYSIS MATRIX FOR THE CASE OF BIOGAS PROJECT

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<td>Households</td>
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<td>Community as a whole</td>
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# Gender Analysis Matrix for the Case of Extension of Electricity Grid

## Probable Impact on:

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Exercise 1.3

Carrying out Gender Needs Analysis (Strategic and Practical Needs) on a proposal for a fuel ethanol plant

A proposal for a fuel ethanol plant has been submitted by the Energy Section of the Ministry of Natural Resources and Energy to a bilateral donor. In the process of reviewing this proposal, it has been passed to the Gender Bureau within the donor agency. You are a staff member of this bureau and you are concerned about how the project will impact men and women. The purpose is particularly to consider how the practical and strategic needs of men and women are enhanced or threatened by the project. Details of the proposal are given first, followed by some suggestions about how you could go about this task.

Details of project proposed:

The proposal is for a 120,000 L/day fuel ethanol distillery operating all year round (except for two week maintenance shutdown). The feedstock is to be sugar cane juice plus molasses (from an existing estate's own production) and cassava, which is grown by small holders in the area, both as security against drought and as a cash crop (about 500 ha of land currently under cassava production). The estate, which is 13,500 ha, will turn over 1,400 of this to cassava also.

Fuel ethanol is produced by the fermentation of sugars, from freshly crushed juice or molasses. If cassava is the feedstock a pre-treatment stage is required which includes washing, peeling the skin, and boiling the cassava to release the sugars. The procedure is then the same as for sugar cane and molasses. Fermentation takes place in an open vessel which is maintained at 35°C by water cooled heat exchangers. The product is a weak (approx 10%) solution which has to be dehydrated. Fermentation is carried out on a batch basis and takes around 24 hours. The resulting solution is pumped to a distillation column, for separation of ethanol and water which consumes 24 tonnes of steam. There are three distillation columns to increase the ethanol concentration to 96.5%. A fourth column is needed to complete the dehydration. The final stage requires the addition of benzene, which is recycled in the column. A small amount of benzol is also added to the ethanol to render it undrinkable before it is shipped for blending. Combined with 90% petrol, the ethanol will be used to make gasohol for sale at regular petrol stations.

To fuel the distillery it is intended to clear 3000 ha of natural dry woodland on government land and plant fast growing exotics. This will entail resettling about 150 squatter families who are engaged in slash and burn agriculture in that area.

The distillation process produces in addition to ethanol stillage (a weak solution of potassium, phosphorus and nitrogen) which must be disposed of. There are two
options being considered for this: disposal on land, as a wet fertiliser (has been used in Brazil, but not clear what the environmental effects will be in the site in question, needs testing; in any case it is smelly and attracts insects); or lagooning, that is to say, pouring it into shallow ponds to evaporate. One possibility would be to grow water hyacinth in such ponds, which would help to purify the water. This could be harvested and used as an animal feed, fertiliser, or to produce biogas by anaerobic digestion. There is some risk of seepage into the river however.

The estate has a workforce of about 1000 seasonal cutters (men), some of whom come from surrounding settlements and some of whom migrate to the area and stay in barracks at the estate. There are also factory workers, both male and female (150). The distillery would increase factory employment by about 100 in view of the additional work involved in the distillation process and in preparing cassava. All the cutters work at the national established minimum wage for agricultural employment and most of the factory workers (apart from technicians and managers) at the basic industrial wage, which is slightly higher. There are in addition informal sector jobs particularly in preparing food for the migrant cutters, in which a number of local women specialise.

The government’s motivation for supporting this enterprise is because it will reduce the oil import bill (strategic and financial advantages), it will reduce dependence on sugar as an export crop (prices fluctuate and make planning difficult), and because it will provide a steady price for cassava in the area, which it believes would be popular. The distillery is offering a higher price than the government crop buying organisation.

Cassava is the main cash crop of the region, and it is sold by men. Women grow some vegetables (mainly for home consumption but some sold) and maize. Goats are the main livestock and wander freely on the communal lands. The natural vegetation cover is typical of the low veld, that is to say scattered trees on grassland. Soils are shallow loams which are not very fertile. Topographically, the area is a small catchment dissected by many streams flowing into one major river which is the district’s major water source. Slopes on the hills are 25%. Rainfall is 625 mm per annum, and falls between November and April. High evaporation rates means crops, especially the sugar cane, has to be irrigated.

