

MODULE 2

GENDER TOOLS FOR ENERGY PROJECTS

INTRODUCTION TO MODULE 2

GENDER TOOLS

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. This module presents some tools which help to plan a gender sensitive energy project. The idea is that they can be used alongside other tools which are normally used in the planning process.

The module starts with a general introduction to gender analytic tools (unit 2.1.). Then the framework for gender analytic tools for use in gender sensitive energy project planning is presented (unit 2.2.) A case study from Sudan is used to illustrate this framework and the tools (unit 2.3.). In unit 2.4 a detailed explanation of the steps in the framework and the use of the tools will be provided. Data gathering techniques appropriate for use with the framework are presented in the unit 2.5. The module finishes with an action plan for re-entry into the workplace after the training.

aim of the module To provide participants with a set of gender tools for use in energy planning which can easily be adapted to diverse situations.

key concepts and ideas introduced in this module:

- gender analytic tools: gender checklists & gender matrices
- framework for gender analytic tools
- integrated development situation & single energy technology situation
- gender-disaggregated data
- data gathering techniques: Ladder-technique, focus groups

topics in this module:

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sources:

The tools presented in this module have almost all been specially developed for this training manual, and where they have been borrowed or adapted from other sources, this is clearly stated. Some of the tools were field tested by Otto Wormgoor together with ITDG Kenya, in July and August 2003.

UNIT 2.1 GENDER ANALYTIC TOOLS

Learning goals:	After completing the topic the participant should be able: <ul style="list-style-type: none"> ▪ to explain the purpose of using gender analytic tools: the strengths and weakness of gender analytical tools in energy sector; ▪ to distinguish between the two types of gender analytical tools
Time schedule:	1 hour

What are gender analytic tools and why are special ones needed for energy planning?

Gender analytic tools help to diagnose the existing gender situation or assess what the impact of an intervention is likely to be on men and women

The purpose of gender tools is to ensure that gender differences are not overlooked

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 an early warning system identifying problems linked to gender roles and relations that may arise if an energy initiative is started within this community.

Gender tools are used during various stages of project or programme planning (problem definition, needs assessment, design of intervention, evaluation), although some could be applied in other contexts also, for example in evaluating policy. Their purpose is to ensure that differences between the genders are not inadvertently overlooked, and that any project choices that are made, are made with full recognition of what the differential effects are likely to be on men and on women (Skutsch, 2003a). Often this is done because there is a commitment to serving some particular gender goal, for example, to contribute to the empowerment of women, or at least to ensure that women are not being disbenefitted by actions undertaken in a project. Although a gender approach implies looking at men and women's needs and opinions separately, it is understood that it is generally with a view to assisting women that such an approach is undertaken. This stems from many project experiences showing that when households are taken as the basic planning unit, women's voices are hardly heard and their needs are underrepresented. Gender tools are simple ways of gathering and arranging data so that gender differences are made clear to the outside observer, with a view to increasing the rationality of project decision making, though they can also have an effect within the community itself, by raising gender differences as a matter for discussion. The idea is that they should be used during the normal process of planning, so that gender is 'mainstreamed', that is to say, taken as one of the basic underlying factors that are taken into account in every planning exercise.

There are many gender tools which are commonly used by development planners, for example the Harvard matrix and the Gender Assessment Matrix. These can be found widely in literature on gender and development and are usually taught in gender courses. For those who are not very familiar with these standard techniques, a short description of the most common ones is

given in Appendix 1 of this Module. However, experience has shown that these tools are not very helpful for energy planning.

First, they give no direct guidance on how to determine desired gender development directions (they do not work from the basis of identified gender goals).

Secondly, they do not ask the very simple question: What forms of energy do women use, for what activities? What forms of energy do men use, for what activities? What kinds of energy would increase women's welfare, increase their productivity, and help empower them? And how do I need to design my project to ensure that women have some say over the outcomes?

For this reason, a set of tools, based on specific gender questions in energy projects, has been developed for this manual. This set of tools will hopefully give planners good guidance in responding to gender issues in their work.

Kinds of gender analytic tools

Gender
checklists and
gender matrices
are types of
gender analytic
tools

Basically there are two types of gender analytic tools in development project planning:

- *gender matrices*: which are tables that tend to compile data on male/female differences (e.g. in roles, in access to resources), or use other dichotomies, and which by their nature lend themselves to quantitative (or very brief qualitative) types of data.
- *gender checklists*: which are sets of questions which work as *aides-memoires* and provide a structure for compiling gender related data on a project, and which on the whole ask for qualitative responses

In this manual both types of tools are used, depending on the situation. It is important to understand that a gender tool is just a way of organizing and presenting information to help the planner understand the situation and make well-founded decisions. To acquire the *gender-disaggregated data* to fill in the matrix or the check list, data-gathering techniques are necessary. These are discussed in unit 2.5.

Gender tools
help organise
and structure
data

All the tools presented in this module are intended to be used by the planner as a guide to structuring and organising data in a gender sensitive way. In order to *obtain* the necessary data to put in the matrixes and the checklists, different sources will be used. Some information can be provided by the planners themselves – for example, what technologies are actually suited to a particular task or area. The energy planner will probably know for example whether biogas is a possibility in a given situation (sufficient dung and water) or whether wind power is a possibility (steady wind regime of certain speed). Most of the data however will need to be collected in a consultative and participatory way. These approaches to data collection can also contribute to women's empowerment. As mentioned, methods for doing this (“gender-disaggregated data collection”) are dealt with in unit 2.5.

Discussion Point 2.1.1

- What types of gender analytic tools have you heard of or used before?
- Did you ever try to apply them for energy project planning?
- Describe your experiences. What were the strong and weak points of the method? Did you find using the gender analytic tools worthwhile?

UNIT 2.2 A FRAMEWORK FOR GENDER ANALYTIC TOOLS

Learning goals:

After completing the topic the participant should be able:

- To explain the framework for gender analytic tools to fellow professionals and justify its use in planning

Time schedule:

2 hours

In the set of gender analytic tools gender is seen as one of many important variables

In this manual, a set of gender analytic tools has been developed specifically for the energy planning context. These tools are intended to assist you in the planning of energy projects. It is the intention that the tools are used in *all* projects, whether gender is a very important variable or not, i.e. it is the intention to *mainstream* gender (although the tools may certainly also be used in 'women only' projects). In this kind of planning gender is seen as one of many important variables, but may be not be the over-arching or most important one. The tools pave the way for energy project planning based on disaggregated data from the main stakeholders with a strong focus on the gender distinction. When organisations integrate these tools into their own project planning process they should arrive at a high quality, effective, gender sensitive energy project planning process.

Project planning situations

There is no one typical or standard approach to planning energy projects, into which a gender considerations could easily be slotted. In reality there are at least two different project planning situations in which gender and energy need to come together, and some variations of these.

Energy technology projects generally promote the use of one or two particular technologies ... they might be in the energy sector or another such as health

Integrated development projects assist communities to develop over a broad range of sectors (including energy)

- *Energy technology projects:* In the first place there are the kinds of projects which are promoting one or two particular types of technology, such as solar home systems, or improved stoves, or decentralised mini-grids. These are focused on the problems of dissemination and adoption of this type of technology. In some ways such projects can be thought of as *supply driven*; the purpose is to promote certain kinds of energy technology, for the good of a given population. In this case the main question that arises from a gender point of view is, to what extent will this technology, or these technologies, bring about positive gender impacts? An energy technology project does not necessarily have to be initiated in the energy sector, for example, smokeless stoves could be initiated as a health sector project.
- *Integrated development projects:* Integrated development projects try to assist communities to develop over a broad range of sectors, of which energy may be just one, and in which energy may be just a component necessary for achievements in other sectors. The gender/energy question then becomes, what are the energy components necessary to achieve

overall goals, including gender goals, and how can these energy requirements best be satisfied? A variation on this model are women's development projects, where the target is clearly women. The question then becomes: to what extent is energy hindering the achievement of the gender goals and how can energy be used as a vehicle for the furtherance of women's development?

Discussion Point 2.2.1

- Which kind of project planning is more common in your organization?
 - Energy technology projects?
 - Integrated development projects?
- Do you have experience in both types of projects?
- Are there any other project planning situations you can think of? Describe them.
- Are different planning tools used in these two different situations?
- Do you think that gender differences and thus gender sensitive energy planning is more important for one of the two project planning situations? Why?

The starting point for these two types of project is different, and therefore it is logical that to some extent the approach to gender must reflect this, particularly in the problem analysis and project formulation stages. However, in both cases the main line of reasoning is the same. It has also become accepted practice in both cases to use a participatory approach in which the community (target group) plays a significant role in defining the problems and setting priorities. In general one could say the main steps in both types of planning will be as follows:

- Identifying stakeholders: Who is involved?
- Problem analysis – what is the problem and how could we solve it (= project formulation)
- Identifying assumptions and external factors that could influence the project in a negative way
- Summing up before moving on to project implementation

These steps are normally carried out in all project planning where a standard project cycle, logical framework, or a sustainable livelihoods approach is used. The challenge is to introduce the gender element at every stage, using gender analytic tools specially designed for energy.

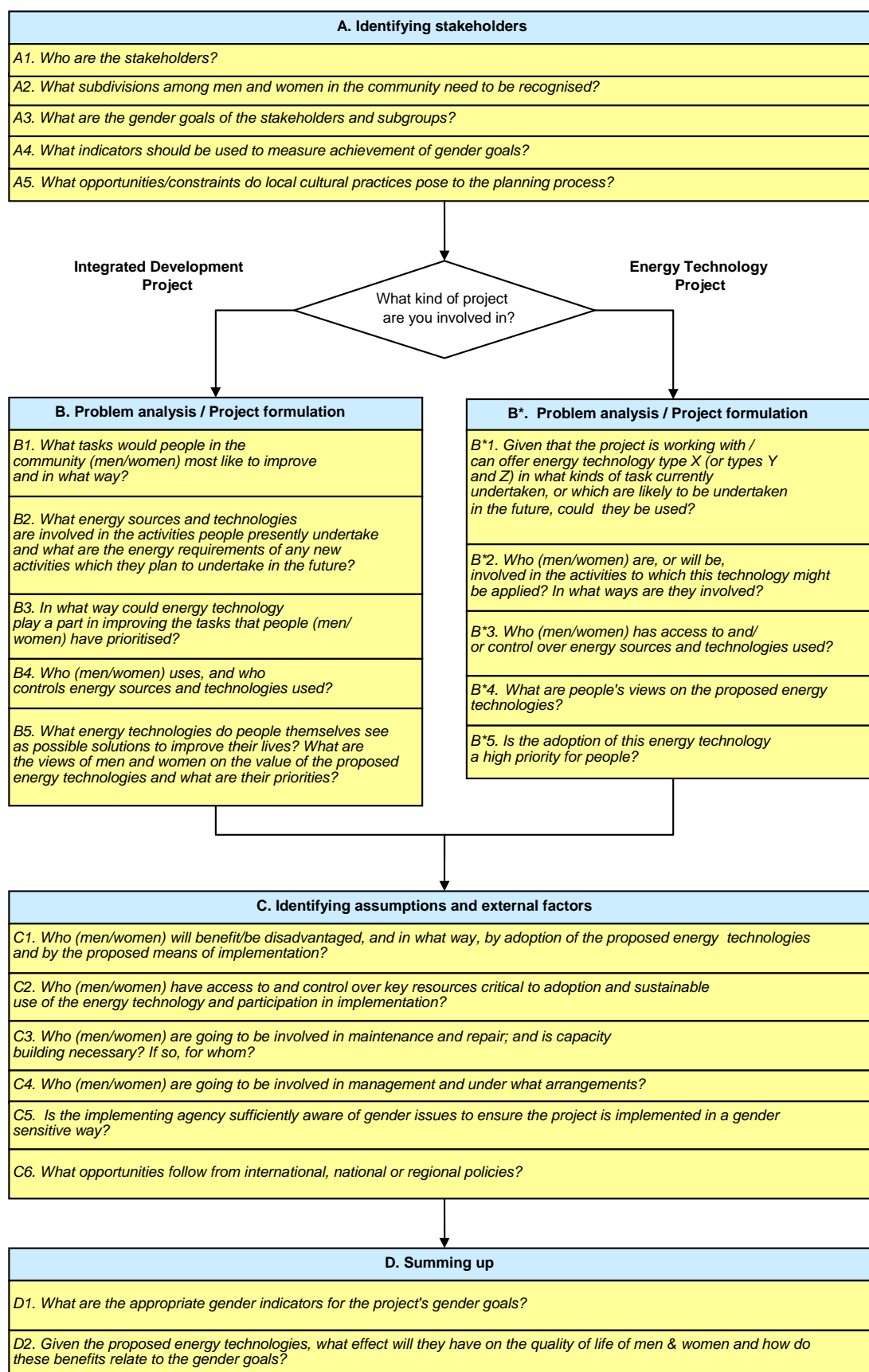
Discussion Point 2.2.2

Do you recognise these four stages in project planning from your own experience? Or do you have a different approach

to project planning? Are there other steps you include?

In the framework outlined on the next page, the gender/energy questions that are likely to come up in each stage in project planning are listed. You will notice that at the stage of problem analysis and project formulation, there are two sets of questions in parallel: one set for projects of the *energy technology* type and one for the *integrated development project* type. Questions about the stakeholders, assumptions and external factors, as well as the summing up, are common to both types of project.

In the rest of this module, we will work through all of these questions, one by one, showing how to use structured gender tools to get the answers. The framework is illustrated by use of a case study.



The Gender Planning Framework

Discussion Point 2.2.3

The framework suggests a set of questions that needs to be addressed, each one with a gender component. Do you think that the formulated questions cover all the necessary issues?

What additions might be necessary?

The framework reminds the planner which questions to ask.

The framework presented here is really just a logical set of questions that the planner should consider in preparing a project. However, at each step these questions need to be seen in gender terms – the answers might differ for men and for women. Thus the framework helps the planner to remember to think about these gender aspects in every stage of the planning process.

The framework is flexible

The framework is not supposed to be rigid – it is only a suggested path to guide the planner. It is up to the planner to use those aspects of the framework that she/he thinks will be useful.

The framework can also be combined with other planning frameworks that are commonly used, such as the Logical Framework Approach (LFA) and the Sustainable Livelihood Approach (SLA).

Each question in this framework is supported by a tool, developed specifically for the energy context.

..... as are the tools, which can be adapted for specific situations

It is important to recognise that the tools are flexible and can easily be adapted to your demands. You should select, adapt and use the tools according to your own wishes and needs. It may look like a lot of work, but in fact they are quite easy and quick to use once you understand them.

A worked example from a project in Sudan helps to explain the framework and the set of tools in the framework. This worked example is presented in the next unit (2.3).

UNIT 2.2 EXERCISE

Exercise 2.2.1. Explaining the framework to co-workers

The framework looks rather complex. Trainees should work in pairs to perform a role-plays, first one and then the other.

One “plays” the trained energy planner, who comes back to work at her/his office after the training. You want to implement the framework in your energy projects, so you have to explain the framework to your co-worker and convince them how useful it is.

Start your role-play. It will take 15 minutes.

After that switch roles and try the other way around.

UNIT 2.3 A WORKED EXAMPLE OF THE FRAMEWORK

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

- to understand the use of the framework

Time schedule: 8 hours in total

Introduction: Es Sadda Village - Butana¹

Es Sadda Villages lies in the Central Butana area in the Gedarif State (former Eastern Region). The Butana area covers an area of about 20,000 km². The whole area lies in the semi-arid zone with an annual rainfall between 200-500 mm. The total population is estimated as 22,396, settled in 23 villages. Because of the tradition of a nomadic life style, most of the population settled only during the last 50 years. 60% of the villages (14 villages) were established during the period 1960-1990 (ADS Village Profile Report 1995). This settlement was enforced by loss of a large number of animals as a result of successive years of drought during the above-mentioned period. The current practice today is usually that only one family member follows the animal to find water and pasture. Even if the whole family does move with the cattle, they stay in villages during the rainy season from July-October. Little natural capital² or resources are available, and there is a severe water shortage most of the time.

As newly settled people, they lack most life necessities in their villages (education, health, and water etc). For that reason, Central Butana was selected by UNDP to receive assistance through its Area Development Scheme (ADS). Intensive development work was carried out by the ADS project, addressing social services, environment and gender issues.

Es Sadda village lies approximately 360 km east of Khartoum and the nearest urban centres are Elsubagh, New Halfa and Gedarif. These centres lie respectively 30 km, 50 km and 100 km to the west, east and south of the village. The village is one of the oldest in the areas, founded in 1918. It is made up of four small groups of settlement (following lineage groups), spaced 2-5 km from each other. The Es Sadda name is given to the village centre, which is the oldest established part and where social services (basic school, market, and health centre) were built. The other small parts are the Wad Ebahi, El Saadonab and Wad Rahama. They are located west, south-east and north-east and distanced about 5km, 3km and 2 km respectively.

Before their settlement all families liked to train their children to be able to handle all aspects of animal raising, animal health and skills necessary for their movement such as tent erection and packing for transportation on camels or oxen. New technical skills such as operation and maintenance of vehicles, diesel generators and diesel pumps and other machines are now to some extent present in the village. These skills, however limited, provide a source of income for a few families. As regards the development of new skills, it is observed that this concerns males only. The traditional role of gender in the division of labour, and old ideas about the responsibilities prescribed for each male and female in the society, are still strong and women rarely get a chance to learn new skills. Women certainly have less political power than men.

¹ Most of the information in this worked example has been derived from a study in Sudan (Ahmed, forthcoming). The data was gathered using participatory approaches. Both women and men from Es Sadda participated in data gathering. Additional (fictive) information has been provided by the authors of this manual where necessary. The NGO, Samba, is not a real NGO.

² Natural capital as used in Ahmed's research refers to natural resources of land, forest, water (fresh and sea) and air and the services which can be obtained from these resources, such as erosion control or waste repository. This terminology comes from the Livelihoods Framework see www.livelihoods.org.

The ADS is an umbrella programme which has been operating in the area for a number of years. It is multi-sectoral, dealing with a wide range of rural development problems (health, education, agriculture etc). Its primary goals are poverty alleviation and the empowerment of women.

An energy component is now being considered in the context of this ADS integrated development programme. This energy component has been proposed by an NGO called Samba, which specializes in energy aspects of development, and particularly in renewable energy solutions to rural energy problems. Samba is seeking support from the UNDP for this project component, which would be carried out by Samba together with ADS personnel.

In preparation for this, Samba received a small amount of funding to make a field study regarding energy needs and the possible solutions to this. Samba is very much aware of the importance of a gender approach in energy project planning, and thus carried out this study with maximum attention to gender. The results of their study are set out below.

In Unit 2.3 (2.3A up to 2.3D), the relevant section of the framework is first presented. After that the questions in that specific part of the framework are addressed for the Es Saada project.

Some guiding comments are provided in boxes, so you know how the data was gathered, why each question is addressed and how it forms a logical sequence with the other questions.

❗	These textboxes provide guiding explanations and comments on data gathering and the questions.	❗
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2.3A WORKED EXAMPLE - IDENTIFYING STAKEHOLDERS

A. Identifying stakeholders
A1. Who are the stakeholders?
A2. What subdivisions among men and women in the community need to be recognised?
A3. What are the gender goals of the stakeholders and subgroups?
A4. What indicators should be used to measure achievement of gender goals?
A5. What opportunities/constraints do local cultural practices pose to the planning process?

In this first section we will explore section A of the framework in which the stakeholders are identified.

A1. Identifying stakeholders

A1. Who are the stakeholders?

First of all it is important to identify who is involved in the project. Who are the beneficiaries? Who is involved in the project planning and execution?

	Sponsoring agencies	Implementing agencies	Supporting agencies	Target community (see also question A2)
Who needs to be involved in formulating the gender goals and the other goals of the project?	UNDP	ADS project	None identified so far	Es Sadda has 92 families, approximately 1500 people. The common tribe is Shukria

How did Samba decide on the stakeholders?

① Samba had no problem identifying the stakeholders in the project. They were regularly in touch with UNDP and the staff of the ADS, and the community of Es Sadda had already been selected. However, Samba was sure that within the population there would be important subgroups, whose energy use and needs differed – not least, the difference between men and women. Thus in the next step they tried to identify these subgroups. ①

A2. Identifying subgroups in the target community

A2: What subdivisions among men and women in the community need to be recognised?

The residents of Es Sadda all belong to the Shukria tribe, which is the biggest tribe in the Central Butana area. The village is made up of four lineage groups, varying in size between 10 to 30 families settled together in separate parts of the village. It was observed that inhabitants in each sub-village descend from one lineage group, who used to stay together during their nomadic life. These small settlements are located away from each other because each group wants to keep their animals separate from those of the others. The distance between the settlements is just enough to ensure separation of animals.

There are no real socio-economic differences between the lineage groups in terms of accessibility to resources and services or any other social benefits. Hence, lineage group is in this case not an important subdivision with regard to energy use or needs. However, because the sub-villages have different spatial locations their access to services and energy differ. This is especially the case in education. Only the boys in the sub-village closest to the school are able to study in the evenings in the school, where lighting is available. The others boys live too far away from the school. Girls cannot attend the school in the evenings at all.

Different groups can be identified with respect to their access to services according to their state of wealth, gender, age and spatial location to services. Wealth forms a relevant subdivision in this community, because it determines access to services and also energy needs.

Spatial location and distance to services together with age and gender also present other criteria for categorisation with respect to the accessibility, right to use and cost of services built in the village. So, there are more determinants than wealth as regards the right to use of resources and services in the village.

For example, a woman may be from a wealthy family, but that does not give her the right to some services which are socially restricted to men only. Spatial location also restricts accessibility of services, those who live closer to a service are more easily able to make use of it since the transport requirements are less.

Wealthy families have large animal herds (100 – 150 heads), a large mechanised rain fed crop area (more than 1000 fedans), a private car and a tractor. Medium wealth families have a medium animal herd (50 – 100 heads), a medium size mechanised farm (10 – 50 fedans) and migrant family members (that is to say, usually one of the family is working in Khartoum and sending back part of his wages). A poor family has less than 50 animals, a small agricultural plot (2 – 5 fedans) and family members work for wages on the farms of the richer farmers. Finally the very poor families have small agricultural plots, a small number of goats and no members in the family with other income sources.

As you can see the differences in wealth might imply also very different energy needs and ability to pay. After considerable discussion with key informants about this, Samba decided to take into account two economic groups: the very poor and poor people (in one group) and the medium wealthy and wealthy people (as a second group).

Additionally, it was decided that the subdivision between men and women is highly relevant. A separate category for women who are heads of households has been identified, which when combined with the wealth category gives four subdivisions. Finally, it was determined that women who are heads of households have quite different needs from women who live in a man headed household.

Women who are head of a household bear more financial responsibilities than other women and tend to be in the poorest groups.

As a result, Samba determined that there were five relevant subgroups within the community as regards energy use and needs:

Women in a village are not homogenous

Subgroups within the group of women	Subgroups within the group of men
Women in wealthy and moderately wealthy families	Men in wealthy and moderately wealthy families
Women in poor and very poor families	Men in poor and very poor families
Women who are heads of households	

Where did Samba get the data from?

Samba first consulted project documents and reports which provided quite detailed social profiles of the village, and enabled them to recognise the different socio-economic classes. The distribution of different families in the different hamlets was also found from this source, but the reports did not have any information about energy use, so it was at first not clear to Samba how important wealth was as a determinant of energy.

- ① Samba solved this uncertainty by approaching a number of *key informants* during a visit to the village. They spoke to the Chairman, and to a teacher and to some of the women who were members of the Women's Committee. From general discussions with these people they realised that most of the population is dependent on gathered fuelwood and dung, but the richer and medium families mostly use bottled gas or kerosene for cooking, also of course only the richer families have cars and tractors. In respect of energy they did not find much difference between the poor and the very poor, and between the rich and the medium rich, so this justified the division into just two wealth classes instead of four. These richer and poorer people live together in all of the hamlets, so there was no need to select a particular hamlet to represent any one group. ①

A3. Identifying gender goals

A3. What are the gender goals of the different stakeholders and subgroups?

The gender goals of the project need to be specified in terms of welfare (reducing drudgery and improving health), productivity (income generation) and empowerment/equity/equality (participation/decision making and self confidence), or alternatively, in terms of project efficiency, as has been explained in unit 1.4. The gender goals should be specified for each of the stakeholder and subgroups, as far as possible. The results of Samba's analysis of this are presented in the table overleaf.

How did Samba find out about the gender goals of all these groups?

The gender goals of the sponsoring agencies, and implementing agencies were retrieved from project documents. This was supplemented with a discussion with some professional staff from ADS.

① The Es Sada Village people were not used to formulate their needs in terms of gender goals. Samba therefore arranged for a discussion day in the village. After meeting with the Chairman and the Village Development Committee, they were able to meet separately with five different groups, representing the five subgroups they had earlier identified – using a technique known as *focus groups*. There were between 5 and 8 people in each group. ①

By using concrete examples, the staff of Samba asked each group what they thought was important as regards the development of women. Should the project be helping to reduce women's daily drudgery, or should it help them to engage in more productive enterprises? Should it help them participate more in village activities and did they want more say in the decisions that were being made? From this, Samba was able to draw up the table as shown.

The different stakeholders in the Es Sada project have diverse gender goals as the table shows. Although some of the gender goals are identical for all Es Sada women, it appears that wealth also influences priorities. The wealthy women are concerned with the welfare in the community and specifically with the welfare of the children. On the other hand, the poor women are more concerned with their own welfare, specifically with their access to water. Finally, the women who are heads of households have more economic, hence productive gender needs. They need more opportunities to gather income to provide a living for their family.

The men (both the richer and the poor men) find an increased productivity of the women worthwhile, their opinion is that women should earn income to help support the family.

It is also noticeable that the stakeholders from outside the village have different gender goals to the villagers.

Stakeholders	Gender goals			
	Empowerment	Productivity	Welfare	Project efficiency
ADS	The project should help to empower women, that is to say to help them participate in activities and decision making which they are traditionally excluded from.			The project should look at men's and women's needs separately because unless these needs are properly understood, project interventions may be wrongly targeted and thus fail
UNDP	The project should help to empower women, that is to say to help them participate in activities and decision making which they are traditionally excluded from.	The project should help to increase women's productivity by providing means for them to work more efficiently or new opportunities for income generation		
All women	The project should help to empower women, that is to say to help them participate in activities and decision making which they are traditionally excluded from		The project should improve women's welfare, that is to say, to reduce drudgery	
Wealthy women			The project should improve women's welfare, that is to say, reduce drudgery . Specifically the community's and children's welfare is important (health).	
Poor women			The project should improve women's welfare, that is to say, to reduce drudgery . Specifically access to water should be improved.	
Women who are heads of households		The project should help to increase women's productivity by providing means for them to work more efficiently or new opportunities for income generation		
Men	.	The project should help women to earn income		

The highlighted words show the motivation underlying the gender goals for the different stakeholders.

A4. Formulating project indicators for gender goals

A4. What indicators should be used to measure achievement of gender goals?

Since we have determined the gender goals of the project it is important to think of how to measure whether these gender goal are begin achieved. Thus, it is necessary to develop indicators to assess progress and achievement. Indicators help to show, in concrete terms, what the actual impacts are on people's lives, and whether this is in line with the gender goals that were set.

Stakeholders	Gender goal	Development impacts expected	Possible indicator
UNDP	<i>Empowerment</i>	Women take an active role in village committees (participation)	<ul style="list-style-type: none"> Number of women in committees Number of points raised by women in committee meetings
	<i>Productivity</i>	Number of women's businesses started (income generation)	<ul style="list-style-type: none"> Number of active businesses Number of women attending evening school
ADS	<i>Empowerment</i>	Women take an active role in village committees (participation)	<ul style="list-style-type: none"> Number of women in committees Number of points raised by women in committee meetings
	<i>Project efficiency</i>	Awareness of and support from both men and women for the project. (project success)	<ul style="list-style-type: none"> Participation of everybody Uptake of technology
Women	<i>Empowerment</i>	Communication to outside world, broadening boundaries (self-awareness)	<ul style="list-style-type: none"> Women feel more connected to their relatives away from home
<ul style="list-style-type: none"> Wealthy women 	<i>Welfare</i>	Improved children's welfare Improved community welfare (health)	<ul style="list-style-type: none"> Number of people (children) suffering sickness.
<ul style="list-style-type: none"> Poor women 	<i>Welfare</i>	Access to water (health) Access to more convenient fuels (drudgery)	<ul style="list-style-type: none"> Time spent in fetching water and fuel
<ul style="list-style-type: none"> Women headed households 	<i>Productivity</i>	Number of women's businesses started (income generation)	<ul style="list-style-type: none"> Number of active enterprises
Men	<i>Gender goals are not clear</i>	Men supporting project activities	<ul style="list-style-type: none"> Men feel at ease with the project goals and activities

How did Samba select these indicators?

① The staff of Samba sat down together and discussed what indicators could be used. They considered particularly what indicators were practical in terms of data gathering. Some of the indicators are quantitative – such as the number of people who fall sick – but others are qualitative – for example, ‘women feel more connected to their relatives away from home’. Samba realised that to measure the qualitative indicators it would be necessary to do a follow-up survey after the project is implemented, and interview people. Although labour intensive, and therefore costly, they decided that this was worth the trouble because so many important factors cannot be measured in statistical terms. ①

A5. Identifying possible opportunities and constraints to participation as a result of cultural practices

A5. What opportunities/constraints do local cultural practices pose to the planning process?

Opportunities

In the village there are two formal organisations, the Village Popular Committee (VPC) and the Village Development Committee (VDC), together with sub-committees for different services. The Youth Committee and the Women Committee also provide some form of organisation, based on age and gender. The VPC is the government's political body at the village level. Its responsibilities include the supervision of general work in the village, approval of application for government services (education, health, development aids etc). The VDC on the other hand was formed by the ADS programme to represent the village community in management and supervision of the development activities carried out by the programme. Its responsibilities include assisting the project staff in identifying the community needs, approving individual requests to borrow from the programme fund and ensuring payback.

These committees are composed of equal number of representatives from the four small settlements that make up Es Sadda. When forming a committee each settlement is asked to forward the names of their representatives. It is stipulated in their laws of formation that at least 25% of the membership has to be women. Although different groups are formally represented in the committees, in practice only the chairman of these committees is active in carrying out tasks for the different committees.

Constraints

Women received no education in the past and girls have only just started to be educated since the establishment of the mixed primary school in 1992. Before, one traditional koranic school, *Khalwa*, provided informal education and Islamic teaching for boys only.

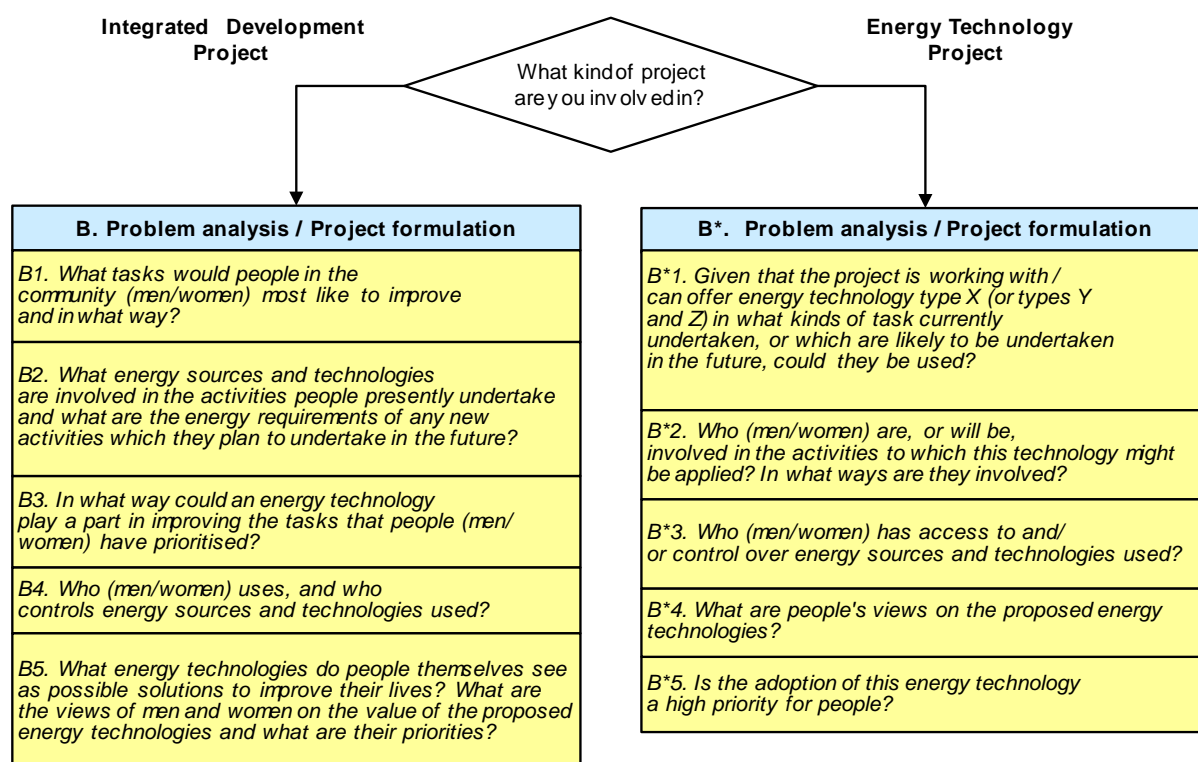
At general meetings of the community, will women attend?	Yes, they can
Are they likely to feel able to speak at such meetings?	Generally not, however some will speak.
Are women literate, able to read any materials handed out?	Some, but most are not
Are women literate, able to fill forms asking their opinions?	Some, but not all. Women on committees are mostly literate
Is it possible to call meetings of only women, if so what times of day would be most suitable?	Yes, winter season (January – April) is most suitable because tasks of women in agriculture are finished. The best time is between 10:00 am to 1: 00 pm, after women finish their home activities such as cooking of breakfast and before time of preparation of the second meal.
Is it possible to interview women on their own? (is a female interviewer necessary?)	Yes but a female interviewer is a must, as male family members will accompany if the interviewer is a male. Also, women speak with greater ease to a female interviewer than to a male interviewer.

In the Es Sadda village, women formally have the chance to pose their opinions and to address their needs in the village committees. However, in practice the women are quite hesitant to actually do so. Additionally, the educational background of women is less than that of the men.

How did Samba get this data?

- ① They gathered these points from available project information and the experiences of the ADS workers who had been working in the village for some time. ①

2.3B WORKED EXAMPLE - PROBLEM ANALYSIS / PROJECT FORMULATION



As you can see this part of the framework has two separate lines of questioning for the integrated development situation and the energy technology situation.

The first step is then to decide which of these mostly clearly matches your own planning situation. Are you planning general development activities and looking to see what energy technologies would best fit these activities? Then you should use the first line of questioning. Are you starting with one (or a limited number) of specific technologies and looking to see if, and how, the community could benefit from these? Then you should follow the other line of questioning.

The Es Sadda project envisaged by Samba is a typical example of an integrated development situation. Intensive development work was carried out by the ADS project, addressing social services, and environment and gender issues. Samba is not trying to promote any one type of technology, but rather is trying to find out what people need and want most, based on a review of their general needs and priorities. Hence, in this case the integrated development part of the framework has been used.

B1. Identifying what people want changed

B1. What tasks would people in the community (men/women) like to improve and in what way?

Samba's approach to identifying what people most want changed (through energy interventions)

① Samba reasoned that only the people themselves could answer this question. So they went back to the village, this time for several days, and arranged some more *focus groups*. They used 6 focus groups with women, and 4 with men, and they asked these groups each to discuss the energy situation in the village. In fact these same focus groups were responsible for providing the data used in this step (B1), as well as some of the data used in B2, and most of the information used in B4. Basically, each group had a facilitator from Samba and they started with simple discussion and then went on by using a variety of PRA methods, as will be explained as we go along. Some of the general information in the text below however was the result simply of observation by the Samba team, as they had now spent some time in the village themselves ①

General situation (observations by Samba)

Women and children (of both sexes) do agricultural work in the small family plots and also work as hired labour in other big farms after they finished their plots. In the off-rainy season children are responsible for the provision of drinking water from the *haffir* (a reservoir) or the irrigation canals when the former is finished. Children and women also look after the small number of animals left behind to provide their families with milk. They are supposed to take them to the grazing places and water them. Women are also responsible for the provision of firewood and cooking the meals for the families. So, (besides their basic skills in animal raising) women's skills are limited to, , manual agricultural works, weaving, milk products and also tent making.

Men on the other hand, usually either follow their animals or work outside the village to gain additional income. When they are living in the village they are responsible for making and earth banking the boundaries of the agricultural plot known as *tarace*³. Men are also responsible for building the houses and for their repair. Additionally, they need to provide their families with sufficient finance. That means men are involved in productive tasks and women and children in practical tasks to meet household needs.

This division of labour defines the roles of women and children in the provision of subsistence goods and services (food and water) that ensure the survival of the family and that of men in provision of finance to pay for education, health, social obligations and other needs.

Results from the Focus Groups

From the focus groups, which were divided on socio-economic as well as gender lines, it was clear that different groups had different priorities. Each group was first asked to discuss what most needed changing. Each group came up with a list of things, and ranked them in order of priority using the *ranking order* system described in unit 2.5 The results are summarised in the table below. In the case

³ The function of the *terace* is keep rainwater from running off outside the plot and also to demarcate the family plot from others' plots.

of women, there was a clear distinction between the focus groups of poorer women and those of richer women. In the case of men, there were hardly any differences between richer men and poorer.

Women				
<i>Key:</i> PW=Poor women, WW = Wealthy women, WHH = Women Headed Household,				
Daily tasks or aspects of their lives women would most like to have improved	In what way?	Priority		
		PW	WW	WHH
Provision of drinking water (drudgery, health)	More drinking water should be available	1	1	2
Provision of firewood (drudgery, health)	Bottled gas with stove for cooking	2	4	5
Communication with migrant family members (goals unclear)	Telephone	5	2	3
Lighting in the house (goals unclear)	Gas light or electricity	4	3	4
Opportunities for income earning and studying (income generation)	(they were not sure about how to do this)	3	5	1

Men		
Daily tasks or aspects of their lives men would most like to have improved	In what way?	Priority
Agricultural work (drudgery)	Relieve drudgery and increase for production through mechanised cultivation	2
Acquiring income and cash (income generation)	Few possibilities are available, especially in the village	1
Lighting in the house (goals unclear)		3

From the discussion, it became evident that an important problem in the village, especially for the very poor and poor people, is the water supply. Although new water tanks have been installed, where water can be purchased, the poor still can not increase their personal water supply. Cash is needed to purchase the water. Because few possibilities are available to earn cash in the village, for the poor and very poor people it is very difficult and sometimes impossible to purchase the water.

B2. Energy technology in current and future activities

B2. What energy sources and technologies are involved in the activities people presently undertake and what are the energy requirements of any new activities which they plan to undertake in the future?

This is an important step in the energy planning process, and is necessary to give an overview of all energy uses. This means not just household energy (**practical needs**), but energy in all productive processes, and it means not just woodfuels and fossil fuels, but also metabolic energy (**drudgery**), as this is a major part of the energy budget of most rural communities.

How Samba got the data for this step

At this stage Samba really needed to know in more detail what energy was actually being used for what activities in the village. Some things could easily be observed, or information gained by talking to the village chairman, for example, the energy that was used in agriculture was easy to see. The problem was that a lot of the energy use was hidden, as it takes place inside households. Samba first considered doing a house to house interview survey but rejected this as being too expensive and time consuming. They decided that the focus groups they already had formed, could probably provide adequate data. These proved particularly useful for the questions on **reproductive** (household) activities (water collection, food preparation etc, and lighting).



Samba therefore started with a blank version of the table that follows, and first filled in all the data they could easily find themselves (on agriculture). They then added the results of the focus group discussions on household use of energy. It should be noted, however, that because of this they were not able to get quantitative data on *how much energy* was used per activity, and they did not get data on the costs either. Evidently Samba felt this was not really important for their work.



Samba also only collected data on *current* activities. At this point in time, no particular new future activities have been planned for in the village of Es Sadda, so Samba was not able to estimate what such future energy needs might be.

The table that Samba produced is shown below. This table organises tasks according to the Triple Role Framework described in Module 1 (Unit 1.1)

CURRENT ACTIVITIES

Activities in which energy is used	Main consumer / producer	Form of energy		How much energy	Cost	Where energy is obtained from		Energy technology used	
		Wealthy	Poor			Wealthy	Poor	Wealthy	Poor
Productive activities (income generation)									
Agriculture									
Ploughing	Wealthy men	Diesel	Not applicable	Unknown	Unknown	Petrol station	Not applicable	Tractors	Do not plough
Sowing	Men	Diesel	Metabolic	Unknown	Unknown	Petrol station	People	Tractors	
Weeding	Men	Diesel	Metabolic	Unknown	Unknown	Petrol station	People	Tractors	
Harvesting	Men	Metabolic	Metabolic	Unknown	Unknown	Employees	People		
Threshing	Men	Diesel	Metabolic	Unknown	Unknown	Petrol station	People	Combine	
Livestock (very poor people don't have livestock)									
Animal raising – large herds (sheep, cattle and camels). Moving with the herd	Wealthy men	Diesel & metabolic	Not applicable	Unknown	Unknown	Petrol station & people	Not applicable	Lorry	
Household animal raising (goats and donkeys)	Poor women	Not applicable	Metabolic	Unknown	Unknown	Not applicable	People		
Fodder for animals (natural pastures)	Men	Biomass	Biomass	Unknown	Unknown	Natural pastures	Natural pastures		
Fodder for animals (crop residues)	Women	Biomass	Biomass	Unknown	Unknown	Crop residues	Natural pastures		
Water transport for animals – lorry	Wealthy men	Diesel	Not applicable	Unknown	Unknown	Petrol station	Not applicable	Lorry	
Water transport for animals – donkeys	Men	Metabolic	Metabolic	Unknown	Unknown	Donkeys	Donkeys		
Other commercial activities									
Producing and selling animal products (milk, wool, gee)	Women	Metabolic	Metabolic	Unknown	Unknown	People	People		
Animal products (milk, wool, gee)	Women			Unknown	Unknown				
Cold-drink shop	Wealthy women	Bottled gas	Not applicable	Unknown	Unknown	Private companies	Not applicable	Refrigerator	
Vending water from earth reservoirs	Women	Metabolic	Metabolic	Unknown	Unknown	Rains and water streams	Rains and water streams		
Vending water from irrigation canals	Women	Metabolic	Metabolic	Unknown	10-15 hours	Animals or tankers	Animals or tankers		

Activities in which energy is used	Main consumer / producer	Form of energy		How much energy	Cost	Where energy is obtained from		Energy technology used	
		Wealthy	Poor			Wealthy	Poor	Wealthy	Poor
Grain mill	Wealthy women	Diesel	Don't mill grain	Unknown	Unknown	Petrol station	Don't mill grain		
Bakery	Wealthy women	Biomass	Don't bake	Unknown	Unknown	Forest	Don't bake		
Sewing shops	Wealthy men	Metabolic	No sewing shops	Unknown	Unknown	People	No sewing shops	Sewing machines	
Reproductive activities (drudgery, health)									
<i>Food preparation</i>									
Water collection – earth reservoirs	Women	Metabolic	Metabolic	Unknown	Unknown	Rains and water streams	Rains and water streams.		
Water collection – irrigation canals	Men	Metabolic	Metabolic	Unknown	10-15 hours	Animals or tankers	Animals or tankers		
Food collection	Poor women	Not applicable	Biomass	Unknown	Unknown	Not applicable	People		
Cooking	Women	Firewood, Charcoal, Kerosene or LPG, crop residues or shrubs and grasses	Firewood, animal dung, charcoal, kerosene, crop residues, shrubs and grasses or carton and plastic bags	Unknown	Unknown	Forest, petrol station, private companies or village shops	Forest, private companies or village shops	Kerosene stove, butogas stove, improved stove, Mudwaya stove or traditional metal stove or improved stove.	Three-stone, traditional metal, improved, mudwaya, kerosene or butogas stove
Collection of firewood	Poor women	Not applicable	Metabolic	Unknown	Unknown	Not applicable	Forest		
Collection of dung	Poor women	Not applicable	Metabolic	Unknown	Unknown	Not applicable	Animal dung		
<i>Other</i>									
Lighting	Women	Cooking oil, kerosene, wax, camel dung, wood	Cooking oil, kerosene, wax, camel dung, wood	Unknown	Unknown	Forest, private companies, village shops, natural resources	Forest, private companies, village shops, natural resources	Wick lamp, kerosene lamp, masraga, candle, kara, kerosene lantern, tagaba	Wick lamp, kerosene lamp, masraga, candle, kara, kerosene lantern, tagaba
Community activities (empowerment)									
Night school (primary ed.)	Some boys	Solar		Unknown	Unknown	Sun		Solar lighting system	
Khalwa – education	Men/boys	Biomass		Unknown	Unknown	Forest		Not known	
Water - Rainy reason	Women	Diesel		Unknown	Unknown			Diesel pump	
Water – Filling tanks	Women	Benzene		Unknown	Unknown			Centrifugal pump	
Mosque	Men	Solar		Unknown	Unknown	Sun		Solar lighting system	

B3. The role of energy technologies in changing tasks

B3. In what way can energy technology play a part in improving the tasks that people (men/women) have prioritised?

In step B1 Samba had already determined the priorities of the village people as regards their priorities for change. Now that they had also examined all other tasks and energy use in these tasks, it is possible for them to determine how energy could play a role in changing the tasks to reduce drudgery and improve health.

Women	
Main items identified for improvement	Possible energy solutions
Provision of drink water (drudgery and health)	Water pumps (possibly solar), construction of more tanks
Provision of firewood (drudgery)	Gas stoves and bottled gas
Communication with migrant family members	Phone
Lighting in the house (uncertain gender goal)	Solar home PV lighting system
Opportunities for income earning and studying (income)	Solar home PV, kerosene lights, gas lights
Men	
Main items identified for improvement	Possible energy solutions
Agricultural work (drudgery)	Combines and tractors
Acquiring income and cash (income)	Solar home PV, kerosene lights, gas lights
Lighting in the house (uncertain gender goal)	Solar home PV lighting system

How did Samba fill this matrix?

- ① They just used common sense, and their own knowledge of the kind of technologies that are available ①

Samba had to make some hard choices

- ① Fairly soon it became clear to the project team that some of the men's main concerns – for agricultural equipment etc – could not really be dealt within the project. The sponsoring agency, UNDP, they know, would not be willing to provide agricultural equipment such as tractors, not least because this might be seen as more appropriate under another UN agency – the FAO. Moreover, UNDP does not usually sponsor capital equipment for individuals. After considering whether they might include the men's requests in some other way - for example, by proposing a special credit package for farmers to buy such equipment, the project team decided that agricultural equipment was really beyond their scope, and they made a decision not to go further in this regard. ①

B4. Use and control over current energy technologies used

B4. Who (men/women) uses and who controls energy sources and technologies used?

In this step Samba considered first household and then community energy technologies.

Their aim was to find out:

1. What energy technologies are being used today?
2. Who uses the energy technologies (men/women)?
3. Who is in control of the energy technologies (men/women)?