Suggested approach to the task:

A. Create a list of the probable strategic and practical needs of men and women, both those directly involved in the project and those in the nearby area. Consider whether all men and all women can be considered similar, or whether you need to divide them into subgroups (this will be the case if you determine that some subgroups have different needs).

B. Adapt the Gender Needs matrix so that it includes all the groups you have identified.
C. Fill the matrix to indicate which of the practical and strategic needs of the group are likely to be met by the project.

D. Prepare a short report indicating positive and negative points in this respect.

E. You are entitled to refer the project proposal back to the writers requesting more information on any relevant issues. Make a list of the additional data which you feel is necessary for you to make a proper assessment of the gender impacts of the planned fuel ethanol plant.

Additional tasks on environmental aspects of the problem

F. It should be obvious that the GNA method looks only at one set of criteria as regards the project. There are many environmental impacts which are in themselves quite serious and which may have gender biases in them too. Draw a sketch map, roughly to scale, to help you determine where these will occur.

G. Make a list of environmental impacts that may be expected and indicate whether they are likely to be major or minor.

H. Indicate for each impact whether there are likely to be gender differences associated with it (use the groups and subgroups you identified in A).

I. Write a short report on the gender aspects of environmental impacts of the project.
Topic 2

Gender Checklists

Many agencies use checklists rather than the gender analysis tools based on matrices that we have considered up to now. They use these in the early planning phases of a project in order to assess its probable gender impact (its *actual* gender impact could only be ascertained after it is carried out, of course). Their aim is to ensure that all relevant data is gathered so that a reasoned decision can be made about whether the project is a good one or not, and the checklist is considered a useful tool to help in the review process to make sure all the information is covered. An advantage of checklists over the gender analytic tools considered earlier is that they can be designed to fit the specific characteristics of the energy intervention under consideration: they can be tailor-made by an agency for its own use.

The example below is taken from FAO Guidelines on Gender Considerations in Forestry Projects (see reference list).

**CHECKLIST OF ISSUES TO CONSIDER IN PROJECTS FOR COMMUNITY WOODLOTS AND COMMUNITY FOREST PLANTATIONS**

1. Do women collect products that are important to them (nuts, fruit, fuelshrubs, fibres for local industries, grass) from the common property land that is to be cleared and/or planted, and will they lose access to it?

2. Do women rely on this land as an important foraging area for their animals?

3. Will women have to spend more time on fodder collection for stall-feeding or on grazing their livestock at more distant locations?

4. Are women expected to switch to stall-feeding with fodder raised in initial plantation years?

5. Will children have to help their mothers cope with a work load increased by having to switch to stall-feeding of livestock and will this affect their attendance at school?

6. Do women and men differ on species to be grown in the community plantation?
7 Are women likely to be the main labourers in plantation establishment? If yes,

What tools are comfortable and efficient for use by women

What is women’s time availability over the seasons?

Does tree planting conflict with women’s time requirements for other essential activities?

8 Are women’s groups active in the area?

9 Do women/women’s groups express strong interest in first obtaining other critical services/facilities (e.g. drinking water) before providing their labour or otherwise cooperating in project operations?

With such a checklist, one can get quite close to the specifics of a particular type of energy intervention, in this case woodlots, much closer than when using gender analytic tools of the matrix type, which are bound to be rather general in comparison, as they can be applied to any sort of intervention.

However, the disadvantage of the checklist approach is - which items to include and which to leave off. How can one justify any particular checklist and is any one checklist necessarily a universally good model, or should the checklist be rewritten for every country/local situation. There is certainly the danger that the checklist gets longer and longer as one strives to ensure that all possible aspects are considered. This can mean a lot of extra work, and an unmanageable pile of data to deal with.

Let us consider how such a checklist may have been formulated, and consider whether it is universally applicable (as it is intended to be).

Look at questions two to five: they all refer really to the same general point. The person who wrote the checklist is clearly afraid that there may be negative effects from a woodlot project on women, in one aspect in particular: what is this aspect?