Household energy technologies

In Es Sadda village the most important household energy technologies are used for lighting and cooking.

Lighting

1. Lighting inside houses is limited to two or three hours after the sunset. Long hours of lighting are needed occasionally when a family has new born baby, marriage, funeral or when a family has a pupil in the final class in the school.

For lighting a diverse range of lamps is used in the village, the women had earlier explained. A masraga is a wick lighting devices fuelled by cooking oil. A kara uses camel dung with cooking oil. Tugaba is firewood lit in the ground inside the house. Most families use several types of lighting, although rich families obviously use more kerosene than poorer ones.

Samba wanted more information on lighting

In order to get some idea of the amount of energy used, Samba let the focus groups of women do a *pebble ranking* exercise. When the results were all added up, it was easy to see that the wick lamp was overall most in use, but frequently kerosene lamps are also used.

Types of lamps	Types of fuel used	Scores
Wick lamp	Oil	32
Kerosene lamp	Kerosene	29
Masrage	Oil	16
Candle	Wax	12
Kara	Oil and camel dung	12
Kerosene lantern	Kerosene	10
Tugaba	Wood	6

Samba then wanted to know who benefits most from the lights in the house.

2. Use of lighting in households was relatively easy to determine.

User	Men	Women
Who uses the energy technology?	Both men and women	Both men and women
For what purpose is it used?	Lighting	Lighting
Where is it located?	No fixed location within house; tugaba outside	No fixed location within house; tugaba outside
How many lighting devices does a household have, on average?	1 or 2	1 or 2

3. However, who controlled the lighting turned out to be more complex than originally thought.

Samba recognised control over a technology has a number of aspects

When it came to the control over the lamps, Samba found that this included not only the use of the lamps (in terms of access and benefits), but also control over the decision to purchase the lamps (type, quantity, when etc.), the fuel and any maintenance. They therefore decided to look carefully at four important variables relating to control: acquisition of the technology itself, access to benefits, responsibility for the fuel supply, and responsibility for maintenance of the technology. The results of their analysis are shown below.

Control over household energy systems: lighting

Control	Men	Women
<i>Acquisition of the lamp</i>		
▪ Who decided to purchase lamps?	Men purchase kerosene lamps	Women purchase all other lamps
▪ Who paid/is paying for the appliances (or were they a gift from relatives)?	Men pay for more expensive kerosene lamps	Women pay for all other lamps
▪ What energy technologies were available, and why was this one chosen?	Alternatives are described in table above. Usually financial resources determine the choice of energy technology.	Alternatives are described in table above. Usually financial resources determine the choice of energy technology.
<i>Access and benefits</i>		
▪ Who decides who uses it and for what purpose?	Both	Both
▪ What benefits does it bring and for whom?	Whole family benefits	Whole family benefits
▪ Who keeps the profit?	Not relevant in this case	Not relevant in this case
▪ Are there any negative aspects?	Quality of light differs for the technologies	Quality of light differs for the technologies
▪ Who decides on where it is located?	Together	Together

<i>Supply of the fuel for the lamp</i>		
▪ Who purchases/collects the energy source used?		Women buy and collect energy sources
▪ What energy sources are available and why is this one used?	Most families have several different types of lamps but poorer people use more often the tugaba and kara. Richer people use more often wick and oil lamps.	Most families have several different types of lamps but poorer people use more often the tugaba and kara. Richer people use more often wick and oil lamps.
▪ Who decides how much, when and where to collect/purchase the fuel (kerosene etc)?		Women make the decisions concerning the fuels
▪ Who pays?		Women buy most of the lamp fuels
<i>Maintenance</i>		
▪ Who is responsible for maintenance?		Women
▪ Who has access to resources necessary for maintenance?		Women

From the general discussion in the focus groups it became clear that women exercise most control over and responsibility for the household lighting devices. Men buy some of the lighting devices (specifically the more expensive kerosene lamps), while women purchase the cheaper and smaller lamps and purchase and collect almost all the fuels.

Samba then repeated the exercise for the case of cooking

Cooking

1. In focus groups, the *pebble ranking method* was used again. This allowed them to make a fairly accurate estimate of the frequency of use of different cooking fuels, bearing in mind that most households sometimes use one type, and sometimes another. It became evident that according to their economic status, different groups use different combinations of fuel types. The higher income families use commercial fuel types (kerosene, LPG, charcoal and wood), the middle income families combine both commercialised and collected fuels (kerosene, charcoal, wood, crop residues and shrubs & grasses) whereas the poor families depends solely on freely collected fuel types (wood, crop residues, cow dung and carton & plastic bags) for cooking. The data is presented in aggregate form in the table below, but of course Samba, which was working with focus groups from different socio-economic groups, could also have made a table like this for each of the socio-economic groups

Priority	Types of fuel used	Scores
1	Fire wood	37
2	Crop residues	29
3	Shrubs & grasses	20
4	Cow dung	19
5	Charcoal	16
6	Carton and plastic bags	14
7	Kerosene	11
8	LPG	9

For cooking a diverse range of stoves is used in the village, namely the three-stone stove, the traditional metal stove, the improved stove, the mudwaya (*local stove made of mud, grass and cow dung*), the kerosene stove and the butogas stoves. The most important fuels, necessary for these stoves, are presented in the table:

Types of stoves	Types of fuel used
Three-stone stove	Firewood, animal dung, crop residues, shrubs & grasses and carton & plastic bags
Traditional metal stove	Charcoal, animal dung, carton & plastic bags
Improved stove	Charcoal, carton & plastic bags
Mydwaya	Firewood, charcoal, animal dung, carton & plastic bags
Kerosene stove	Kerosene
Butogas stove	LPG

2. Use of cooking technology in households

User	Men	Women
Who uses the system?		Women
For what purpose is it used?		Cooking
Where is it located?		Kitchen

- In the case of cooking some of the information is fairly obvious (the last step is a good example). However, the control over the household cooking technologies is however interesting – especially since we usually think of cooking as “women’s business”. Men are responsible for purchasing more expensive cooking equipment and fuels, such as butogas stoves and kerosene stoves. Cooking technologies using collected fuels are mainly controlled by women. It became evident that there is quite a difference in control for cooking with collected or paid fuels.

①	<p>Samba wanted to illustrate clearly the question of control in cooking system</p> <p>They used a matrix like the one they used for the case of lighting, but adapted it.</p>	①
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Control over household energy technologies: Cooking

Control	Cooking with purchased fuels	Cooking with collected fuels
<i>Acquisition</i>		
▪ Who decides to purchase the stove	Together	Together
▪ Who paid/is paying for the appliances (or were they a gift from relatives)?	Men purchase the more expensive stoves such as butogas and kersone stoves.	Women purchase cheaper stoves (eg charcoal stoves)
▪ What energy technologies were available, and why was this one chosen?	Alternatives are described in table above. Usually financial resources determine the choice of energy technology.	Alternatives are described in table above. Usually financial resources determine the choice of energy technology.
<i>Access and benefits</i>		
▪ Who decides who uses it and for what purpose?	Women	Women
▪ What benefits does it bring and for whom?	Food for all and opportunities to sell food	Food for all and opportunities to sell food
▪ Who keeps the profit?	Some profit from food sales for the women	Some profit from food sales for the women
▪ Are there any negative aspects?	The costs for fuel are high, in light of the limited opportunities to earn cash income	Some of the collected fuels (especially carton and plastic bags) are bad for health
▪ Who decides on where it is located?	Women	Women
<i>Supply</i>		
▪ Who purchases/collects the energy source used?	Women buy charcoal and wood. Men purchase kerosene and LPG.	Women collect energy sources
▪ What energy sources are available and why is this one used?	The energy source has to fit the energy technology.	The energy source has to fit the energy technology.
▪ Who decides how much, when and where to collect/purchase the fuel (kerosene etc)?	Women decide for all fuels.	Women decide for all fuels.
▪ Who pays?	Women pay for charcoal and wood, while men pay for kerosene and LPG.	For collected fuels payment is not necessary
<i>Maintenance</i>		
▪ Who is responsible for maintenance?	Women	Women
▪ Who has access to resources necessary for maintenance?	Women	Women

Some of Samba's general findings about control of cooking technology

- ① In the Es Sadda community men migrate often with animal herds or to Khartoum or the Gulf to earn an income. Thus they are more likely to go outside the village and purchase more expensive stoves and lighting systems and fuels such as kerosene and LPG. ①
- Women, on the other hand, are responsible for the financial management in the household. Thus they have the financial resources available to buy other fuels such as charcoal and wood. Women are also responsible for collecting fuels.

In terms of gender goals, Samba considered that using cleaner / modern cooking fuels would certainly reduce drudgery and improve the health of women. Some women might also be able to use the stoves to earn an income.

Samba's next step is to look at community level facilities

Community level

For data on community facilities, Samba consulted those who seemed to be in charge of them. Not all of these were present (eg business man who provided the light for the mosque and schools) so data is not entirely complete. They quickly found that men have much more responsibility for these facilities than women

1. The energy technologies involved at the community level are:
 - Diesel pumps for water:
 - Flour mills (owned by a private company)
 - Solar lighting systems for the mosque and the primary school
 - Biomass lighting system for Khalwa education
2. Use of the energy systems at the community level

Access	Diesel pumps for water	Flour mills	Solar lights for mosque and school	Biogas light for Khalwa education
Who uses the system?	Women	Women	Men	Men
For what purposes?	To pump water from the reservoirs	Milling of flour	Evening lighting	Evening lighting
Where is it located?	All within the village boundaries			

3. Control over community facilities differs for each of the technologies.

Control	Water pumps	Flour mill	Lighting
<i>Acquisition</i>			
▪ Who was the driving force behind the facility (e.g. community members, NGOs, government)?	The government and the ADS project	The private company	A wealthy businessman
▪ Who was involved in setting up / design of the facility?	No information available	The private company	The businessman and technicians from the city
▪ Who has paid/is paying for the facility?	Partly the community, partly the Government and the ADS project	The private company	The businessman
▪ What alternative energy technologies were available, and why was this one chosen?	No information available	Not known	Not known (businessman was not present)
<i>Access and benefits</i>			
▪ Who owns the facility (private, community, government)?	Government	Private company	Community
▪ Is there a management committee and if so who is represented on it?	Village Water Committee, no women involved	No	No
▪ Who appoints or elects the management committee/board?	No information available	Not relevant	Not relevant
▪ What benefits does it bring and for whom?	Better accessibility to water for most village members (except for the very poor)	Higher productivity for both men and women	Improved studying opportunities for some of the boys
▪ Who keeps the profit?	50% Village Water committee, 50% Rural Water Cooperation	Men	Not relevant
▪ Are there any negative aspects?	The people without possibilities to earn cash still can not afford water	No	Women (and boys that live further away from school) don't benefit
<i>Maintenance</i>			
▪ Who is responsible for maintenance?	Rural Water Corporation	Men	Male teachers manage school lighting system. The Khalwa lighting is managed by the Shiekh (a man).
▪ Who has access to resources necessary for maintenance?	Rural Water Corporation	Men	Men

Samba concludes from this analysis that the women do not benefit at all from the lighting system. They cannot travel in the evenings to the school or profit from the lighting in the mosque. The women are able to use the water pumps and the flour mill. Men are the main controllers of all community facilities, although women are the main users of the water pumps and the flour mill.

Samba considered that in terms of gender goals, that for women there were both positive and negative achievements. They were not able to improve their knowledge and skills – hence they were not being empowered whereas the men were. On the other hand, the water pumps and flour mills reduced the women's drudgery.

Samba reflects

① Having done quite a lot of data collection and analysis, Samba's team sat down together and reflected on what they had found out up to now, and what they should concentrate on in formulating their project. You will remember they had already (regretfully) dropped ① the idea of helping the men to obtain farm machinery, although this was the men's highest priority. Samba had felt however they were not mandated to do this. Now they consider what they can do.

SAMBA'S DECIDES WHICH ENERGY TECHNOLOGIES TO USE

The analysis so far has indicated that for many women, particularly the poorer women, the biggest problem they face is lack of water. Analysis of the problem shows however that this is not really an energy related problem: it lies in the fact that there is simply no ground water. Richer women are able to purchase water imported into the village and therefore do not suffer so much. An indirect solution might be to try to help women earn more income, to enable even the poorer women to purchase water. There is therefore the possibility of looking to see what kinds of energy provision might assist poorer women to earn some income. Here in particular the provision of electricity for lighting and small appliances could be important as well as marketing aspects.

The second problem they have identified is the need to communicate with their husbands when these are away working; this was a need they stressed frequently. Although this is not strictly an energy need, it is a need for a specific technology (although it needs energy to work) and therefore it might be decided that this should be taken up within the project directly.

The women refer to a rural telecommunication telephone, which is widely spread, in rural Sudan. It is installed inside a shop, with an antenna mounted on long poles as high as 10 meters length. In the absence of grid electricity, it can be powered by an acid battery charged by one or two solar modules (50 watt). Since the Sudan is well endowed with solar energy (sunshine), this is a technically feasible technology. So although the project would fall under telecommunications the energy component is still very important.

The third priority of women was lighting in the house, one that is clearly an energy problem.



Interestingly, the cooking fuel problem was rated lower than these three. Samba found this surprising but they decided that since they had conducted their survey in a participatory way, they should respect the women's wishes. Therefore a decision may be made to concentrate on the first three.



As regards men's priorities, their first choice was a means of acquiring income. Energy may be part of this, although there may be many other inputs required: a programme of alternative income generation activities would need very careful thought in an overall integrated plan, since access to markets would be crucial to the success. Transport and communications play important roles in access to markets. However, energy – particularly lighting and electricity for small appliances and powering telecommunications could certainly be a part of this.

Men's second priority was technology to reduce the drudgery of agricultural work. In most cases this means tractors and associated equipment. It might be decided that this lies too far from energy to be considered as an energy component. The problem is not the supply of the fuel required but the lack of capital to purchase the tractors in the first place. Lighting in the house and electricity in general was mentioned by men as a third priority.

On the basis of the above findings, and given limited resources available, Samba decided to focus in the first instance on just two technologies: A solar home system (PV) to meet lighting and small appliance needs in the home – a need mentioned by both men and women, and one that might also open up opportunities especially for income earning opportunities for women working at home – and the rural telecommunication phone, a technology which might be seen as empowering for women, especially for women whose husbands are regularly away from home as migrants in the city. Samba did feel that the impact of lighting on women's time would need to be monitored.

Solar PV systems

Samba thinks they could offer a simple solar home system suitable for household lighting consisting of:

- a set of solar panels, which generates electricity mounted on an appropriate support;
- a charge controller which regulates the amount of electricity going to the battery and appliances;
- an inverter which converts the electricity generated by the array from Direct Current (DC) into Alternate Current (AC);
- wiring and fixtures used for putting the system together;
- a battery which stores electricity for use when the sun is no longer shining (night time or cloudy days).

It is possible (depending on the size of the panel and battery) to run other small electrical equipment, such as a fan and TV but not a hot plate or iron, from a solar home system.

The initial cost of the system that can run 3 low (9) watt lights, a TV and a fan costs around US\$400. The panel is expected to last 20 years but the householder needs to replace the battery every five years. This costs US\$ 35 (2005 prices).

Samba installs the system and provides training first to the men, and later to the women, in simple maintenance of the system, for example, battery care. Samba provides a routine maintenance and repair service for the components it supplies.

The system can be bought on credit or paid for in cash reflecting a client's own circumstances.

Mode - 1:

1. The customer has to pay 15% of the total price as down payment.
2. The remaining 85% of the cost are to be repaid within 36 months with 12% service charge.

Mode - 2:

1. The customer has to pay 25% of the total price as down payment.
2. The remaining 75% of the cost are to be repaid within 24 months with 8% service charge.

Mode - 3:

4% discount is allowed for cash purchase.

Rural telecommunication phone

Samba could supply a basic Village Phone package consisting of:

- An antenna and coaxial cable
- A transceiver
- 1200 mAh battery
- 2 x 50W solar pannels
- fast charger
- sign board
- calculator
- stopwatch
- user guide in Arabic
- price list for calling different locations

The village telephone service (VTS) provider must contribute a 10 metre pole for the antenna to get good signal reception. The Sudan telephone company installs the system.

Rural telecommunication phone (continued)

The cost of the system is around US\$ 500. The VTS provider repays Samba for the system at approximately US\$ 5 per week. The VTS provider has additional charges to pay the Sudan telephone company for the line rental, taxes etc. This is around US\$10 per month. Calls are additional. Samba acts as an intermediary between the VTS provider and the telephone company, although the individual operators are responsible for the direct payment of the bills. Samba monitors this process to see if there are billing errors and can support the VTS operators in resolving problems.

Samba trains the VTS provider in operating the phone and simple maintenance such as topping up the batteries. Samba also provides a regular routine maintenance service and emergency repairs to the components of their package.

B5. People's preferences for energy technologies

B5. What energy technologies do people themselves see as possible solutions to their lives? What are the views of men and women on the value of the proposed energy technologies and what are their priorities?

Samba checks back with the villagers

It is one thing for Samba to think they have found the answer to the people's problems but to find out whether the people agree that these are the best solutions, is another. This next step was designed to check back with the villagers whether indeed solar PV for household use and the rural telephone were what people wanted.

For this, they called two large meetings in the village, one for the men and one for the women. These were held concurrently, one in the school (for the women) and one outside the mosque (for the men).

Women	
Potential energy technologies	Response of women to these suggestions
Solar PV lighting systems	The village women support the idea of extra lighting. The extra study opportunities for the girls are nice (increased knowledge, empowerment). The women headed households are enthusiastic about the extra possibilities to earn income .
Rural telecommunication phone	The village women are enthusiastic. They prefer to keep in touch with their migrant men and a phone increases the opportunities to ensure financial resources for the family (practical).
Men	
Potential energy technologies	Response of men to these suggestions
Solar PV lighting systems	The village men support the idea of extra light. Boys that live away from school now gain extra opportunities to study. However the men do not immediately see many opportunities to earn extra income. Men fear the high battery costs for the lighting system.
Rural telecommunication phone	Communication with home is not a top priority for the men.

Results of the village meetings

As these results indicate, the men are not really enthusiastic for the proposed interventions, particularly the telephone. However, both of the technologies are popular with the women, and provide extra empowerment (either directly through improved self awareness or indirectly through increased income generation) opportunities for the them. Samba recognises however that it is important that the men do not feel ignored or left out, they need to be involved in these energy interventions also. Not only is this an equity issue, but also it might help prevent any resistance by the men to women's involvement in proposed projects.

- ① In step B4 in particular Samba felt it had gained a clear image of the current energy use, control and management in the village and that this would be useful in finding a way to involve both men and women. ①

Samba is fully aware that what matters even more than the choice of the technology, is the way that it is implemented. In order to bring benefits to women, they need also to be involved in the set up and management of the implementation. On the other hand, Samba believes in gender mainstreaming and wants to get the men involved too.

This requires some careful thinking. The questions from section C framework are designed to help with this part of the planning.

2.3C WORKED EXAMPLE - IDENTIFYING ASSUMPTIONS AND EXTERNAL FACTORS



It is important to recognise throughout this section that the questions relate not just to the technology itself but to the way the technology is introduced. This is because it is often not the technology itself, but the way it is implemented, that has gender effects.

Samba therefore starts by identifying the positive and negative effects on men and women respectively, in terms of the gender goals that were identified at the beginning of the process

C1. Identifying positive and negative impacts of the energy technology

C1. Who (men/women) will benefit/be disadvantaged, and in what way, by adoption of the proposed energy technologies and by the proposed means of implementation?

(Note: Samba has not yet really made any proposals about *how* the implementation would work. They are keeping an open mind for the time being).

When you determine who benefits or is disadvantaged by the energy technology it will be much easier to determine whether the different energy solutions will achieve the gender goals of the project. It is not only important to identify who will benefit but also the benefits people see for themselves.

Solar PV lighting system	Men	Women
Efficiency/Welfare <i>Practical needs</i>		
Reduction of drudgery of work	Will not have major effect as most of men's work is outside the home	Could make working more pleasant in the home; cleaner, less smoky light, but fixed location, not movable so only some parts of the house may be lit. Is likely to be restricted to the better off families/women. Reduces need to carry kerosene or other fuels from the market
Health and quality of life	Is ealthier and safer for everyone, lower risk from fire and injury especially for children. Better quality of light for reading etc and offers long term possibility for small electrical appliances such as TVs.	
Reduced costs on energy system	Up front costs of equipment high even with credit system, higher than alternatives. Regular maintenance costs quite high: new batteries etc	Weekly expenditure on lighting fuel reduced (though probably not entirely eliminated because most likely will be used in combination with other systems). Thus would benefit the budget of women who purchase fuel (not the very poorest who depend on gathered fuel)
Equity/Equality <i>Productive needs</i>		
Income	Not directly related to income earning potential for men; could stimulate adult education generally Could offer opportunities as technicians and managers of the PV systems	May open potential for women's small scale enterprises based in the home, but only if other conditions are met (training, supply of appliances, market, etc). Could offer opportunities as technicians and managers of the PV systems, battery recharging etc. For women to do this the project would have to specifically target women with training and other inputs such as credit
General economic well being	Electric light gives sense of well being and progress to everyone in family and is a sign of wealth and status. This is true for both men and women. If only rich families can afford solar PV, the distinction between rich and poor in the village will become more apparent.	
Empowerment <i>Strategic interests</i>		
Education	Unlikely to affect the situation, although reading is easier at night for children (both for boys living away from school and for girls). Wealthier households may acquire radio/TV	Main constraint to adult women's education is lack of freedom to attend classes (especially at night). Solar PV would not change this. Girls can improve their education.
Self reliance	Little effect	If women become involved as 'energy technicians' this could improve their sense of self-reliance and status in society

Opportunities for small business	Little	Apart from opportunities in the PV supply business itself, starting small enterprises would be conditional on many other factors
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Where did Samba get the information from to fill this table?

The information brings together information from earlier steps.

Samba's initial thoughts on implementation of the solar PV

It is clear that the economic feasibility of solar PV rests entirely on the conditions as regards credit and finance, as the upfront costs are high even though the long run costs may be lower than eg kerosene and candles. If a system can be implemented by which the equipment is paid off over a long period of time, for example 3-5 years, on a monthly or periodic basis, then it may be attractive at least to those members of the community who already purchase their fuel in the form of kerosene, oil and candles. It is probable, given the pattern of spending observed in the community, that the decision to purchase the equipment would be primarily in the hands of the men, who would also be responsible for the costs of this since they have more money at their disposal. It is not clear who would be responsible for any maintenance or replacement (a new battery is needed, approximately every 5 years) costs, but presumably these would also be 'men's costs', as expensive equipment is usually also maintained by men. The project team therefore decided that men would have to be approached, rather than women, if the project was to go ahead and introduce solar PV systems, and that the costs of maintaining these systems would have to be explained in the first instance to the men, even if women, later, would be involved in the maintenance too.

Rural telecommunication phone	Men	Women
Efficiency/Welfare <i>Practical needs</i>		
	Keep in touch with family when working away from home	May facilitate many everyday tasks such as contacting medical help, etc. Allows women to contact their absent husbands when they need money
Equity/Equality <i>Productive needs</i>		
	Could possibly be used for marketing crops etc	Could be input to various productive enterprises, eg to support solar PV business (to contact repair company when necessary etc). Also could help marketing of products.
Empowerment <i>Strategic interests</i>		

Self reliance		Women believe that the phone will make them stronger, more able to 'capture' money from their husbands and able to take decisions in their absence.
Access to information and communication	Telephone should increase access of all to information and increase level of communication with community to outside world.	

C2. Control and access to resources needed to implement the energy technology

C2. Who (men/women) have access to and control over key resources critical to adoption and sustainable use of the energy technology and participation in implementation?

The two technologies which are under consideration for implementation – solar PV home systems, and the rural telecommunication telephone - obviously require certain resources. The most obvious is capital: money to make the initial purchase of the equipment. As explained in the technical description of these options, the project would aim to ease this by the use of a credit system allowing long term repayment. Another obvious need is for knowledge and information to understand how to use the technologies, and how to maintain them etc. This explicitly is the case for the solar PV home system. The rural telephone will mainly be maintained and repaired by the phone company with Samba being responsible for the same aspects.

However, these are by no means the only resources that are needed. The following tables analyse what kinds of resources would be needed for participation in project design, for participation in implementation, and for the adoption and use of solar PV systems and cell phones. These resources include educational resources (knowledge and skills), labour resources, social, natural, financial, infrastructural and equipment requirements, and the analysis looks at who (men/women, or the household as a whole) would need the resources in order to be involved in the project.

In the tables in this section, the resources needed for implementation of each of the technologies have been identified.

Where does the data in the tables come from?

Data to complete this table was inserted by Samba's project staff on the basis of their general understanding of the requirements of the technologies.



By performing this analysis, barriers for a successful implementation are identified. All relevant resources are covered. Additionally, the role of the villagers is identified. Most of the issues can be determined as a desk exercise based on previously gathered information. This question prepares us for the next question, which is how to arrange maintenance and control of the technologies.



SOLAR PV LIGHTING SYSTEM

Resources needed to enable	Participation in project design	Participation in implementation	Adoption of Solar PV home system	Sustainable use of Solar PV home system
Key: C = Village Development Committee, HH = Household, M = Men, W = Women, Ch = Children, T = Technicians				
<i>Education</i>		C: Literacy required for writing up policy for revolving credit scheme C: Skills for developing revolving credit scheme		C: Knowledge of operation of revolving credit funds
Knowledge				
Skills		T: Basic skills / education to become technician.	T: Skill to install panel and wiring properly (in cooperation with supplier) M+W: Confidence to use electricity	M+W+Ch: Skill to operate and maintain the system (change bulbs, record keeping, top up battery) T: Skill for quality control and repair C: Skill to manage revolving credit scheme T: Skill for expansion of systems
<i>Labour</i>	M+W: Time for PRA sessions to design project. M+W: Time for exchange visit to community that uses solar power M+W: Time for participatory evaluation of solar systems	M+W: Time for participatory system design (determine packages) W: Time for confidence building activities M: Time for sensitising activities C: Time to identify training partners (for revolving fund and technicians) C: Time to set up policy for revolving credit scheme and negotiate with suppliers T: Time for training as technicians	M+W: Time for training in household use of solar system M+W+Ch: Time for safety training W: Time to be present during installation of system (best time of the day is between 10h00 and 13h00)	M+W: Time for maintenance (cleaning of panel, see skills) M+W: Time to be on committee of revolving fund
Time				

Resources needed to enable	Participation in project design	Participation in implementation	Adoption of Solar PV home system	Sustainable use of Solar PV home system
Key: C = Village Development Committee, HH = Household, M = Men, W = Women, Ch = Children, T = Technicians				
<i>Information</i>		C/NGO: Awareness of other projects C/NGO: Awareness of reputable suppliers and competitive pricing C/NGO: Awareness of guarantees and warranties C: Awareness of existing revolving funds C: Awareness of importance of quality control	M+W: People need to be informed before they are able to take decision. M+W: Awareness of successes and failures of solar systems, awareness of its opportunities and constraints M+W: Awareness of differences in packages (cost vs. benefit) M/W: Awareness of benefits from different locations of lights	M+W: Awareness of importance of quality control and maintenance M+W: Awareness of safety aspects.
<i>Social</i>		C: Gender relations should allow women to be trained as technicians.	M+W: Strong social group required for forming revolving credit scheme.	
<i>Natural</i>				HH: Panel needs abundant sun and should not be covered by trees, orientation and angle of panel are very important.
<i>Sun</i>				
<i>Financial</i>				HH: Reliable income needed for payment of credit. HH: Money to purchase spare parts (bulbs, distilled water, batteries)
<i>Cash/Income</i>			HH: Cash for down payment of solar system.	
<i>Credit</i>			HH: Credit from revolving fund for purchase of solar system C: Credit to start revolving fund and training of technicians	
<i>Infrastructure</i>		C: Availability of micro-finance institution in the area (to set up revolving fund)	C: Availability of local suppliers	
<i>Equipment</i>			Tools necessary for installing system (provided by supplier) HH: Box for battery, module mounts for panel.	HH: Maintenance tools (distilled water, petroleum jelly, spare bulbs) T: Repair tools (voltmeter, etc.) Replacement batteries

RURAL TELECOMMUNICATION PHONE

Resources	Participation in project design	Participation in implementation	Adoption of rural telecommunication phone	Sustainable use of rural telecommunication phone
Key: C = Committee, HH = Household, M = Men, W = Women, Ch = Children, T = Technicians				
<i>Education</i>			C: Literacy required for using rural telecommunication phone. C: Skills to use the phone.	
Knowledge				
Skills		T: Basic skills / education to become technician.	T: Skills to install antenna (in cooperation with supplier)	T: Skill to operate and maintain the system T: Skill for quality control and repair
<i>Labour</i>	M+W: Time for PRA sessions to design project. M+W: Time for participatory evaluation of solar systems	M+W: Time for confidence building activities T: Time for training as technicians	M+W: Time for training in use of rural telecommunication phone	T: Time for maintenance (cleaning of panel, see skills)
Time				
<i>Information</i>		C/NGO: Awareness of other projects C/NGO: Awareness or reputable suppliers and competitive pricing C/NGO: Awareness of guarantees and warranties	M+W: People need to be informed before they are able to take decision. M+W: Awareness of successes and failures of rural telecommunication phone, awareness of its opportunities and constraints M+W: Awareness of differences in packages (cost vs. benefit)	M+W: Awareness of importance of quality control and maintenance M+W: Awareness of safety aspects.
<i>Social</i>		C: Gender relations should allow women to be trained as technicians.		
<i>Natural</i>				
<i>Financial</i>			HH: Cash for down payment of rural telecommunication phone.	HH: Reliable income needed for payment of calls. C: Money to purchase spare parts
Cash/Income				
Credit				
<i>Infrastructure</i>		C: Antenna pole to be provided	C: Availability of supplier	
<i>Equipment</i>			C: Acid battery charged by one or two solar modules (50 watt). C: Antenna pole	T: Repair tools (voltmeter, etc.)

C3. Division of labour: Maintenance and repair

C3. Who (men/women) are going to be involved in maintenance and repair; and is capacity building necessary? If so, for whom?

With the data from the tables in the previous step, Samba developed two possible scenarios for maintenance and repair for the rural telecommunication phone and two for the solar PV home system are possible.

Scenarios for maintenance and repair for the solar PV home system

The implementation of the Solar PV home system obviously needs a lot of capacity building in the village. Especially technical skills are needed to maintain the solar PV systems. The two possible scenarios which Samba developed are as follows

1. The first scenario gives an important role to women. Although women have little educational background they have the advantage that they can easily enter each other's houses. Additionally women are more often present in the village during daytime when the batteries are being charged. Men work on the fields further away during part of the year and many are away for long periods in the city for other employment. Thus, it is important to ensure the independence of the women. They should be able to fix small technical problems themselves. The village consists of four smaller communities. These communities live almost totally independent from each other. Four women (one from each community) will be trained in the basic technical skills of the solar home PV system. Because women are not able to travel alone outside the village, the sponsoring agencies provide the women with a two week course in the village. The two weeks will be planned during the winter season (because agricultural work is finished). Every day the women follow the courses from 10h00 to 13h00, because home activities such as cooking and breakfast are finished and the preparation for the second meal has not started yet. In addition, because there are no women with a sufficient educational background, one man will enter a one year program in the technical college to acquire more sophisticated knowledge for the solar home PV system. In terms of gender goals, both women and a man would have empowerment opportunities, increasing the knowledge and skills, which contribute to their self confidence and self esteem.
2. The second scenario gives men the lead role. Men have a better educational background and bear responsibilities for almost all the maintenance and repair activities for household and community technologies. Thus it makes most sense to educate four men (one from each community) in basic technical skills. These four men are trained in a technical college for one week. Additionally, one man enters technical college for one year to acquire more detailed technical knowledge. This scenario is in fact cheaper than the previous scenario. In terms of gender goals, only men benefit from empowerment opportunities, though increased knowledge and skills.

Capacity building: Solar home PV system	Scenario 1: empowering women	Scenario 2: training men
What kind of capacity building will be needed, for whom?	<ul style="list-style-type: none"> Four women will be trained in some basic technical skills One man will be trained in more sophisticated technical skills 	<ul style="list-style-type: none"> Four men will be trained in some basic technical skills One man will be trained in more sophisticated technical skills
How will this be programmed in?	<ul style="list-style-type: none"> The women will be trained in specially designed two-week program from the sponsoring agencies in the village. 	<ul style="list-style-type: none"> The four men will participate in a one week program from the technical college. The other man will enter a one

	<ul style="list-style-type: none"> ▪ The man will enter a one year program in a technical college 	year program in a technical college
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These scenarios were presented by Samba at a village meeting which both men and women attended together. Both scenarios were discussed.

Village discussion: Maintenance and repair of the Solar PV home system

During the meeting, six women and six women said they would be interested in training to gain technical skills for the solar home PV system. Three of the younger men are eager to enter the technical college for one year. Men and women have different opinions concerning the two scenarios. Mr. Ibrahim states most clearly the opinion of most men: “It is quite obvious which of the two scenarios is best. The men should be responsible for maintenance and repair. Our women have no experience in these kinds of tasks. Additionally it is more expensive to train the women. Let’s be reasonable there is no way that the women are able to learn these skills.” Mrs. Awad responds: “You might be right. However, the first scenario provides chances for us to acquire these skills while remaining active in the village. I cannot guarantee that I will be able to learn these skills, but for once I would like to have the chance to try. Additionally, you men are too often away. What would I do if the lamp is not working and the technical man of my community is away again? I think we’ll be able to learn such basic technical skills.” Mr. Abdel Mahmoud adds: “Maybe the women are right. None of the men are always around during the daytime. All of the men are sometimes away for longer periods. Maybe the women do a fine job.”

Altogether the community decides that the women will perform the basic technical skills and one man will be trained in the technical college. The first scenario is chosen.

Scenarios for maintenance and repair for the rural telecommunication phone

The phone company will bear most responsibilities for the maintenance and repair of the rural telecommunication phone with Samba providing the rest. However, the adoption of the rural telecommunication phone requires at least one technician in the village. (Most of the technical work will be done by the phone company, but it is necessary to have at least one skilled technician in the village for short-term solutions). This technician will be responsible for repairs. Additionally, training in using the phone is necessary for the villagers who will use it.

Again Samba thinks that two scenarios are possible:

1. One goal of the phone is to increase the independence of women. Hence, it seems logical to assume that maybe (one of) the women should be trained as technician. Again the limited educational background of most women in the Es Sadda village limits the possibilities. Education could take place in a technical college for a one year period. Again this poses problems, because most women are not able to leave the village for such a long period. The sponsoring agencies will instruct the people in the village in the use of the phones; this could easily be done in one session per community during the quiet period of the day (between 10h00 and 13h00).
2. The second scenario involves a male technician. Again the sponsoring agencies will provide instructions on using the phones.

3.

Capacity building: Rural Telecommunications System	Scenario 1: empowering women	Scenario 2: training men
What kind of capacity building will be needed, for whom?	<ul style="list-style-type: none"> One woman will be trained as technician Villagers will be trained in the use of the phone by the sponsoring agencies 	<ul style="list-style-type: none"> One man will be trained as technician Villagers will be trained in the use of the phone by the sponsoring agencies
How will this be programmed in?	<ul style="list-style-type: none"> The future technician will enter a one year program in a technical college The villagers will be trained in one session per community during the quiet period of the day (10h00-13h00) 	<ul style="list-style-type: none"> The future technician will enter a one year program in a technical college The villagers will be trained in one session per community during the quiet period of the day (10h00-13h00)

The implementation of the rural telecommunication phones needs a lot of capacity building in the village, especially in respect of the technical skills are needed to maintain the phone system. The skills for the solar PV battery system need to provide the electricity would be included in the solar home PV system component.

These scenarios were discussed during the same village meeting as the maintenance of the solar PV system.

Village discussion: Maintenance and repair of the cellular phones

During the meeting, two women present declared that they would like to be trained as phone technicians. They don't see any problems with their home situation and have the required educational background. Four men apply for the training as technician.

Nobody sees any problems as regards training to use the cellular phones. Everybody agrees that it is quite possible to learn to use the phone in one session.

Mrs Goutbi opens the discussion: "If we have women who want to learn these skills I am really happy. The men are away too often. I think a woman can learn these skills. Give us a chance." Mr. Elhassan responds that she is probably correct. However he is afraid that one technician in the village might be insufficient. "What guarantees do we have that the trained person will return to the village? Maybe the technician will start working in the city. Maybe we should train two technicians Why not women? They usually stay in the village and don't take their skills to town." Most of the villagers who attend agree with this point of view. Still some of the men are quite hesitant that a woman will be able to perform as a technician. Mr. Ibrahim suggests: "Let's compromise and send two villagers, one male and one female."

Most of the villagers agree with this solution, although the extra costs were not anticipated by the sponsoring agencies. Samba suggest that the future technicians will participate in a shorter vocational course in the technical college, a course of six months. There might be an opportunity for the technician to service other nearby villages which would spread the training costs. However, the technician would require transport which would be an additional cost! The phone system would be enstalled in a shop operated by a women.

Based on the village discussion it is decided to revise the division of tasks for maintenance and repair. One man and one woman will be trained as technicians. ADS will be asked to bear the costs for this education. Additionally they will be asked to organise four short training sessions for the villagers that purchase phones.

① The discussions with the villagers concerning maintenance and repair have shed new light on the role of men and women related to the energy technologies. The men are somewhat hesitant, but after some time of discussion, they are willing to shift some of the responsibilities to the women. It is very important that such a discussion is carried out. It becomes obvious from this example that it is possible, if you involve all people, to alter some of the opinions in the village and change gender relations. Perhaps the men saw in it their strategic interests to train a woman, since she was less likely than a man to move outside of the village taking her skills with her, hence the maintenance system of the communication system would be safer in her hands and there could be a greater chance of the system working. Remember communication plays an important role in access to markets for agricultural products. The men know when it is a good time to go to market to get a good price for their crops or animals, rather than waste time and money on a fruitless trip. ①

C4. Division of labour: Management

C4. Who (men/women) are going to be involved in management and under what arrangements?

Samba remembers that women's empowerment can also come through participation in processes, such as management committees. So keeping that point in mind, and as a result of the village discussions concerning the different scenarios, Samba has drawn up the following plans for management for the systems:

Solar home PV system

A community committee will be installed to manage the solar home PV system. This solar PV village committee will be comprised of four members (two men and two women). When the men are away from the family the women will be solely responsible for the management of the solar PV system. Each of the members comes from one of the four communities in the village.

The main responsibilities for this committee are the coordination of the maintenance and repair activities. Additionally, this committee will oversee a credit programme in cooperation with the rural development bank to facilitate purchase of a solar pv home system.

Cellular phones

The rural telecommunication phone will be installed in the cold-drink shop. This shop is owned by one of the richer families in the village and operated on a daily basis by a female family member. The overall management of the phone system will be the responsibility of the Village Development Committee.

C5. Opportunities and constraints of the implementing organisation

C5. Is the implementing agency sufficiently aware of gender issues to ensure the project is implemented in a gender sensitive way?

The plans that have been sketched are quite unusual in that women are heavily involved in the management and maintenance aspects. Samba is well aware that for this to be successful, the other organisations who will be involved have to be supportive. ADS itself, is very gender conscious and interested in promoting women in society, so this is not expected to cause any problems. But other agencies may not be so amenable.....

So this step is important as regards the ways of working of the smaller third parties will be involved at some point in the implementation. For instance when the phone company sends technicians to install the antenna and the phone, it is important that it recognises the active role of the women in the village in the maintenance, management and use of the phone. Hence it is important to analyse such third parties for their gender sensitivity.

The solar home PV system will be implemented by ADS itself. Thus an analysis for this organisation is not necessary.

For the installation of the rural telecommunication phone the phone company needs to be analysed.

The analysis was carried out in order to:

- gain insights into the capacity and views of the implementing organisations regarding the participation and empowerment of women from village telephone services (VTS).
- gain insights into the external factors that influence the extent to which organisations can address gender issues through the provision of VTSs.

Key questions

1. Does the Sudan Telephone Company (STC) have the willingness and capacity to plan and implement rural electrification in such a way that women will have equal rights, opportunities and benefits to men (either in terms of employment within the organisations or as users of electricity)? (Do they have a gender policy? Do they have programmes that help women reach senior management positions or pursue technical careers? Do they allow paternity and maternity leave?)
2. What are the opinions of the Sudan Telephone Company management on gender equality? Do senior management understand gender issues, such as gender mainstreaming? Are men resentful of women 'taking over' their jobs or do they welcome competence (and competition)? Do women support 'fast track' programmes to advance women into senior positions?
3. Do the external relations and the context in which the STC operates favour or hamper their capacity to provide equal rights and opportunities to women?
4. Do other organisations exist that can facilitate the Sudan Telephone Company to plan and implement policies and projects from which women will have equal rights, opportunities and benefits to men (either in terms of employment within the organisations or as providers of VTSs and as users of the service)?

Key Question 1

An analysis of company documents and interviews with members of staff (Mr El-Tayeb, Managing Director and Mr Hassan, Senior Administrative Officer in charge of Personnel) was used to answer this question. The company has recently been privatised from a state enterprise. The ownership of the company is now 40% in foreign hands. The latter are keen to bring changes to the way the organisation has been run in the past. They would like to employ more women since they believe women are very conscientious and trustworthy employees and they have to keep in mind vocal share

holders at home who are monitoring the company's involvement with ethical and human rights issues. On the other hand, the foreign management does not want to change things too radically too fast and run the risk of offending powerful local interests. Samba constructs an institutional profile of the STC which is given in the table.

Institutional Profile

Aspects of organisation that are important for gender equality	Sudan Telephone Company	
	Strengths	Weaknesses
Type and general capacity	Recently privatised with considerable foreign stake in ownership sensitive to political issues such as women's rights.	No previous track record in gender sensitive approaches.
Policy on equal rights and opportunities for women - in place - active or on paper - rationale for policy - contents		None to date. Is in the pipe line but not a priority – too many technical and cash flow problems to sort out first.
Strategy and activities regarding equal rights and opportunities for women - Strategy regarding gender equity - strategy for participation of women as employees - strategy for participation of women as users - experience with activities for women - Other.....	Some staff consider women to be conscientious employees and they have a good track-record in the accounts section. Others are concerned that the long running civil war has created a lot of women headed households who need income and rural telephones could be a potential opportunity for the company which is keen to expand its client base.	Women are not seen as a specific target group as village telephone service providers.
Structure of the organisation - Structure and division of responsibilities - Rules, procedures and instructions - Structure for gender equality - Other.....	It is expected that a gender equality policy will formally be in place in the next five years.	The company is currently undergoing re-organisation.
Human resources for a gender equality policy - Quantity - Knowledge, skills, staff motivation - Sex ratio at various levels - Selection of staff - Terms and conditions for equal opportunities - Other	There are a small number of well qualified, well motivated women employed in the organisation. Since privatisation the ratio of total numbers of women to men employees has improved. Women are paid the same as men for the same kind of work. The	Men still dominate the technical positions. The small number of women engineers do not do field work. Women employees do not complain to management about anything to do with their position in the company. Some employees (both male and female) are concerned

	Sudan Telephone Company	
	staff is well motivated.	about the influence of the foreign shareholders on the ways of working in the organisation and that changes might not be to reflect efficiency objectives but “trying to change aspects of our culture that foreigners do not understand”.
Financial and physical resources for a gender equality policy - Quantity - Other	Although not there at present the new management will provide them when the time is right.	
Culture of the organisation - Staff attitude towards gender equality at various levels of the organisation - Openness to learning and change - Other.....	Junior staff, particularly those educated abroad, would like to see more progressive employment attitudes including having more women, if it is their wish and they are competent, in senior roles.	Women are not in senior roles. A significant number of employees do not consider it the role of business to be involved in “political agendas” such as “women’s rights” – they had enough of this type of “interference” when the company was parastatal. Some women employees prefer to gain promotion on the basis of merit rather than through programmes designed to ‘fast track’ women.
Cooperation with other organisations - existing - potential for cooperation	When the time comes to tackling gender issues the company would approach Afhad University for Women.	None.

Key Question 2

Five staff members were interviewed to answer this question: Mr El-Tayeb, Managing Director, Mr Hassan, Senior Administrative Officer in charge of Personnel, Mr Ahmed (chief engineer), Mr Rashid (marketing manager), Mrs Amna and Mrs Fatma (both in the accounts section).

The senior management accept that the organisation must change and that women should play a greater role, however, the current political climate is not conducive. The chief engineer considers that women working in the field is currently difficult (not only due to attitudes in rural areas but also safety issues linked to the civil war – the latter makes women themselves reluctant to work in the field). Mr Rashid considered that women could be an important target group to act as VTS providers. It would therefore be important to have women back-up staff to carryout maintenance and billing support. Mrs Amna and Mrs Fatma consider the phone company to be one of the most progressive employers in the Sudan and like their job. They feel that they could take more responsibility and feel that a woman could also do the job of head of accounts as well, if not better, than the current male incumbent. None of those

interviewed saw it as the task of a private company to consciously “advance the position of women in society”.

Key Question 3

The current political environment in Sudan is not conducive to supporting women’s advancement, although there are women active in all aspects of Sudanese life. Women have actively campaigned against the restrictions Sharia Law places on them, such as freedom of movement. There is a good University for women (Afhad) in Khatoum.

Key Question 4

There are a few organisations which could assist the phone company: ITDG Sudan, Afhad Women's University and National Energy Council (which has a good mix of women and men scientists and engineers).

The gender issues addressed here are firstly strategic, in the sense they allow women to shift gender relations in their favour by moving from junior subordinate positions to more senior positions in the organisation. Secondly, income related, in the women will earn higher salaries, which in turn may influence gender relations at home.

C6. National and international possibilities/constraints as regards women’s involvement in energy

C6. What opportunities follow from international, national or regional energy or other policy, that could assist in strengthening the gender impacts of this project?

Policy on a regional, national or international level can give extra possibilities (sometimes also constraints) for involving women in energy. In Sudan several policies influence the chances for success.

International and national constraints and possibilities for women’s involvement in energy	
Are there any special programmes/funding opportunities which could be linked to?	UNDP, World Bank ESMAP, Shell Foundation, Winrock International.
Are there any national or international policies or agencies that could be called upon?	UN Convention on Ending Discrimination Against Women (CEDAW) and Beijing Platform for Action. Afhad University for Women National Energy Centre, Khartoum.
What networks or lobby groups could be called upon for assistance?	ENERGIA, the international network on gender and energy. ITDG Sudan East Africa Energy Technology Network.

What has Samba achieved so far?

① In this section C it has become clear what assumptions and external factors are likely to influence the implementation of the energy technologies. Samba has identified who normally uses and is in control over energy technologies. Samba has also identified who will benefit the most from the proposed interventions and which gender goals can be addressed. Most importantly Samba has made clear arrangements for maintenance, repair and management from a gender perspective and tried to increase the opportunities open to women. Finally the implementing third parties have been analysed for gender awareness and regional, national and international opportunities and constraints have been identified. ①

2.3D WORKED EXAMPLE - SUMMING UP

D. Summing up
D1. What are the appropriate gender indicators for the current project's gender goals?
D2. Given the proposed energy technologies, what effect will they have on the quality of life of men & women and how do these benefits relate to the gender goals?