Question one is, in fact, related to this too: to loss of access to a land resource on which women depend for gathering important elements of the house and farm economy.

Why do you think the writer of the checklist has put such emphasis (five questions) on this point?

Are there other questions which you might like to add in this same general area? Do these questions adequately cover all the possible situations in which a plantation project might have negative effects as a result of alienating a common resource?
Let us say that some of the answers to these questions show that there may be problems if a certain piece of land is given over to a plantation. Let us say that it means the women have nowhere to gather fodder for the cattle any more.

The next important question is, what do we do with this information? Do we say, it has this negative effect, therefore the project must not be carried out?

Do we say, the project can go ahead, but only if another piece of land is found which will not have this impact on women?

Or is the information to be used in some other way?

Let us consider question 6: what does the writer of the checklist expect in answer to this question?

Suppose the answer is yes, men and women do have different ideas about what species to plant: what do you do with this information?

Let us take question 8: what will this tell you? how will you use this information? what else might you like to know in this general area?

Studying a checklist like this makes clear that although a lot of obviously important topics are covered, the questions are bound to be selected in a rather arbitrary way, and that no guidelines are provided as to how to use the results.

Another aspect of checklists is that they do not usually penetrate into definition of either practical or strategic needs of women: therefore they are not able to test whether a project is meeting such objectives. They merely serve to direct attention to problems that might arise if a particular project is implemented.

There are many more examples of checklists, written for different purposes. The most common use is for appraising projects after they are submitted for funding. The Directorate General for Development Cooperation of the Netherlands for example has several checklists which are used in appraising projects in the area of energy and environment.
Conclusion

A checklist is usually only useful if it is combined with something else: it might be used to gather background data which is to be discussed in a project planning meeting, or it may be used with a list of criteria or standards: projects which ‘fail’ on certain points, or on a certain number of points, may be rejected. It provides some input to a higher level decision making system; it is not itself a list of criteria, only a rough guide to information gathering. It is, in fact, an aide memoire, something to help one remember important things to think about, but it cannot tell you what decision should be made, and no checklist can ever be complete and comprehensive.
**Exercise 2.1**

**Using checklists**

Attached you will find a case study of a project proposal for improved stoves in an African country. The project has been submitted for funding.

Look at the checklist below, which has been derived from one originally prepared by FAO for assessing such projects, to determine whether the proposal is likely to have a positive, or a negative, effect on women.

Starting with question 1, try to decide what kinds of answers the person who wrote the checklist is expecting. How would you use the answers to each question, and what other related information would you also need?

Apply the checklist to the project proposal provided. Not all the questions can be answered from the information provided, so you will have to leave some questions unanswered. In reality, you might send the proposal back to those people who submitted it, with the request that they supply this information.

Do you think the checklist is adequate to assess the gender impact of a stove programme? Which questions are unnecessary?

What additional questions would you add to the checklist?

*CHECKLIST OF ISSUES TO CONSIDER IN PROJECTS FOR IMPROVED WOODBURNING DEVICES*

1. How often do women cook and for what periods of the time during day and evening?
2. What other activities do women undertake at the same time?
3. What fuels are used? What mixtures of fuels? How are these prepared?
4. Are stoves used for heating, for cooking, or for both?
5. What kinds of food are prepared, and what are the cooking conditions required for their preparation
6. Do women perceive cooking fuel to have a cost in terms of labour and cash and do they therefore perceive a value in the savings from improved stoves
7. Is the time required to cook with the new device acceptable to women users?
8. Are there artisans or entrepreneurs in the project who could reproduce the model device?

9. What variation is there in the quality of raw materials (clay, mud, bricks etc) used to make the new devices?
CASE STUDY FOR GENDER IN ENERGY

SUMMARY OF A PROPOSAL FOR AN ENERGY-EFFICIENT STOVE DISSEMINATION PROGRAMME IN DOUMANZA DISTRICT

The 'Home-Delight' cooker

After a number of years of testing, the so-called 'Home-Delight' cooker has been improved and developed such that it can be 35% efficient in laboratory conditions (using the water boiling test). The 'Home-Delight' consists of two sections: a firebox, and an oven. There is a grate in the firebox under the area where the first pot rests. The firebox is narrow towards the front, allowing the wood to serve as its own damper. The fire can be controlled by covering the inlet air hole. Wood is fed into it continuously; the heat released depends on the length of the wood lying over the grate. There is a small baffle at the other end of the firebox which causes turbulence so that most of the volatile wood gases and tars react with oxygen to form a very clear gas composed mainly of carbon dioxide and water vapour.

The oven is a metal pot at the side and it is heated by the hot gases from the firebox. Depending on the length of time the fire has been burning, it can be used to bake a variety of items including bread. To prepare flat breads or pancakes such as chapatis or njera, a concave metal plate can be placed above the first pot hole. The stove is thus very versatile.

The cooker is constructed from bricks covered with mud; it has a metal grate and a metal inlet control door. The estimated cost of materials is $20.00.

Doumanza District

Doumanza district is suffering from increasing wood fuel shortages and deforestation. Estimated time to gather firewood during the cultivation season when no crop residues are available is 6 hours times three times a week, and this is an activity done primarily by women and girl children. Dung is also used for cooking but as the cooking takes place indoors there is often a lot of unpleasant and unhealthy smoke. The diet consists of millet and maize porridge, boiled green vegetables, millet flat bread, and roasted meat. As the area is mountainous and cool in the evenings it is common for the evening meal to be cooked after dark while the family sits around the fire. Boys will often help to roast the meat on sticks while the wife cooks the porridge and vegetables.
Proposed dissemination strategy

A training course will be set up in the district headquarters for young boys (school leavers) to train them to build the stove. Each training course will take three weeks, and six boys will be trained at a time (a total of 10 such training courses will be given). Each trainee will receive a set of necessary tools and on completion of the course be given materials sufficient for the construction of three stoves. On returning to their own areas, the boys will be in a position to build one demonstration stove to allow the women of the village to see the advantages of the 'Home-Delight'. They will have enough materials still to built two more stoves in individual houses, on the basis of an agreed price. The intention is that the agreed price will cover not only the cost of the materials (i.e. to allow the new stove builder to purchase replacement materials for his stock) but also payment for his labour input. It will take one full day to construct one stove, plus a few hours on another day to check that it is functioning properly.

This dissemination strategy quite deliberately avoids financial subsidy to the purchaser of the stove since sustainability of the project is considered important. The funding requested by this proposal is only for the initial training of the trainees (costs of trainers, expenses and pocket money for trainees), for maintaining a stock of the necessary materials which can be purchased by the stove builders at cost, and for monitoring of the project for two years.
Exercise 2.2

Combining checklists with the Harvard Method

The Harvard Matrix Approach as described in Topic 1 investigates *activities, access* to resources, and *control* of resources. Prepare a checklist of questions or items, relevant for a rural electrification project, which will provide information under each of these three headings that is useful in determining the gender impacts of such a project.
Exercise 2.3

Comparing checklists

Below is a gender checklist from the SADC Forestry Sector for monitoring projects:

- **What is the involvement of women and men at the various project levels: professional, technical, support and labourer?** Does the project have targets for women's participation? What is the actual involvement versus the targets? What are the reasons for any shortcomings?

- **What are the roles and responsibilities of men and women on the project?** Is there a gender division of labour, that is, are women and men more commonly found in a particular work category?

- **Who are the direct and the indirect beneficiaries and how are they benefiting?** For example, by employment; by receiving monetary benefits (how much); by receiving in-kind inputs such as seedlings, poles and fuelwood; by providing scholarships or training; How do benefits received by men compare to those received by women/ What are the reasons for the discrepancy?

- **How are men and women involved in the decision-making and leadership roles of the project?** What are the constraints to women's involvement at this level of the project?

- **What are women's comments regarding the project?** Evaluate the project from a women's point of view.

Compare this list with the FAO gender checklist list given for community woodlots, etc. in topic 2.

What are the main differences between the two lists?

What is the function of each list (at what point in the planning process would you expect each of them to be used and for what purpose)?

Which would be more useful in your own work and why?
References