This stage in the planning is one of reflection and taking stock of all the information gathered in the earlier steps. It is time for Samba to decide: Will the interventions we have considered really help the community meet its own goals? Do people really want what we have to offer and in particular will the intervention achieve the gender goals which have been identified? A report should be written answering these questions based on the findings uncovered by the earlier analyses. This report should be straightforward and concise, to convince other people of the results of the analysis made so far.

D1. Revising gender indicators

D1. What are the appropriate gender indicators for the project's gender goals?

In this step Samba can demonstrate how to measure the probable impacts of the proposed interventions in terms of achieving the gender goals identified in step A3. To do this Samba first used the development indicators which were drawn up in step A4 and linked them to the gender goals.

Development indicators

		Development indicators	
Gender goal (Step A3)	Whose gender goal?	Development impacts expected	Selected Indicators (from step A4)
<i>Women's welfare</i>	Poor women	Women's work loaded reduced	Use of non biomass fuels
<i>Productivity of women</i>	UNDP Women heads of household	Number of women's businesses started	Number of active enterprises run by women
<i>Empowerment for women</i>	UNDP	Girls are able to study in the evenings	Improvement in grades of female students
	UNDP	Women increase in self confidence through participation in decision making committees	Number of points raised by women in committee meetings
	UNDP/ADS Women heads of household	Number of women's businesses started	Number of active enterprises run by women
	Women	Communication to outside world, broadening boundaries	Men and women feel connected.

<i>Project efficiency</i>	ADS	Awareness of and support from both men and women for the project.	Participation of everybody Uptake of technology
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As we can see Samba considerably reduced the number of indicators, but covered all the gender goals reflecting different stakeholder wishes. They prioritised poor women over rich women. A smaller number of indicators meant Samba would have to collect less data but would still have a holistic picture of the intervention's impacts.

D2. Checking the effect of energy technologies in relation to the gender goals

D2. Given the proposed energy technologies, what effect will they have on the quality of life for people (men/women) and how do these benefits relate to the gender goals?

Access and control variables

In order to investigate whether the introduction of an energy technology or service does result in the achievement of some, or all, of the gender goals that are set, Samba needs to look at access and control variables (B4) and knowledge and skills variables (C2).

The first table describes access and control variables for the solar home PV lighting system and the second for cellular phones.

SOLAR HOME PV LIGHTING SYSTEM	Men	Women
Access		
Whose (men's or women's) problems does the energy technology or service solve?		✓
Who (men or women) will benefit the most from it?		✓
Who will be able (if necessary) to get credit to purchase it or accessories for it?	✓	✓
Who (men or women) will be able to afford it?	✓	✓ ⁴
Control		
Who decides whether to adopt the technology (men or women)	✓	
Who will be the 'owner' of the technology/service (man or woman)	✓	✓
Who decides which model or type (men or women)	Not relevant for solar energy	
Who decides where lamps will be located?	✓	
Who (man or woman) is responsible for paying		
▪ For the initial equipment	✓	
▪ For installation of the equipment	✓	
▪ For the fuel	Not relevant for solar energy	
▪ For the maintenance and replacement battery	✓	
Who chooses (and pays for) any ancillary equipment or appliances?	✓	
Who is in contact with the supplier?	✓	
Knowledge and skills		
Who (men or women) has the knowledge and skills to:		
▪ Use the equipment	?	?
▪ Manage the system	?	?
▪ Install the equipment	?	?
▪ Maintain the equipment	?	?
▪ Understand and explain the safety aspects of the equipment	?	?
Who (men or women) is going to be trained to:		
▪ Use the equipment	✓	✓
▪ Manage the system	✓	✓
▪ Install the equipment	✓	
▪ Maintain the equipment	✓	✓
▪ Understand the safety aspects of the equipment	✓	✓

Samba knows that when introducing a new technology if you want people to keep using it, they have to have the right knowledge and skills. At this stage they did not have a clear picture of peoples' knowledge and skills required for the different aspects of the solar home lighting system. However, Samba knows that any gaps in knowledge and skills can be closed through appropriate training.

⁴ Possibly not women in women headed households.

RURAL TELECOMMUNICATION PHONE	
Access	
Whose (men's or women's) problems does the energy technology or service solve?	Women's
Who (men or women) will benefit the most from it?	Women
Who will be able (if necessary) to get credit to purchase it or accessories for it?	Not relevant in this case
Who (men or women) will be able to afford it?	Men and women
Control	
Who decides whether to adopt the technology (men or women)	The community
Who will be the 'owner' of the technology/service (man or woman)	The community
Who decides which model or type (men or women)	Not relevant in this case
Who decides where it will be located?	The VDC
Who (man or woman) is responsible for paying	
▪ For the initial equipment	The VDC
▪ For installation of the equipment	The VDC
▪ For the fuel	Not relevant since it will be PV powered
▪ For the maintenance and replacement battery	The VDC
Who chooses (and pays for) any ancillary equipment or appliances?	The VDC
Who is in contact with the supplier?	The female owner of the cold drink shop
Knowledge and skills	
Who (men or women) has the knowledge and skills to:	
▪ Use the equipment	All
▪ Manage the system	The VDC
▪ Install the equipment	None, because the phone company will install the equipment
▪ Maintain the equipment	The male and female technicians
▪ Understand and explain the safety aspects of the equipment	The male and female technicians
Who (men or women) is going to be trained to:	
▪ Use the equipment	All
▪ Manage the system	No training will be provided
▪ Install the equipment	None, because the phone company will install the equipment
▪ Maintain the equipment	The male and female technicians
▪ Understand the safety aspects of the equipment	The male and female technicians

Samba realises from this access and control analysis that:

1. Although women are likely to have access to the benefits from solar energy if it is adopted, they will have very little say in whether or not a family adopts it, and if they do adopted, they will have no say about where lights will be placed, and what equipment might be purchased to use electricity. **Something needs to be done about this.** Samba decides that it must engage in awareness raising, to alert women to the choices that are going to have be made. Samba realises to that do this they need to train and employ one or two female facilitators, who will sit on the village solar committee and who will be able to talk to the other village women, be a focal point for their questions, and help them justify their energy needs within their own families. At the same time they realise that **the village solar committee should be composed of men and women, but with women in the majority.** This is a bold move, but they feel that otherwise women will never really benefit from the programme.
2. As regards the skills for operating and maintaining the solar equipment, Samba believes they will be able to select **a small number of both men and women (4 each)** to attend training as 'barefoot technician', where necessary, and make a note to **schedule the sessions on this at times which are convenient to women.** They accept however that men will install the equipment, in fact probably **only one man will be given the further specialised training for this** and will carry out the work for all the families who want the solar systems. This also raises the question of **which man** will be involved and **how he will be chosen.** This should be one of the first tasks of the solar committee.
3. For the case of the rural phone, women will have no problems as regards access to the service, and the control will be with the Village Development Committee, although the system will in fact be run by the lady with the cold drinks store, on a contract basis with the Committee. Installation will be done by the phone company, and Samba thinks they will be able to find one man and one woman to take training for the maintenance.

Target group	Goal	Indicator	Likely impact of solar system	Likely impact of rural phone	Conditionality/comments/problems that may be encountered, taking into account access, control and knowledge issues
Poor women	Improved welfare	Work load reduced	If adopted by family, could reduce time taken gathering fuel for lighting. Not all families will adopt however.	Little impact expected in this respect	Husband will decide whether to purchase solar equipment or not, and how it will be installed in the house. These women need extra attention from local facilitators, to encourage them to argue on this. Two local women facilitators will be essential, as go-betweens between solar committee and the village women.
Women heads of households	Increased productivity	Number of businesses started	Could provide opportunities for new business and extend working hours, but electricity on its own may not be enough to bring this about	Phone could assist marketing of products	Acquisition of solar equipment will be highly dependent on credit availability to these women. Starting or extending enterprises may require other inputs which are not necessarily available, support from other NGOs needs to be coordinated on this if goal is to be achieved. This group could be targeted as solar or phone technician trainees (4 + 1), or as facilitators (2) , from which they would derive employment. Training times to be selected to suit their convenience.
	Empowerment	Communication to outside world	Unlikely to be able to afford TVs but might watch it in other houses	Links to business people outside?	Empowerment impact will not be large but slowly some change may be registered
Women in general	Empowerment	Participation in decision making committees	Could be the first committee in which women play a major role, supporting the female facilitators among other things	No impact; VDC controls	Committee needs to have women in majority. Committee may need support in skills development (note taking, accounts etc). ADS will have to provide this support and capacity development for a considerable time
UNDP	Empowerment	Girls study in the evenings	Should improve the lighting situation considerably in houses that adopt	No impact in this respect	Girls may be required to do other tasks. Solar facilitators should be trained to raise awareness about importance of school homework time for girls. Also special attention to persuade poorer families to invest in solar equipment.
ADS	Efficiency	Technology used by everyone	Should be popular with everyone, programme should not arouse hostility of men. May be difficult, if women are in majority in the committee:	Likely to be popular with all	Necessary to get both men and women committed to the process of technology adoption. Composition and functioning of the solar committee could be a key concern. Compromise might be to have a man as chairman.

Samba then relates these findings back to the gender goals as they were first stated.

Samba then conducted a brief desk analysis, to determine what the effect of the energy technologies will be in relation to the gender goals.

Gender goal (Step A3)	Whose gender goal?	Development indicators (determined in step D1)	How will the proposed energy intervention achieve this goal?
<i>Women's welfare</i>	Poor women	Women's work load reduced	Electric light means women have to spend less time collecting fuels for lighting
<i>Productivity of women</i>	UNDP Women heads of household	Number of women's businesses started	The lighting system enables women to start enterprises and to perform jobs and tasks in the evening. More productive hours evolve, and women can plan their time.
<i>Empowerment for women</i>	UNDP	Girls are able to study in the evenings	The lighting system enables girls to study at home while some of the boys can still study in the schools.
	UNDP	Number of women's businesses started	The lighting system enables women to start enterprises and to perform jobs and tasks in the evening. Women can feel empowered when they are able to earn their own income.
	UNDP/ADS Women heads of household	Communication to outside world, broadening boundaries	Cellular phones enable women to broaden their view outside the village. Hence, they know more about the world outside. Empowerment of the women is facilitated.
	Women	Women increase in self-confidence through participation in decision making committees	Women and men are members of the committee to manage the maintenance and repair of solar home systems.
<i>Project efficiency</i>	ADS	Technology is used by everyone.	Both men and women will benefit from the lighting system and the increased communication possibilities. When both groups feel committed to the technology, chances for a successful project are high.

Samba reviews the whole process:

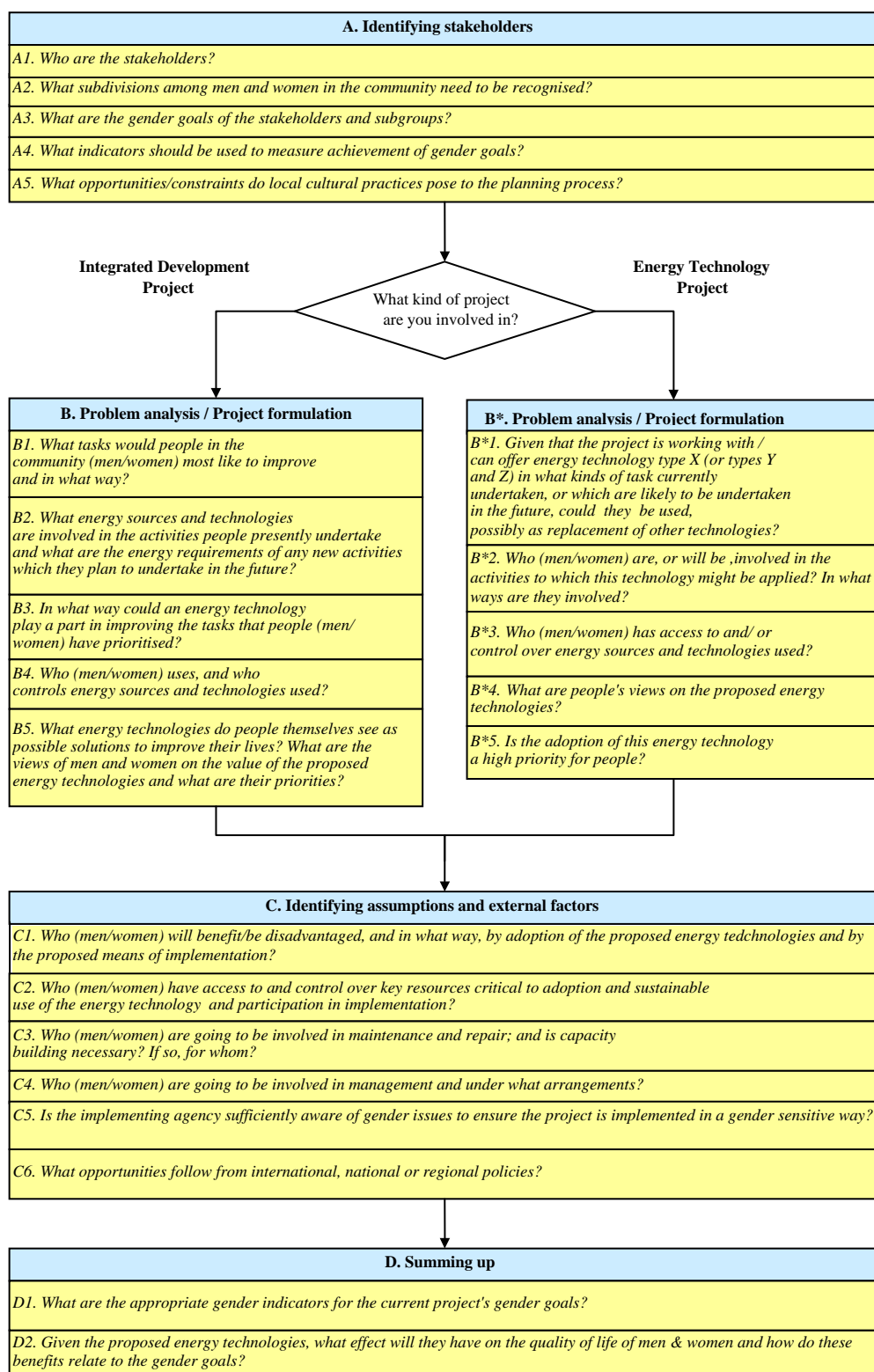
The first thing that is clear is that the technologies selected could have quite important gender effects in terms of strengthening women's position, and in achieving various gender goals, without antagonising men in the community. Samba has gone to great lengths to involve men and ensure that some, even if not their priority, needs are addressed. In this way Samba hopes to avoid resistance to changes in **gender relations** that may occur due to their intervention.

① Some of Samba's staff think the exercise was a bit cumbersome and unnecessary. But others feel that indeed by going through step by step in the way that has been outlined above, they were able to incorporate gender at every stage in the planning, and it made them much more conscious of the gender aspects. Moreover, by following this procedure they feel they can better justify their choice of interventions to ADS (and to the sponsor). Both organisations make women's empowerment a gender goal. ①

In any case, they all agree that it was a logical exercise and that getting the data was not nearly as difficult as they had first thought it might be. Particularly the focus group sessions were very important in getting to grips with women's (and men's) ideas and priorities. At the very least Samba staff field outcome of the exercise will be sustained use of the technology (**project efficiency**).

UNIT 2.4 USING THE FRAMEWORK

In the previous section the framework has been illustrated in a case study from Sudan. Now that you have an idea how the framework can be used in a project it is important to look at the tools more in depth. You should be able to use the framework yourself in your project planning situations. This unit also focuses on data sources to answer the questions in the framework. Some suggestions for data gathering techniques are provided. These data gathering techniques are written in *italics* and are explained in unit 2.5. The framework is not prescriptive. It is not intended for you to follow it slavishly, but to adjust it to fit your own circumstances and requirements. It is intended to remind you of the sort of issues related to gender that you need to take into account when making interventions involving energy that also intend to address gender relations (directly or indirectly).



2.4A USING THE FRAMEWORK – IDENTIFYING STAKEHOLDERS

Learning goals:

After completing the topic the participant should be able:

- to identify stakeholders in a gender mainstreamed energy project
- to identify relevant subgroups in the target group
- to formulate gender goals for a gender mainstreamed energy project
- to develop indicators to measure the achievements of a gender mainstreamed energy project
- to identify cultural opportunities and constraints for project success

A. Identifying stakeholders
A1. Who are the stakeholders?
A2. What subdivisions among men and women in the community need to be recognised?
A3. What are the gender goals of the stakeholders and subgroups?
A4. What indicators should be used to measure achievement of gender goals?
A5. What opportunities/constraints do local cultural practices pose to the planning process?

A1. Identifying stakeholders

A1. Who are the stakeholders?

First of all it is necessary to identify who is involved in the project. Who are the beneficiaries? Who is involved in the project planning and execution?

Identification of the stakeholders can best be done by the project manager in consultation with the planning staff. It should be a matter of common sense, and not require any fieldwork at this stage. However, in the course of field work, particularly if participatory methods are used, new stakeholders might be identified. They can be added to the table.

	Sponsoring agencies	Implementing agencies	Supporting agencies	Target community (see also question A2)
Who needs to be involved in formulating the gender goals and the other goals of the project? (see unit 1.4. for an explanation of 'gender goals')				

D2. Given the proposed energy technologies, what effect will they have on the quality of life of men & women and how do

A2. Identifying subgroups in the target community

A2: What subdivisions among men and women in the community need to be recognised?

This question follows on and deepens the previous question.

Not all men are alike, when it comes to their energy needs. Not are all women alike. Other social and economic factors play a role in determining people's livelihoods. It can be that there are clear subgroups that are likely to have very different requirements or views on energy. For example, rich people, who are already connected to the grid, will have different priorities from poor people within

the same community. Those already connected may want a more reliable, high quality electricity supply whereas poor people might (at least initially) be satisfied with access to two electric light bulbs. It can be that people with certain types of work have different needs for energy. For example, women who brew beer for sale will be in a different group from women who have a sewing cooperative. In order to make sense of energy needs it is important to anticipate such subgroups. Differences in ethnicity may, or may not, be a factor to be taken into account. Differences in age may, or may not, be a factor to be considered. We know that gender will always be an important factor. What is needed is an assessment of whether *within* the group “women” there are groups that will have really different energy requirements, and within the group “men” likewise. They will certainly have different assets, which will influence their ability to take up technologies. Taking all the influences on men and women's lives is what we mean by a **gender approach** not simply dividing communities into two groups “women” and “men”.

In some cases the planners will already know to a large extent what the current energy uses in the community are, in others they will not. It can safely be assumed that women need energy for cooking, but as was indicated above, all women do not use the same type of energy. In practice, most women use a variety of different fuels. For example, richer women may use bottled gas or electricity, and woodfuel for some tasks, whereas poorer women use mostly woodfuels and wastes. The details of this may be important if the project is to target their needs properly. This is even more evident for other types of energy in use (electricity etc). The existence of groups of people with specialized production using energy (for example farmers who use irrigation versus those who do not; women who produce food for sale versus those who do not) would be a basis for making subgroups. At this stage in planning, such subgroups can probably be identified on the basis of commonsense by planners. If, during fieldwork, more subgroups are identified, these can always be added later

What subgroups of the target population should be considered?

Subgroups should be identified and included if:

- a) They are likely to have different energy requirements
- b) They are likely to have different levels of access to energy for example, because of their relative purchasing power.

There is no point identifying subgroups “just for the sake of it”. In some communities richer women may face exactly the same constraints as poorer women. Divide the population of women, and of men, only if there are strong reasons to think their energy situations may be different.

Subgroups within the group of women	Subgroups within the group of men

A3. Identifying gender goals

A3. What are the gender goals of the stakeholders and subgroups?

The gender goals of the project should be specified, in terms of welfare (**reducing drudgery and improving health**), productivity (**income generation**) and empowerment/equity/equality (**participation, decision making, self confidence**), or project efficiency. For this purpose you could use the matrix presented below. This matrix focuses on the gender goals of important stakeholders, that includes one's own organisation, the donor, and the beneficiaries of the project. In the previous stages you have already identified these stakeholders and the subgroups amongst the beneficiaries. Identify for all groups their gender goals by consulting with them. For additional explanation concerning these four concepts please refer to unit 1.4. Depending on the technology offered, the goals can be worked out more specifically.

Of all the steps in the gender analysis, this may be the most difficult, and sensitive. Nevertheless, clarifying the gender goals may prove a very fruitful exercise in that it may open up a lot of discussion about fundamentals: what is the project actually supposed to do? The conceptual differences between the four types of goals will not be clear to all stakeholders, by any means, so the approach to data collection on this point will depend on the stakeholder concerned. "Empowerment" as a goal is open to different interpretations (does it mean "increased self awareness and assertiveness"? or "the increased capacity to make decisions?" or some other meaning). It can save a lot of frustration and disappointment if all stakeholders are clear from the outset what the goals of a project are. It can also help allay fears of those who feel threatened by a planned intervention.

In all cases the primary means will be *consultation*; the question is only, how to carry out this consultation with the different stakeholders. Remember participation in a consultative process can also be **empowering**.

In dealing with the sponsoring agencies or donor, some information on the gender goals they would like to see achieved by the project can be gained (a) from their general policy statements on gender and (b) from the project document. These documents should first be carefully studied to try to distill the 'official view' of the donor in this regard. From these a judgment can be made about whether the central goal is empowerment, productivity, welfare, or project efficiency. In practice, and particularly if the gender goals of other stakeholders, particular of the community, seem to diverge from the 'official' goals of the donor, it will often be necessary to hold discussions with the donor officials concerned, to point out the discrepancies, and to come to a consensus or compromise. It may also be the case that the official policy calls for empowerment, but that this 'empowerment' is actually defined more in terms of economic productivity, or even in terms of welfare. Clearly, this definitional problem needs to be cleared up to the satisfaction of all concerned. It may well be resolved by combining this step with the next one: indicators. Agreement on indicators may be easier to achieve than agreement on the definition of goals.

The implementing agency is likely to be your own organization (this manual has been written primarily for implementing agencies). The identification of gender goals should be achieved by internal discussion among those responsible for the project. If there are other implementing agencies involved, they need to be brought into the discussion.

Much more difficult is finding out what the gender goals are of the community stakeholders. It is no good holding a meeting of women and asking 'do you want empowerment or welfare?' as this will not make sense to them. To a certain extent the planners will have to extrapolate from more general statements of the local people, and particularly from their concrete wishes. It is certainly worthwhile setting up *focus groups* (see unit 2.5. for advice on how to do this and how to use this kind of technique) to enable different groups of the population (that is, all the local stakeholder groups) to express their views. A really good facilitator, who knows the area and is sensitive to gender issues, would be essential to run such focus groups.

Stakeholders	Gender goals			
	Empowerment	Productivity	Welfare	Project efficiency

In some cases, all stakeholders may come up with roughly the same kinds of gender goals. But what happens if they differ? If one stakeholder – say the donor – has radically different views of what the gender goals should be, compared, say, to the implementing agency, or the women themselves? In this case it is clear that planning should not go ahead until some negotiation has taken place and this problem is resolved. It may be very healthy to deal with such fundamental differences of opinion early in the planning process, and clearing up the matter now will prevent misunderstanding later.

A4. Formulating project indicators for gender goals

A4. What indicators should be used to measure achievement of gender goals?

How will we know that the gender goals have been achieved? In order to see whether gender goals are, in the end, met by the project, it is important to identify some measurable indicators for each goal. Indicators can be system related (referring to who actually gets to use and benefit from the energy provided by the project) or development related (what the impacts of the energy are on men's/women's lives). At this stage in the process, a preliminary set of indicators should be drawn up. These will be refined later in the process.

To determine the indicators you could follow the following steps.

1. Identify the gender goals

Start with the gender goal: is the primary goal (a) empowerment of women, (b) increased productivity of women, (c) welfare of women, or (d) efficiency of project?

2. Development indicators

For this goal or goals, determine suitable gender development indicators. That is to say, if the energy project or intervention is carried out, what impacts is it supposed to have on women's lives, and how could these be measured⁵?

Ideas for suitable indicators can certainly be derived from the consultations held with the various stakeholders, but in the end the planning team will have to make the decision about which ones are practicable to use.

Examples:

Gender goal	Development impacts expected	Possible indicator
<i>Women's welfare</i>	Women's drudgery reduced	Time spent in fetching water and fuel
	Women's health improved	Number of women suffering respiratory diseases and back problems
<i>Productivity of women</i>	Women earn more income	Estimated earnings
	Number of women's businesses started	Number of active businesses run by women
	Turn over of women's businesses increases	Estimate of average turnover
<i>Empowerment for women</i>	Increased women's participation in community decision making	Number of women in management team, extent to which women's opinion is heard and acted upon

⁵ Remember that these questions may have different answers for different groups of women, in which case they need to be separately recorded

	Increased access of women to education	Number of women attending night school
	Increased access to credit	Number of loans to women in their own right
<i>Project efficiency</i>	Implementation of project is successful	Acceptance ratio/continued operation of the technology particularly by women

A5. Identifying possible opportunities and constraints to participation as a result of cultural practices

A5. What opportunities/constraints do local cultural practices pose to the planning process?

The purpose of this step is to consider what cultural factors may result in women not being able to participate in project planning and discussions, and how could this be overcome. There may already exist organisations where women are active, such as a women's development committee, which could play a role in a project.

To determine if there are any cultural hindrances as a planner you can use the checklist presented in the table below.

Data on the issue of possible opportunities and constraints to participation can best be gathered from *key informants*, particularly professionals in social science with a good knowledge of the gender situation. Never rely on one person's advice; always *triangulate* by asking the opinions of several experts independently.

At general meetings of the community, will women attend?	Yes / no
Are they likely to feel able to speak at such meetings?	Yes / no
Are women literate, able to read any materials handed out?	Yes / no
To fill forms asking their opinions?	Yes / no
Is it possible to call meetings of only women, if so what times of day would be most suitable	Yes / no
Is it possible to interview women on their own? (is female interviewer necessary?)	Yes / no Yes / no

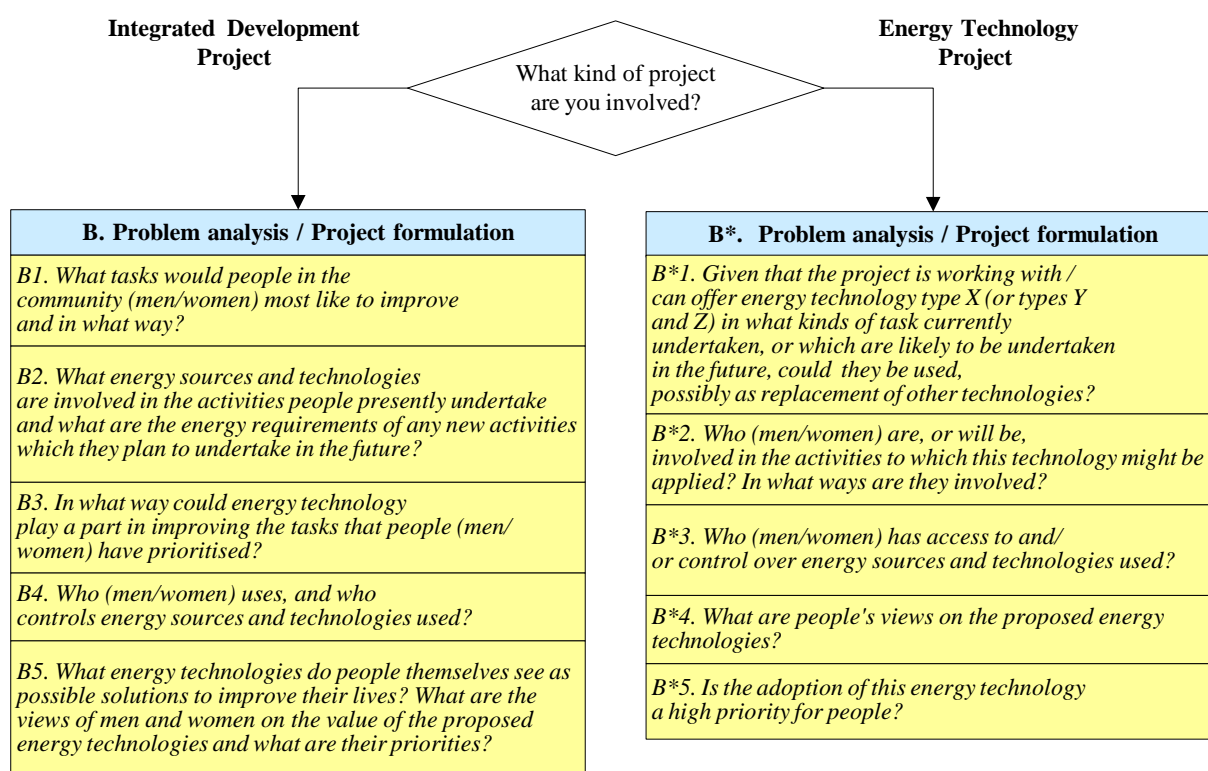
It will be clear that in order to involve as many people (including women) as possible, any consultation sessions are held at times which are convenient for both women and men and in places people can easily and safely gather.

2.4B USING THE FRAMEWORK – PROBLEM ANALYSIS / PROJECT FORMULATION

Learning goals:

After completing the topic the participant should be able:

- to identify tasks that people involved want to change
- to identify the possibilities of energy technology to change the tasks of the people involved
- to identify current and possible future use for energy technology in the people's activities
- to identify who uses and controls energy resources and technologies
- to identify preferences for the energy technologies from the people involved
- to identify whether adoption is a high priority for the people involved



As you can see this part of the framework has two separate lines of questioning for the integrated development project (abbreviated here to IDP) situation and the energy technology project (ETP) situation.

The first step is then to decide which of these mostly clearly matches your own planning situation. Are you planning general development activities and looking to see what energy technologies would best fit these activities? Then you should use the IDP line of questioning. Are you starting with one (or a limited number) of specific technologies and looking to see if, and how, the community could benefit from these? Then you should follow the ETP line of questioning.

INTEGRATED DEVELOPMENT PROJECT SITUATION

B1. [IDP] Identifying what people want changed

B1. [IDP] What tasks would people in the community (men/women) like to improve and in what way?

It is important to realise that in the integrated development situation, energy can play a part in a project but it might not be one of the priorities set by the people themselves. Hence, this first question addresses the wishes of the beneficiaries to improve their lives in general. Most likely this is already planned as part of the overall planning process, but the results need to be clear before your work on delivering the energy source and technology can continue.

There are two kinds of information needed here: a full list of the activities which people want to change, and a ranking of them. The first can best be found out by *focus groups discussions*, while for the second can be done in an entertaining way using a *ranking order* system at the end of the session.

Women		
Daily tasks women would like to have improved	In what way?	Priority
Men		
Daily tasks men would like to have improved	In what way?	Priority

B2. [IDP] Energy technology in current and future activities

B2. [IDP] What energy sources and technologies are involved in the activities people presently undertake and what are the energy requirements of any new activities which they plan to undertake in the future?

When after careful deliberation one decides to continue, the next step is to get a more in-depth overview of the use of energy technologies in people's daily lives, both in current activities as for possible future activities. This analysis should also include metabolic energy. Substitution for this form of energy particularly helps reduce drudgery.

The tool (matrix) below helps to highlight the different kinds and amounts of energy used by men and by women. The matrix is not intended to be used directly as an instrument for a survey; rather it is a format for recording and summarising the results of such a survey. If, as expected, different socio-economic groups have been identified, one matrix should be filled in for each of these groups. Fill one matrix for the current situation, and one for the future activities (that is, any concrete plans that will involve new uses of energy: for example, if in the integrated development project there are plans to introduce eg a new bakery, then the energy requirements for this should be assessed). Blank lines are provided for additional activities. Probably you can fill in this matrix based on the information that you have already gathered. Basically this task is a desk exercise.

Activities in which energy is used	Men	Women	Form of energy	How much energy	Cost	Where energy is obtained from	Energy technology used
Productive activities							
<i>Agriculture</i>							
Field work (can be subdivided)							
Irrigation							
Transport of crops							
Processing of crops (e.g. tobacco curing)							
<i>Livestock</i>							
Preparation of food							
Milking							
<i>Non-agricultural production</i>							
Products made for sale, e.g. beer, crafts							
Production of charcoal for sale							
<i>Other commercial activities</i>							
Collecting of firewood/agrowastes for sale							
Micro-enterprises (e.g. cooking/baking for sale, tailor shop)							
Reproductive activities							
<i>Food preparation</i>							
Grain and legumes preparation							
Obtaining water							
Obtaining fuel							
Cooking							
Storing food							
<i>Other</i>							
Heating							
Lighting							
Household maintenance							
Study/Homework							
Leisure activities							
TV/films/radio							
Reading							
Entertaining							
Community activities							
Night school							
Community committees							
Labour on communal projects							
Helping others in time of need							

Notes on filling the table:

- *Men/Women:*
Often activities will either be done solely by women, or solely by men and then one can simply check the appropriate box. However, there may also be activities where both men and women are active. In that case one can often subdivide the activities further to obtain a more detailed picture of the situation, otherwise one can give a rough percentage of the times the activity is performed by men and by women. Instead of giving only a percentage of time that the activity is performed by men or by women, it is more useful to note the time spent on the activity per day or week. One should not overlook seasonal differences!
- *Form of energy:*
Different forms of energy may include: biomass (firewood, charcoal, dung, agrowastes, etc.), human metabolic, electricity (you can distinguish the energy form used to generate the electricity such as, small scale stand alone types hydropower, solar, and wind, as well as the grid, batteries, etc.), kerosene, gas, diesel, petrol, etc. The term *form of energy* delivered to the user is sometimes also referred to as *energy carrier*.
- *How much:*
The unit will depend on form of energy. In respect to human metabolic energy one can use as a substitute time spent on the activity and/or give a qualitative indication of how heavy the task is perceived to be.
- *Cost:*
The amount that is spent on the form of energy. If the energy is not purchased, then the amount of time for gathering the energy can be used.
- *Where energy is obtained from:*
The origin of the energy carriers used may also be very important to the problem situation. Different origins may include woodlot, farm, forest, shops, electricity-grid, battery, generator, etc.
- *Energy technology used:*
Identifying the energy technology used sheds light on how the energy sources are converted to provide services, for example with cooking one could note the type of stove used. The energy technology used is not restricted to uses within the household. One may very well include community facilities as well, e.g. a mill for processing grain.

B3. [IDP] The role of energy technologies in changing tasks

B3. [IDP] In what way can energy technology play a part in improving the tasks that people (men/women) have prioritised?

This third question addresses the role that energy supply and the associated conversion technology could (in theory) play in helping to achieve the aims that the people have already expressed. Only if people (men/women) have expressed wishes in which energy supply or technologies can play a part should you continue. It will quite often be wasted money and effort if one pursues the project if it is not a top priority of the people.

Data for this step may come from different sources, preferably from a combination of:

- *Observation*
- *Household interviews*

Women	
Main tasks identified for improvement	Possible energy solutions
Men	
Main tasks identified for improvement	Possible energy solutions

B4. [IDP] Use and control over energy technology

B4. [IDP] Who (men/women) uses and who controls energy sources and technologies used?

The purpose of this step is to consider who uses and who has control over the various energy systems that are in use within the households and in the community. The user means the person who, as a general rule, uses the system – for cooking stoves, this will almost always be women, for electric lights it would be both, for a power saw, it will usually be the *men*. Control means having the power to make decisions about the use of the energy system both over the device itself and over the fuel that is used. This question focuses strongly on the current, real, situation.

The matrices below should be filled in for each technology (and for each socio-economic group, if necessary). The form of the matrices is indicative only and it should be modified to fit the local situation and the particular type of project intended. Use the matrices for all energy systems that have been identified in the previous step (B3.), both at household and at community level.

Data for this step will be best obtained in *focus groups*, although for the case of community facilities this should be supplemented with data from *interviews with key informants*

Household energy technologies

Determining who uses an energy technology is usually quite straightforward. For each household energy technology (or appliance) one can fill in the table below.

Table: Use of energy technologies and services in households

User	Men	Women
Who uses the technology or service?		
For what purpose is it used?		
Where is it located?		

To determine who has control is less transparent. One can distinguish several different aspects of being in control. First and most important is the control over who gets the benefits. Next, one can look at who is responsible for supply (both purchase and collection) of an energy source (e.g. biomass or charging a car-battery) and who is responsible for maintenance. Here one should not only look at responsibilities but also who decides on these responsibilities. To obtain a deeper understanding of the control over the energy technology one can look at who took decisions on using this particular energy technology.

Control	Men	Women
<i>Acquisition</i>		
▪ Who decided to purchase the energy technology/appliances?		
▪ Who paid/is paying for the energy/technology/appliances (or were they a gift from relatives)?		
▪ What energy technologies were available, and why was this one chosen?		

<i>Access and benefits</i>		
▪ Who decides who uses it and for what purpose?		
▪ What benefits does it bring and for whom?		
▪ Who keeps the profit?		
▪ Are there any negative aspects?		
▪ Who decides on where it is located?		
<i>Supply</i>		
▪ Who purchases/collects the energy source used?		
▪ What energy sources are available and why is this one used?		
▪ Who decides how much, when and where to collect/purchase the fuel (kerosene etc)?		
▪ Who pays?		
<i>Maintenance</i>		
▪ Who is responsible for maintenance?		
▪ Who has access to resources necessary for maintenance?		

Community energy technologies

To determine who uses community energy technologies, the same table as for the household energy systems can be used again.

Control over community facilities is somewhat different from control over household energy technologies. Of the four categories of control defined for household energy technologies, *supply* is not very relevant for community facilities since this is usually decided on and organised by the community committee, although the composition of this committee may be important.

Control	Men	Women
<i>Acquisition</i>		
▪ Who was the driving force behind the facility (e.g. community members, NGOs, government)?		
▪ Who was involved in setting up / design of the facility?		
▪ Who has paid/is paying for the facility?		
▪ What energy technologies were available, and why was this one chosen?		
<i>Access and benefits</i>		
▪ Who owns the facility (private, community, government)?		
▪ Is there a management committee and if so who is represented on it?		
▪ Who appoints or elects the management committee/board?		
▪ What benefits does it bring and for whom?		
▪ Who decides on the location?		
▪ Are there any negative aspects?		
<i>Maintenance</i>		
▪ Who is responsible for maintenance?		
▪ Who has access to resources necessary for maintenance?		

A final summary or overview can be gained in the table below. Blank lines are provided for additional energy technologies.

Current energy in use by the community	Main users		Main controllers	
	Men	Women	Men	Women

Community lighting				
Mill (flour)				
Water pumps (domestic)				
Micro-hydro facility (electricity generation)				
Irrigation system				
Community transport facilities				
Community forest management for fuel				

B5. [IDP] People's preferences for energy technologies

B5. [IDP] What energy technologies do people themselves see as possible solutions to their lives? What are the views of men and women on the value of the proposed energy technologies and what are their priorities?

By this time in the process the planning team will certainly have formed an idea of what types of energy intervention would be appropriate in the community. This next step is to check this with the community itself.

To address the questions you could either consult the people involved concerning their opinions or you might even set up a demonstration or pilot project and observe the results.

Pilot project

A pilot project could be necessary because without 'trying out' new technology it is very difficult for people to understand its pros and cons. For many technologies, it may be possible to install one or two sets and arrange for the users to make a systematic evaluation on a set of criteria, although not all systems can be treated in this way. An alternative in this case which is often very effective, is to allow members of the community to visit other communities where such interventions have already taken place, to discuss with the users the positive and negative aspects of the technology.

Case: Participatory evaluation of a pico-hydro system

This example is based on a pico-hydro project in Kirinyaga district of Kenya. The women of Kathamba, one of the two project sites, initially related the project to devil worship. That all changed after the first electrical lamp was turned on (Wormgoor and Muchiri, 2003). Participatory evaluation of electric lighting for the household has changed the attitude of women towards the project at the beginning and has encouraged them to be more involved.

The pico-hydro scheme provides households with one or two packages, each consisting of 10W, enough to power a radio or a power saving lamp. Here the participatory technology evaluation could involve supplying the community with a car-battery, one or two lamps and possibly a radio that could move from house to house for people (men/women) to experience the benefits of electricity. Criteria for evaluation should be set beforehand by the community members, where men and women might have very different criteria for evaluation.

During an evaluation study (Wormgoor and Muchiri, 2003) it was noted that if a household had only one package, that is one lamp, it always ended up in the living room, which mainly benefited the men in reading the newspaper at night and children in doing their homework. Only if the household had two packages would the second light be in the kitchen, mainly benefiting women. Clearly, the choice lies with the 'household' itself. Normally it will be the (male) head of household who makes the decision, unless steps are taken to ensure that women are also involved. If the project is stressing gender goals, then more effort should be placed into persuading 'the household' that a two

package system should be selected. It should be noted that the women of Kathamba stated clearly that cooking could be done much faster and more easily when the kitchen was lit by a lamp (Wormgoor and Muchiri, 2003).

Consultation

To identify the priorities of the people involved concerning the potential energy technologies, you could make use of the data gathered in stage B2. The necessary data can be obtained from *focus groups*.

The purpose of the tool presented below is to record the findings from the consultation with the community.

Women	
Potential energy technologies	Response of women to these suggestions
Men	
Potential energy technologies	Response of men to these suggestions

ENERGY TECHNOLOGY PROJECT SITUATION

Many projects related to energy start not from an integrated planning situation, but with a particular technology or set of technologies in mind, where the implementing agency itself is an energy organization. In this case, the preparatory work may follow a slightly different track, as explained below.

B1. [ETP] The role of energy technologies in changing tasks in people's lives

B1. [ETP] Given that the project is working with /can offer energy technology type X (or types Y and Z,) in what kinds of tasks currently undertaken, or which are likely to be undertaken in the future, could they be used?

This question addresses what the theoretical possibilities are for the energy technology that this project is aimed at. It is important to note that the energy technology can either be used in current activities, to replace an existing energy technology, or in new activities, which are desired and/or planned.

This task is a desk exercise.

Technology	Potential uses for current tasks	Potential uses for new tasks	Who is likely to be the main user (men/women)?
X			
Y			
Z			

B2. [ETP] Division of labour between men and women

B2.[ETP] Who (men/women) are, or will be, involved in the activities to which this technology might be applied? In what ways are they involved?

The tool below helps to highlight the different kinds and amounts of energy used by men and by women, dividing them into subcategories where appropriate. It thus draws attention to those who are likely to be most affected by any given proposed intervention. If, as expected, different socio-economic groups have been identified, one matrix should be filled in for each of these groups. Blank lines are provided for additional activities. Probably you can fill in this matrix based on the information that you have already gathered. Basically this task is a desk exercise.

Activities in which energy is used	Men	Women	Form of energy	How much energy	Cost	Where energy is obtained from	Energy technology used
Productive activities							
Agriculture							
Field work (can be subdivided)							

Irrigation							
Transport of crops							
Processing of crops (e.g. tobacco curing)							
<i>Livestock</i>							
Preparation of food							
Milking							
<i>Non-agricultural production</i>							
Products made for sale, e.g. beer, crafts							
Production of charcoal for sale							
<i>Other commercial activities</i>							
Collecting of firewood/agrowastes for sale							
Micro-enterprises (e.g. cooking/baking for sale, tailor shop)							
Reproductive activities							
<i>Food preparation</i>							
Grain and legumes preparation							
Obtaining water							
Obtaining fuel							
Cooking							
Storing food							
<i>Other</i>							
Heating							
Lighting							
Household maintenance							
Study/Homework							
Leisure activities							
TV/films/radio							
Reading							
Entertaining							
Community activities							
Night school							
Community committees							
Labour on communal projects							
Helping others in time of need							

Notes on filling the table:

▪ *Men/Women:*

Often activities will either be done solely by women, or solely by men and then one can simply check the appropriate box. However, there may also be activities where both men and women are active. In that case one can often subdivide the activities further to obtain a more detailed picture of the situation, otherwise one can give a rough percentage of the times the activity is performed

by men and by women. Instead of giving only a percentage of time that the activity is performed by men or by women, it is more useful to note the time spent on the activity per day or week. One should not overlook seasonal differences!

- *Form of energy:*
Different forms of energy may include: biomass (firewood, charcoal, dung, agrowastes, etc.), human metabolic, electricity (you can distinguish the energy form used to generate the electricity such as, small scale stand alone types hydropower, solar, and wind, as well as the grid, batteries, etc.), kerosene, gas, diesel, petrol, etc. The term *form of energy* delivered to the user is sometimes also referred to as *energy carrier*.
- *How much:*
The unit will depend on form of energy. In respect to human metabolic energy one can use as a substitute time spent on the activity and/or give a qualitative indication of how heavy the task is perceived to be.
- *Cost:*
The amount that is spent on the form of energy. If the energy is not purchased, then the amount of time for gathering the energy can be used.
- *Where energy is obtained from:*
The origin of the energy carriers used may also be very important to the problem situation. Different origins may include woodlot, farm, forest, shops, electricity-grid, battery, generator, etc.
- *Energy technology used:*
Identifying the energy technology used sheds light on how the energy sources are converted to provide services, for example with cooking one could note the type of stove used. The energy technology used is not restricted to uses within the household. One may very well include community facilities as well, e.g. a mill for processing grain.

B3. [ETO] Access and control over energy technology

B3. [ETP] Who (men/women) has access to and/or control over energy sources and technologies used?

The purpose of this step is to bring into consideration who uses and who has control over the various energy technologies or energy services in the households and in the community. The user means the person who, as a general rule, uses the technologies – for cooking stoves, this will almost always be women, for electric lights it would be both, for a power saw it will usually be the *men*. Control means having the power to make decisions about the use of the energy system both over the device itself and over the fuel that is used. This question focuses strongly on the current, real, situation.

The matrices below should be filled in for each technology or energy service (and for each socio-economic group, if necessary). The form of the matrices is indicative only and it should be modified to fit the local situation and the particular type of project intended. The analysis should be done only for tasks identified in the previous step (B2). These could be tasks carried out at the household or community level.

Data for this step will be best obtained in *focus groups*, although for the case of community facilities this should be supplemented with data from *interview with key informants*

Household energy technologies

Determining who uses an energy technology is usually quite straightforward. For each household energy technology (or appliance) one can fill in the table below.

Table: Use of energy technology or service in households

User	Men	Women
Who uses the technology or service		

For what purpose is it used?		
Where is it located?		

To determine who has control is less obvious. One can distinguish several different aspects of being in control. First and most important is the control over who gets the benefits. Next, one can look at who is responsible for supply (both purchase and collection) of an energy source (e.g. biomass or charging a car-battery) and who is responsible for maintenance. Here one should not only look at responsibilities but also who decides on these responsibilities. To obtain a deeper understanding of the control over the energy system one can look at who took decisions on using this particular energy system.

Control	Men	Women
<i>Acquisition</i>		
▪ Who decided to purchase the energy technology appliances		
▪ Who paid/is paying for the energy / technology / appliances (or were they a gift from relatives)?		
▪ What energy technologies were available, and why was this one chosen?		
<i>Access and benefits</i>		
▪ Who decides who uses it and for what purpose?		
▪ What benefits does it bring and for whom?		
▪ Who keeps the profit?		
▪ Are there any negative aspects?		
▪ Who decides on where it is located?		
<i>Supply</i>		
▪ Who purchases/collects the energy source used?		
▪ What energy sources are available and why is this one used?		
▪ Who decides how much, when and where to collect/purchase the fuel (kerosene etc)?		
▪ Who pays?		
<i>Maintenance</i>		
▪ Who is responsible for maintenance?		
▪ Who has access to resources necessary for maintenance?		

Community energy technologies

To determine who uses community energy technologies, the same table as for the household energy technologies can be used again.

Control over community facilities is somewhat different from control over household energy technologies. Of the four categories of control defined for household energy technologies, *supply* is not very relevant for community facilities since this is usually decided on and organised by the community committee, although the composition of this committee may be important.

Control	Men	Women
<i>Acquisition</i>		
▪ Who was the driving force behind the facility (e.g. community members, NGOs, government)?		
▪ Who was involved in setting up / design of the facility?		
▪ Who has paid/is paying for the facility?		
▪ What energy technologies were available, and why was this one chosen?		
<i>Access and benefits</i>		

▪ Who owns the facility (private, community, government)?		
▪ Is there a management committee and if so who is represented on it?		
▪ Who appoints or elects the management committee/board?		
▪ What benefits does it bring and for whom?		
▪ Who decides on location?		
▪ Are there any negative aspects?		
<i>Maintenance</i>		
▪ Who is responsible for maintenance?		
▪ Who has access to resources necessary for maintenance?		

A final summary or overview can be gained in the table below. Blank lines are provided for additional energy technologies.

Current energy systems in which technology X or Y could be applied?	Main users		Main controllers	
	Men	Women	Men	Women

B4. [ETP] People's preferences for energy technologies

B4. [ETP] What are people's views on the proposed energy technologies or services?

By this time in the process the planning team will certainly have formed an idea of what types of energy intervention would be appropriate in the community. The next step is to check this with the community itself.

To address the questions you could either consult the people involved concerning their opinions or you might even set up a demonstration or pilot project and observe the results.

Pilot project

A pilot project could be necessary because without 'trying out' new technology it is very difficult for people to understand its pros and cons. For many technologies, it may be possible to install one or two sets and arrange for the users to make a systematic evaluation on a set of criteria, although not all systems can be treated in this way. An alternative in this case which is often very effective, is to allow members of the community to visit other communities where such interventions have already taken place, to discuss with the users the positive and negative aspects of the technology.

Consultation

To identify the priorities of the people involved concerning the potential energy technologies, you could make use of the data gathered in stage B2. This exercise should be performed in consultation with the people involved. The necessary data can be obtained from *focus groups*.

The purpose of the tool presented below is to record the findings from the consultation with the community.

Women	
Potential energy technologies	Response of women to these suggestions

Men	
Potential energy technologies	Response of men to these suggestions

B5. [ETP] Likelihood of adoption of the energy technology

B5. [ETP] Is the adoption of this energy technology a high priority for people?

This question addresses whether adoption of the proposed energy technology is actually a high priority for the people involved even if it is appropriate and “approved” by people as in principle suited to their needs. If it is not a high priority one should cancel the project – as difficult as this might be – since otherwise it is very likely that much money and effort will be wasted.

The decision on this should be made on the basis of findings in stage B4 through discussion with major non-target group stakeholders (implementing agency, donor etc).

2.4C. USING THE FRAMEWORK - IDENTIFYING ASSUMPTIONS AND EXTERNAL FACTORS

Learning goals:

After completing the topic the participant should be able:

- to identify who will benefit or be disadvantaged from the energy technology
- to identify who has access to and control over key resources
- to identify who will be responsible for maintenance and repair and to identify needs for capacity building
- to identify who will be responsible for management of community energy technologies
- to identify constraints and possibilities from the implementing organisations
- to identify constraints and possibilities from regional, national and international policies



In the case of energy technologies one can differentiate between interventions which are adopted by individual households (e.g. smoke hoods, solar home systems, etc.) and that which have a community aspect (e.g. micro-hydro facilities, communal woodlots, etc). The assumptions within the households and the community about the project (including gender goals) as well as external factors from national and institutional levels influence the possibilities and constraints for implementation. It might be that additional interventions are necessary to resolve some of the constraints.

It is important in this to recognise throughout this section that the questions relate not just to the technology itself but to the way the technology is introduced. This is because it is often not the technology itself, but the way it is implemented, that has gender effects.

C1. Identifying positive and negative impacts of the energy technology

C1. Who (men/women) will benefit/be disadvantaged, and in what way, by adoption of the proposed energy technologies and by the proposed means of implementation?

Through identifying who benefits it will be much easier to determine whether the different solutions achieve the gender goals of the project. For example empowerment of women means loss of power for men, which to them can be perceived as a serious negative consequence. It is important for the project to also address these and other disadvantages, which can be critical to the success of the project.

However it is not only important to know who will benefit but also to identify the benefits people see for themselves. Identifying what benefits people see for themselves can provide a much deeper understanding of how people view and value the energy technology and the means of implementation.

The matrix below should be filled in for each socio-economic group. The form of the matrix is indicative only and it should be modified to fit the local situation and the particular type of project intended. There is a difference between the two project planning situations and this mainly relates to the energy systems which should be addressed:

- *Integrated development project:* Use the matrix for all energy systems that have been identified using the data gathered in Step B3. [IDP].
- *Energy technology project:* Only those energy systems should be considered which are used in the possible replacement activities that have been identified in step B1 [ETP].

Proposed Energy Intervention (both household and community interventions)	Benefits		Disadvantages	
	Men	Women	Men	Women
Efficiency/Welfare				
<i>Practical needs</i>				
Work load / Nature of work				
Health				
Forests				
Clean, affordable energy				
Pumped water				
Quality of life in general				
Equity/Equality				
<i>Productive needs</i>				
Income				
Access to credit				
General economic well being				
Infrastructure				
Empowerment				
<i>Strategic interests</i>				
Education				
Self reliance				
Access to information and communication				
Community management				
Social status / relations				

First, one may think of benefits and disadvantages as a desk exercise based on the information already obtained for this project. One should be very careful though not to be blinded by one's own perceptions of benefits when discussing the matter with the actual people involved. As always, one should keep an open mind. *Focus groups* might be of help.

C2. Control and access to resources needed to implement the energy technology

C2. Who (men/women) have access to and control over key resources critical to adoption and sustainable use of the energy technology and participation in implementation?

Having *access* to the key resources is the most important factor in respect to adoption of the intervention, but it is also important to know who is in *control* of key resources.

The purpose of this question is to record who (men/women) have access to and control over key resources critical to

- *Participation during implementation:* These types of resources relate to community involvement in the implementation. Who (men/women; rich/poor) has the resources to participate in these activities? This could mean manual labour, being involved in drawing up the policy for the management committee or various other participatory activities.
- *Adoption:* Quite often it is necessary to make an initial payment – in cash or in kind – to acquire an intervention. Who has the resources for this?
- *Sustainable use of the proposed interventions.* For almost all energy technologies some resources will be necessary for sustainable use, even if it is just for maintenance. For sustainability of the intervention it is important to know if the people (men/women) who participate have the resources to sustain its use well into the future.

The matrix should be filled in for each proposed intervention. When specifying what resources are necessary one should also indicate the amount (e.g. land, money) or level (e.g. skills) that is necessary. The next step is to assess if the people (men/women) have access to these resources and who has control over these resources. This task is mainly a desk exercise.

Resources	Level/amount required for			Who has access to these resources?		Who control these resources?		
	Implementation	Adoption	Sustainable use	Men	Women	Men	Women	Other
<i>Education</i>								
Knowledge								
Skills								
<i>Labour</i>								
Time								
<i>Social</i>								
Political power								
Social groups								
<i>Information</i>								
<i>Natural</i>								
Land								
Water								
Biomass								
<i>Financial</i>								
Cash								
Credit								
Income								
<i>Infrastructure</i>								
<i>Energy</i>								
<i>Equipment</i>								

From this data the planner can recognise where barriers to the adoption of technology may be present, and can take steps to deal with these.

C3. Division of labour: Maintenance and repair

C3. Who (men/women) are going to be involved in maintenance and repair; and is capacity building necessary? If so, for whom?

1. Draw up some alternative scenarios showing the arrangement / organisation of a maintenance and repair system and the roles of women and men in this.
2. Present to the community for discussion
3. Revise (if necessary)

The scenarios can be written as a desk exercise. The scenarios should be discussed in *focus groups*.

Capacity building
What kind of capacity building will be needed, for whom?
How will this be programmed in?

C4. Division of labour: Management

C4. Who (men/women) are going to be involved in management and under what arrangements?

This question addresses who will be involved in the management of the community aspect of the intervention. For community facilities one might need to set up community committees and it is then important to know who will be on the committee, who decides who will be on it, etc. Has there been / are there still management committees in the community? If so, what are the experiences/lessons learnt from them?

Women's participation in such committees can contribute to their empowerment, by building self confidence and assertiveness.

C5. Opportunities and constraints of the implementing organisation

C5. Is the implementing agency sufficiently aware of gender issues to ensure the project is implemented in a gender sensitive way?

The organisation which is going to be involved in the long run with implementing the project, if it is not the one initiating the project, has to be sensitive to the gender goals of the project and has to have the ability to work in a gender sensitive manner. The tool below allows comparison of different organisations and suggests ways to strengthen the gender stance of candidate organisations. This tool has been adapted from a tool given in a manual on “Gender Assessment Studies” prepared by Annet Lingen and her co-workers for the Netherlands Department for Development Cooperation (DGIS). The tool makes it possible:

- To gain insights into the capacity and views of the implementing organisations regarding the participation and empowerment of women from energy services projects
- To gain insights into the external factors that influence the extent to which organisations can address gender issues in energy service projects.

The tool provides a framework to construct an organisation profile which indicates the strengths and weaknesses of the organisation for implementing projects with gender goals. It looks not only at the willingness and capacity of the organisation to provide equal rights and

opportunities for women in energy service projects but also identifies any external factors with might influence the performance of the organisation. In this regard, four key overarching questions emerge:

1. Does the organisation have the willingness and capacity to plan and implement energy service projects in such a way that women will have equal rights, opportunities and benefits to men (either in terms of employment within the organisations or as users of the energy service)?
2. What are the opinions of the organisation on gender equality?
3. Do the external relations and the context in which the organisations operate favour or hamper their capacity to provide equal rights and opportunities to women?
4. Do other organisations exist that can facilitate the organisation to plan and implement energy service projects which women will have equal rights, opportunities and benefits to men (either in terms of employment within the organisations or as users of the energy service)?

The answer to these questions can be found in documents describing the work of the organisation, their policy documents, annual reports, etc. and should be supplemented with information from interviews with relevant staff members. Each question has a number of sub-questions and examples are given below.

Key question 1

The table below provides a point of reference for what data to collect to answer this question and enables the formulation of an institutional profile. The table is sub-divided into eight categories which are described in more detail below.

- a) The type and general capacity of the organisation
 - b) The policy on equal rights and opportunities for women
 - c) Its strategies and activities in the field of equal rights and opportunities for women.
 - d) Organisation structure
 - e) Its human resources for implementing a gender equality policy
 - f) Its financial and physical resources for implementing a gender equality policy
 - g) The culture of the organisation
 - h) Its cooperation with other organisations
-
- a) The type and general capacity of the organisation
Technical organisations which have never carried out extension and work with social objectives will have more difficulties in extending its activities towards promoting the participation of women than will organisations which have undertaken such activities.
 - b) The policy on equal rights and opportunities for women
Is there a written policy? Is it an active policy or does it only exist on paper?
Is the rationale from an efficiency perspective? Welfare? Empowerment? Poverty?
Is the policy translated into measures and instruments? Does it take differences between women into account?
 - c) Its strategies and activities in the field of equal rights and opportunities for women.
Are women identified as a specific target group? (Professional recruitment? Clients – actual and potential?)
Does the organisation make a gender-specific analysis of problems and needs?
Does the organisation take special measures to promote the participation and empowerment of women?
Does the organisation have specific activities targeted at women or do they integrate women into the mainstream or both?
What type of women-specific activities are carried out and in what way are gender concerns integrated into all activities?
What is the experience of activities involving women?

d) Organisation structure

Does the organisational structure create opportunities or constraints to create more equal gender relations?

How has gender been institutionalised into its structure? How many staff are involved? What are their tasks? What is their influence on processes in the organisation?

e) Its human resources for implementing a gender equality policy

Towards clients:

Do the staff have the knowledge, skills and motivation (linked to attitude) to pay attention to the needs and roles of women?

Does the organisation provide training in gender and energy/development?

Are there gender experts among the staff?

Towards employees:

The percentage of female staff and levels and specific occupations in which men and women predominate

The extent to which staff selection is (un)favourable for women.

The extent to which terms and conditions of employment are (un)favourable towards women (pay, maternity leave, child care facilities, career and training opportunities.

f) Its financial and physical resources for implementing a gender equality policy

Ear-marking of specific funds for women-related activities eg gender-related studies or data collection on clients (actual and potential), gender training, female field staff, purchase of equipment that recognises women's physical differences to men. (NB. Lack of funds can be genuine or low priority of gender issues.)

g) The culture of the organisation (openness to learning and change)

How do staff promote gender equality?

How do they experience female leadership?

How do they appreciate the role of women, as compared with that of men, in the energy sector?

h) Its cooperation with other organisations

Which other types of organisations does the organisation being assessed cooperate with?

Key Question 2

The data to answer this question can come from interviews with organisational staff. Interviews should try to cover a sample of staff reflecting different departments and positions in the organisation. Suggested themes to be explored in semi-structured interviews could be:

a) Their perceptions of gender roles and relations.

b) How can men and women benefit from improved access to energy? Are there gender differences?

c) Does the organisation have a role to play in women's empowerment in the country?

d) How can providing access to energy empower women?

e) Are there benefits to the organisation with increased involvement by women in project implementation?

f) If yes, how can women's involvement in the organisation's work be increased? What measures and resources are necessary to achieve this?

Key Question 3

The data to answer this question can be found through desk studies of relevant documents, although interviews with key informants might also provide useful insights.

- a) What is the government's policy on women's empowerment and the national machinery to achieve this?
- b) Are there other policy initiatives, such as poverty reduction strategies, where women and energy issues might play an important role?
- c) The attitude of the government towards activities for women's empowerment and towards NGOs
- d) Policies on decentralisation, participation, bottom-up planning etc and women's involvement
- e) National and Local NGOs and CBOs working in energy advocacy
- f) Legal constraints
- g) Poverty

Key Question 4

Again the data to answer this question can be found through desk studies of relevant documents, although interviews with key informants might also provide useful insights. The kinds of organisations that could contribute include:

- Local NGOs working on women's empowerment
- Women's organisations
- Gender Training organisations

Table: Organisation Profile *This matrix has been derived from Lingen et al (1997)*

Aspects of the organisations that are important for gender equality	Major organisations involved			
	Organisation A		Organisation B	
	Strengths	Weaknesses	Strengths	Weaknesses
Type and general capacity <ul style="list-style-type: none"> – mandate and area of competence – efficiency and effectiveness – other... 				
Policy on equal rights and opportunities for women <ul style="list-style-type: none"> – active or only existing on paper – rationale for policy – contents 				
Strategy and activities regarding equal rights and opportunities for women <ul style="list-style-type: none"> – strategy regarding gender equality – strategy regarding participation of the target group – experiences with activities with and for women – other... 				
Structure of organisation <ul style="list-style-type: none"> – structure and division of responsibilities – rules, procedures and instructions – structure for gender equality – other... 				
Human resources for gender equality policy <ul style="list-style-type: none"> – quantity – knowledge, skills and motivation of staff – training – sex ratio at various levels 				

	Major organisations involved			
	Organisation A		Organisation B	
<ul style="list-style-type: none"> – selection of staff – terms and conditions for equal opportunities – other... 				
Financial and physical resources for a gender equality policy <ul style="list-style-type: none"> – quantity – other... 				
Culture of the organisation <ul style="list-style-type: none"> – staff attitude towards gender equality at various levels of the organisation – openness to learning and change – other... 				
Cooperation with other organisations <ul style="list-style-type: none"> – existing cooperation – potential cooperation 				

Based on this analysis, either an organisation can be selected for a particular task or it can be used to identify strengths of different partner organisations to build on and any weakness that need to be addressed.

C6. National and international possibilities/constraints as regards women's involvement in energy

C6. What opportunities follow from international, national or regional energy or other policy, that could assist in strengthening the gender impacts of this project?

Policy on a regional, national or international level can give extra possibilities (sometime also constraints) for involving women in energy. The checklist below helps determine any possibilities. Basically this task is a desk exercise.

International and national constraints and possibilities for women's involvement in energy	
Are there any special programmes/funding opportunities which could be linked to?	Yes / no
Are there any national or international laws that could be called upon?	Yes / no
What networks or lobby groups could be called upon for assistance?	List them

2.4D. USING THE FRAMEWORK - SUMMING UP

Learning goals:

After completing the topic the participant should be able:

- to determine what the effect of the energy technology will be on the quality of life
- to determine whether the gender goals have been met by the implementation of the energy technology
- to set appropriate gender indicators for the current project goal

D. Summing up
<i>D1. What are the appropriate gender indicators for the current project's gender goals?</i>
<i>D2. Given the proposed energy technologies, what effect will they have on the quality of life of men & women and how do these benefits relate to the gender goals?</i>

This stage in the planning is one of reflection and taking stock of all the information gathered in the earlier steps. It is the time to decide: Will the interventions we have considered really help the community meet its own goals? Do people really want what we have to offer and in particular will the intervention achieve the gender goals which have been identified? A report should be written answering these questions based on the uncovered by the earlier analyses.

D1. Revising gender indicators

D1. What are the appropriate gender indicators for the project's gender goals?

In order to investigate whether the introduction of an energy technology or energy service does result in the achievement of some, or all, of the gender goals that are set, an investigation has to be made of the characteristics of the technology or the service, and of how it is introduced. There are a number of indicators which might be useful in highlighting the gender aspects of such an intervention. These indicators can be divided into development indicators, which were drawn up in step A4, and in terms of access and control variables, which were drawn up in step B4 with additional information from step C2 of knowledge and skills variables.

At this point you can revise the indicators developed in step A4 based on what you have learned. It should be possible to reduce the number of indicators used so that a manageable quantity of data needs to be collected and analysed. Data collection and analysis is expensive in terms of resources (time, personnel, finance). The skill is to select a sufficient number of indicators to produce a holistic view of the project context and its impacts, which at the same time reflect the priorities of the main stakeholders.

Development indicators		
Gender goal	Development impacts expected	Indicators selected
<i>Women's welfare</i>		
<i>Productivity of women</i>		
<i>Empowerment for women</i>		
<i>Project efficiency</i>		

Access and control variables

In order to investigate whether the introduction of an energy technology or service does result in the achievement of some, or all, of the gender goals that are set, an analysis needs to be made of the characteristics of the technology or the service, and of how it is introduced (access and control, from B4, and knowledge and skills, from C2).

	Men	Women
Access		
Whose (men's or women's) problems does the energy technology or service solve?		
Who (men or women) will benefit the most from it?		
Who will be able (if necessary) to get credit to purchase it or accessories for it?		
Who (men or women) will be able to afford it?		
Control		
Who decides whether to adopt the technology (men or women)		
Who will be the 'owner' of the technology/service (man or woman)		
Who decides which model or type (men or women)		
Who decides where it will be located?		
Who (man or woman) is responsible for paying		
▪ For the initial equipment		
▪ For installation of the equipment		
▪ For the fuel		
▪ For the maintenance		
Who chooses (and pays for) any ancillary equipment or appliances?		
Who is in contact with the supplier?		
Knowledge and skills		
Who (men or women) has the knowledge and skills to:		
▪ Use the equipment		
▪ Manage the system		
▪ Install the equipment		
▪ Maintain the equipment		
▪ Understand and explain the safety aspects of the equipment		
Who (men or women) is going to be trained to:		
▪ Use the equipment		
▪ Manage the system		
▪ Install the equipment		
▪ Maintain the equipment		
▪ Understand the safety aspects of the equipment		

The answers to these questions may not be 'black and white' – many technologies or services may benefit both men and women, and often decision on household energy technologies may be made jointly by men and women within a household. Nevertheless such questions need to be considered to identify any particular actions that need to be taken, either to ensure the sustained use of the technology or to reach gender goals..

This exercise results in a matrix in which is described how men and women are involved in the implementation of the technologies.

	Women	Men
Access		
Control		
Knowledge and skills		

D2. Checking the effect of energy technologies in relation to the gender goals

D2. Given the proposed energy technologies, what effect will they have on the quality of life for people (men/women) and how do these benefits relate to the gender goals

This question addresses how the proposed energy technologies meet the (initial) gender goals that have been identified during the stage of identifying the stakeholders (A3). This question can be answered in a brief desk analysis, whereby is determined what the effect of the energy technologies will be in relation to the gender goals.

Use the completed gender goals matrix from step A3 and check whether the energy technology will result in the gender goals set.

Gender goals (Determined in step A3)	Development indicators (determined in step D1)	How will the proposed energy intervention achieve this goal?
<i>Women's welfare</i>		
<i>Productivity of women</i>		
<i>Empowerment of women</i>		
<i>Project efficiency</i>		

UNIT 2.5 PARTICIPATORY DATA GATHERING METHODS

Learning goals:	At the end of this unit, trainees will be able to <ul style="list-style-type: none"> ▪ use all the PRA methods described ▪ devise other sorts PRA methods which could be used in village energy data collection
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Time schedule	4 hours (if videos are shown) otherwise 2-3 hours
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PRA and RRA

A fundamental element of planning for development projects involves gathering of data. There are many ways of doing this, but most development planners these days are trained in methods which are participatory in nature, partly because they tend to reflect problems as the local people see them and partly (if we are honest) because they are quicker and cheaper than other methods.

Rapid Rural Appraisal (RRA) involves data gathering based on observation and (as the name suggests) a rapid drive through the area concerned, possibly also rather rapid interviews with one or two people locally. This has largely been replaced in recent year with a set of data gathering methods know collectively as Participatory Rural Appraisal (PRA).

PRA methods mostly involve getting local people to work in small groups and using simple aids to structure the discussion and come up with qualitative and/or quantitative data which is invaluable for designing projects. Local people generally have a good understanding of their environment and their situation and even illiterate people are often very knowledgeable about all manner of local problems – and about their possible solutions. The difficulty is only to find a means by which this information can be transmitted. PRA methods are designed specifically to do this.

There are many guides and handbooks to guide the planner in using PRA methods. The guiding principle for the planner in using such methods is: talk as little as you can yourself; set the group to work discussing or using aids to present information. Speak only if they get stuck, or to explain how an aid can be used; do not try to steer the discussion in any way. Intervene only if you think one person or one group is dominating the discussion, to give space to some of the less vocal people. In using PRA methods you are only a facilitator, not a planner and certainly not a decision maker!

Experienced project planners can make use of a large array of different PRA methods. In this unit only a few are introduced those regarded as being the most useful for the case of energy:

- focus groups
- priority ranking
- pebble ranking
- village meetings
- village mapping
- interviews

Focus Groups

The point about focus groups is that they consist of people of a given type, such as: richer women, poorer men, women who are involved in brewing, men who are away from home much of the year,

etc. The idea is to get views from such a group by bring them together and asking them to discuss a topic in a semi-structured way.

A group is anything from 5 to 15 individuals (not more).

Make a list of the questions you want to bring to the discussion or issues about which you need information. Consider carefully how you will express these questions (do not use terms like 'empowerment' and 'efficiency' which will clearly not be understood). It is a good idea to try out the wording of your questions with someone who is familiar with the village, before the session takes place. Use concrete terms rather than abstract ones and always have concrete examples to explain any terms you using.

Identify, possibly with the help of village leaders, suitable candidates who are willing to take part in the focus group. Verify that they are indeed members of the group intended. Arrange a time which is convenient for these people, and schedule about 2 hours.

Make sure the meeting place is reasonably comfortable and provide some refreshments (cool drinks)

The facilitator should make it clear by seating position and body language that he/she is there as facilitator and not as leader of the discussion. It may be sensible to use female facilitators in female groups and vice versa but this is not always necessary. The facilitator should have a good grasp of the local language, or have a translator on hand who is sensitive to the gender issues being discussed.

Someone should take notes. This could be a colleague of the facilitator, or one of the group members (if the group is large and if there are people who are really skilled at note taking). If the facilitator doubts the ability of the note-taker, he/she can interrupt the discussion occasionally by saying to the group "I think that's an important point, don't you? Shall we ask XXXX (the note-taker) to record that?" Thereby ensuring that a good record is kept. The note taker should read out the notes before the session ends, so that people can make comments and corrections.

Introduce the session by explain in general terms what the discussion is going to be about and why it is being carried out; also why this particular group of people has been chosen (mention that other groups are also discussing the same issues elsewhere or at other times).

Start with a general question which is easy to discuss (not necessarily a simple question, which can be answered with a yes or a no – the idea is to get people used to the idea of discussing). Do not start with a controversial issue, if you have controversial issues leave these till later or even to another session, when people are used to the idea and to you.

Encourage different points of view and explore the reasons behind these to find out whether they are really differences of opinion, or just different ways of using words.

If one or two people begin to take over most of the conversation while others remain quiet, trying to bring this more into balance. You can quite openly say, "Mrs X has contributed a lot of useful ideas to the discussion, but I would really be interested to hear also what Mrs Y has to say". Do not blame people for not speaking up.

If some people really persist in silence, you need for find out whether this is because they disagree with the way the discussion is going but are afraid to contradict. This you cannot do during the session itself; do not embarrass people by asking such a question, especially not in public. Another reason could be that they really do not understand the issues that are being discussed.

People also use "body language" to express disagreement, for example, quiet laughter or shuffling in their seats.

You can use a variety of PRA methods within a focus group, such as *priority ranking* and *pebble ranking*.

If the conversation goes off-track, that is, if people start to talk about things that are really not on your agenda, you have to use a lot of tact. Make sure the point they make – even if totally irrelevant to your view – are taken down in the notes. If it goes on too long, ask the permission of the group to return to the matters in hand, and suggest that the other points are discussed on another occasion.

Make sure you take a photo of the group (with permission from the group) at the end of the session and be sure to include the photos in any report in which you use the information derived from this meeting. Note the names of all participants and ensure that these are acknowledged in any reports which are written.

Priority ranking

Priority ranking is a very simple way of getting people to say which things are more important and which are less important. The number of items should not be more than five (with more than five the technique does not work well, and *pebble ranking* is a better method).

First of all the items which have to be ranked are discussed so that it is absolutely clear to people what they are. For example, women might be asked which task takes up most of their time: preparing grains, cooking, fetching firewood, fetching water, working in the field. First some discussion may be needed to ensure that the differences between these activities are distinct. This may not always be the case: for example, firewood may be fetched on the way home for working in the fields; preparing grains may be considered part of cooking (eg parboiling of rice). This has first to be sorted out.

Then each activity is indicated by a symbol: perhaps a cooking pot for cooking, a small bag of flour for preparing grains, a twig for fetching firewood etc.

Discussion then starts: “which is the most time consuming?” then the groups must collectively decide which this is, and place the symbol on the ground (or on a table). Then ask what the least time consuming activity is and place the symbol for this activity at the opposite end of the space.

Pick up one of the remaining symbols and ask where this should go. There will always be discussion at this stage – but by this time people will have got the idea, and the remaining 3 symbols will be placed in their correct order between the two extreme ones. If the group is really on the ball, they might even space out the symbols to represent the *relative* differences in time taken!

This technique can also be used for questions of value: for example, priorities between different wishes for the future: What is more important; a new school building, a clinic, a public telephone or street lighting.

Or for preferences with regard to close substitutes for each other: for example, different models of improved stoves.

The trick with using this kind of technique is to get people not just to make the ranking but to explain their reasons for the ranking.

The note –taker should note the final ranking and also the reasons that were given.

Pebble ranking

Pebble ranking is useful when there are more than five items to consider.

Again symbols are agreed which represent the items to be ranked. For example, the importance of different fuels (how often each type of fuel is used for cooking). In the worked example given in Unit 2.3, there were seven different types of fuel being used in the village.

The symbols representing the items are lined up in any order, in a straight line.

The group is given a small bucket full of pebbles of approximately the same size (any other counters will do just as well: grains of maize would do, but slightly larger, heavier and more visible counters, which will not blow away or get eaten by a passing chicken are to be preferred).

If there are seven items, the group is asked first to take seven pebbles out of the bucket and place them all beside the item which is most important. Allow time for discussion about this.

Then ask the group to take out six, and place them all by the second most important item, and so on.

This method gives simple ranks. If several different focus groups perform this exercise, it may be possible to combine the results. This is what was done in the example given in the worked example on the different kinds of fuel used. In that example, there were six groups each of which made a ranking of seven types of fuel. The results for each fuel were simply summed across all the groups.

A variation on this method which is a little more sophisticated but which may give more reliable quantitative results, is to give the group a fixed number of pebbles, say 100, and ask them to distribute them over the various items so as to represent the relative importance of each of them. Thus if one item gets 20 pebbles and one gets 10, one is saying that the second is only half as important as the first – this is in practice a very difficult concept.

Village meetings

Although focus groups are very helpful and informative, there will be cases when meetings involving a whole community need to be held.

The difficulty in such meetings is (a) that they are usually more formal than focus group meetings and (b) often, large numbers of people will not contribute to the discussion but wait for the ‘elders and betters’ to do the talking. Women in particular might feel reluctant to speak. This is just the way things go normally and you cannot do much about it.

Village meetings are particularly useful at the beginning of the process, to legitimate the whole process that you are beginning: they are a kind of protocol which is necessary to start work, and if you have not had such a meeting, at which normally the village leaders preside, people may not be willing to participate in focus group type meetings later. Such a meeting is necessary to give the villagers leaders blessing to the work and to inform the villagers what the whole thing is about.

Village meetings are also very useful at the end of the process, to present the findings, and to allow people to discuss these findings and make adjustments in them.

With more than 20 people or so it is difficult to use PRA techniques so you have to rely on simple old fashioned presentation and discussion.

Village mapping

For some aspects of village energy planning a map may be very useful. In most cases there is no detailed map of the village which shows the relevant resources.

For example, if the aim is to improve the supplies of firewood, it may be necessary to know where firewood at present comes from.

Participatory mapping is best done outside in a flat, sandy (preferably shady!) area. The facilitator draws one or two (only one or two) highly recognisable land marks on the sand – for example, the road that runs through the village, with the mosque (symbolised perhaps by a stone) and the café at the other end (represented by a coke bottle).

Participants are then asked to place symbols for other landmarks – their houses, the river, the well etc, in the immediate vicinity of the village. Different people should be asked to do this – do not let one well-meaning individual do all the work.

Then ask where the fuel wood comes from and use twigs to cover the area indicated. The facilitator should try and check the accuracy of the scale of the map by asking: how far is it? How long does it take to walk to that area? And then pointing out the distance between the mosque and the café for reference. Absolute accuracy will never be obtained, but some sense of order of magnitude as regards distances is not hard to get, in this kind of exercise.

This might also be useful for getting indications of where things might in the future be placed, for example, if the project is planning to start a woodlot, the location of this can be debated with the help of the map.

Areas of forest or other land which need special attention – eg degraded areas, can also be identified in this way.

An alternative is (if they are available) to use aerial photographs (not remote sensing satellite images which are confusing and too small scale). Air photos especially if they are blown up to 1:10,000 or so can easily be understood by people who have had no experience of them at all. Allow time for the group to orientate themselves – “here’s the road.... There’s the river.....that must be the reservoir! Etc. Such aids can be very stimulating because they are intrinsically interesting and challenging. People like challenges of this sort.

If you have a duplicate photograph, it is a nice "thank you" gesture to make it a present to the village.

Interviews

We have put interview last, not first, because many of the participatory methods described above are more useful in the village context, than one-to-one interview. Nevertheless, interviews with certain people can be very useful.

Much good advice has been given about interviewing, in different texts. We recommend here the text from a publication of the Commonwealth Secretariat called “Women and Natural Resource Management, a manual for the Africa Region” (it is just as useful for Asia or Latin America in fact). We acknowledge with thanks their permission to reproduce pages 34-39 which deal with interview technique.

UNIT 2.6 MAKING AN ACTION PLAN

Learning goals: After completing the topic the participant should be able to:

- initiate the integration of the tools into their own work situation.

Time schedule: 3 hours

This exercise was provided by Mr. Dazydelian L. Banda, from the Eastern and Southern African Management Institute - ESAMI (Arusha, Tanzania) and Ms. May Sengendo, from the Ugandan regional office of East Africa Energy Technology Development Network (EAETDN).

PARTICIPANTS ACTION PLAN

Name:

Title:

Organisation:

Topic:

1.

Knowledge Acquired	Skills Acquired

2a What problem issue related to gender and energy do you want to address in terms of your work?

2b How do you intend to use the skills gained in the workshop to address the problem you have identified in part 2a?

3. What factors might hinder you from implementing your action plan?

3.1 Organisational factors?

3.2 External Factors (if any)?

4. Formulate Strategies to Overcome the Factors likely to prevent you from implementing your action plan.

5. What resources (staff, trainers, funds, technology) do you need to implement your action plan?

6. Where will these resources come from?

6.1 Own budget?

6.2 External Sources (please specify)

7. Budget Estimate

8. Timescale – when will you start and finish implementing your action plans (indicative dates)

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The World Bank (1996), *The World Bank Participation Source book*. Appendix 1: Methods and Tools. The International Bank for Reconstruction and Development/THE WORLD BANK 1818 H Street, N.W., Washington, D.C. 20433, U.S.A. ISBN 0-8213-3558-8.
<http://www.worldbank.org/wbi/sourcebook/sbpdf.htm>

Audio-visual materials

IIED video: Questions of Difference: PRA, Gender and Environment. Order from IIED, 3 Endsleigh Street, London WC1H 0DD email: iiedagri@gn.apc.org

World Bank video: Participatory Techniques in Action. Order from: World Bank, Social Policy and Resettlement Division, 1818 H Street NW, Washington DC 20433, USA

Appendix 1

In this appendix, an overview of some of the most common Gender Tools as used in development planning are explained. The text is taken from the original training manual (*Gender in Energy*) developed by the Technology and Development Group, University Twente. The developers of that manual illustrated the use of the tools with examples from the energy sector. However, in the experience of the authors of the current training manual, these standard tools are not very useful for the case of energy because they do not highlight how energy is involved in other activities.

What are gender analytic tools?⁶

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.

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

⁶ The material in this Appendix comes from the original training manual

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
- socio-cultural 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, to establish the trends, the planner should first ask the questions: 'What is better here than it used to be? What is worse?'. 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 as 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.



Who decides what to plant in the homegarden?

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 is 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 area 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.

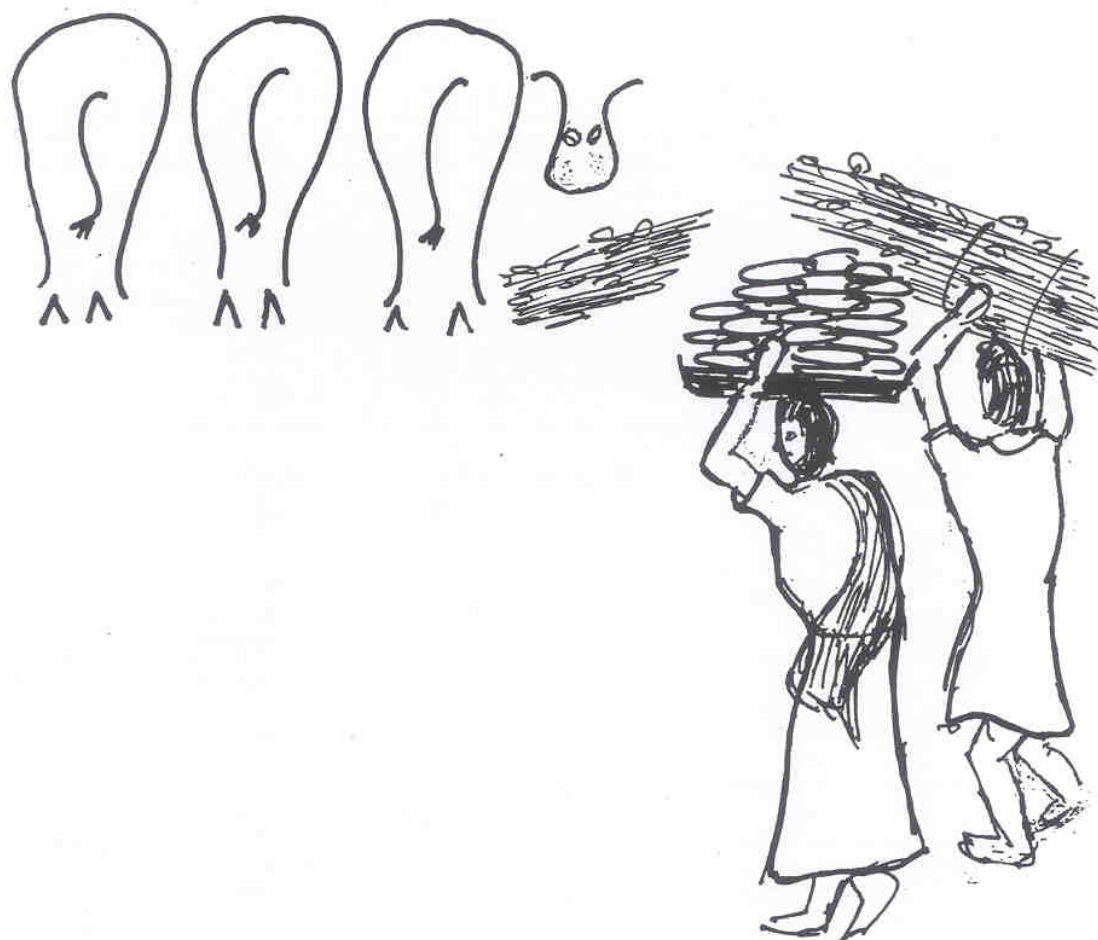
HARVARD ANALYTICAL FRAMEWORK, MATRIX 1: ACTIVITY PROFILE

ACTIVITY	Hours per day spent by women and girls ⁷	Hours per day spent by men and boys
PRODUCTIVE ACTIVITIES		
Agriculture 1. _____ 2. _____ 3. _____ 4. _____		
Income generating activities 1. _____ 2. _____ 3. _____ 4. _____		
Employment 1. _____ 2. _____ 3. _____ 4. _____		
Other productive activities 1. _____ 2. _____ 3. _____		
REPRODUCTIVE ACTIVITIES		
Water related		
Fuel related		
Food preparation		
Childcare and health		
Other		
COMMUNITY SUPPORT ACTIVITIES		
Labour on communal projects		
Meetings		
Helping others in time of need		
Other		

⁷ 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

	Access		Control	
	Women	Men	Women	Men
Resources 1. Land 2. Equipment 3. Labour 4. Cash 5. Credit 6. Education 7. Other				
Benefits 1. Income 2. Basic needs 3. Status/power 4. Other				



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?)

Socio-cultural 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 grassroots 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.

	Labour	Time	Resources	Culture
Women				
Men				
Households				
Community				

A GAM Matrix

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 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 before⁸. 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.

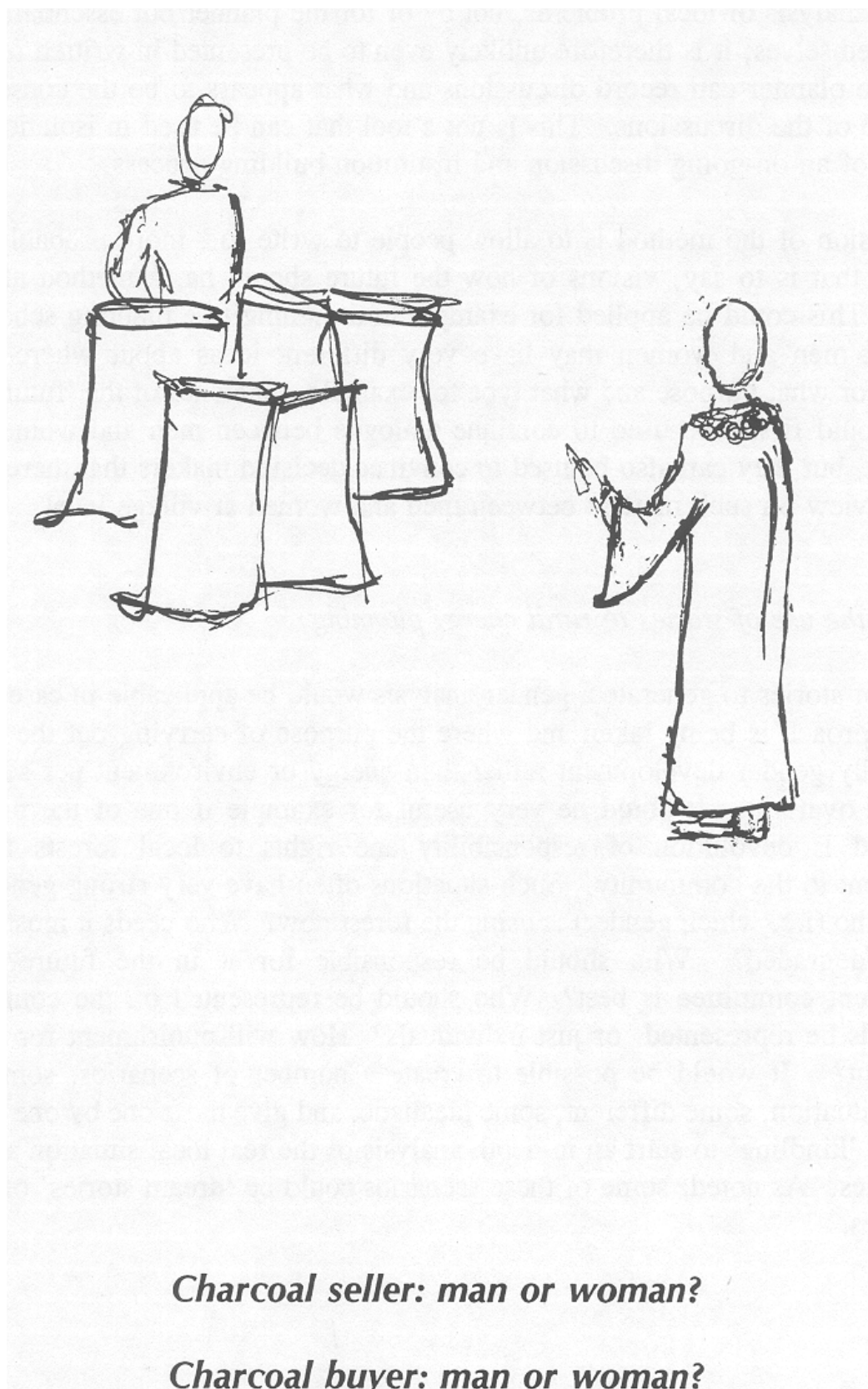
There are no fixed stories or pictures: these need to be created to fit the local circumstances and naturally they should be recognisable to the people as they are intended to empathise with the conditions illustrated. The output from discussion is not fixed either. It results in a gender analysis of 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 view on such matters between men and women at village level.

⁸ 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.

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 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.



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		
2a Present Situation		2b Desired Situation
3 Constraining Forces		5 Driving Forces
4 Actions to Reduce or Eliminate		6 Actions to Increase
7a Steps towards influencing the forces		
7b Resources required		
8 Steps	How	When

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.

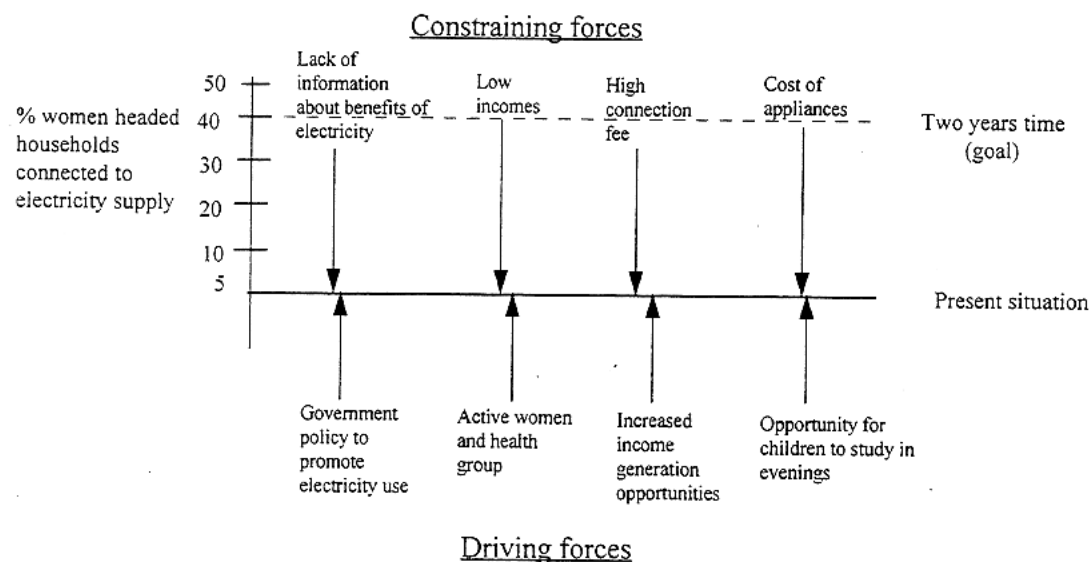
A number of organisations or institutions (such as OXFAM) have used force-field analysis to assess the problems of introducing a gender sensitive planning system. The technique may be best used by members of particular organisation working together, but it can also be used in a more general way by individuals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



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.

	Capacities		Vulnerabilities	
	Men	Women	Men	Women
Physical or material - What productive resources, hazards and skills exist?				
Social or organisational What are the relationships and organisation among people?				
Motivational or attitudinal How does the community view its ability to create change?				

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 form 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.

	What practical needs will the project help to resolve?		What strategic needs may be assisted through the project	
	Men	Women	Men	Women
As a result of the use of the technology to be delivered				
As a result of involvement in planning in the project				
As a result of managing the technology once it is installed				

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 sectors too.

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 been 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 tool in justifying the public expenditure nevertheless.

Rural electrification presents a similar case. The financial costs of electrifying a village are 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 rosier.

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 than 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 scarcely a market for firewood so finding a base price becomes difficult.

An 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 bases⁹

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; land-owning, 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.

⁹ Dr. W. Hulscher, formerly Chief Technical Advisor of the FAO Regional Wood Energy Development Programme in Bangkok suggested this item.

Appendix 2: Interview techniques

The following is an extract on interview technique from "Women and Natural Resource Management", section 2: Learning from Rural Women, Commonwealth Secretariat, 1992 (p. 34 - 40) and is reproduced with their kind permission.

HOW BEST CAN WE TALK WITH RURAL WOMEN?

Extract from "Women and Natural Resource Management",
section 2: Learning from Rural Women, Commonwealth Secretariat, 1992 (p. 34,
37-40)

The simple technique of **informal interviews** is one with which most of us are familiar. The key points about such dialogues are:

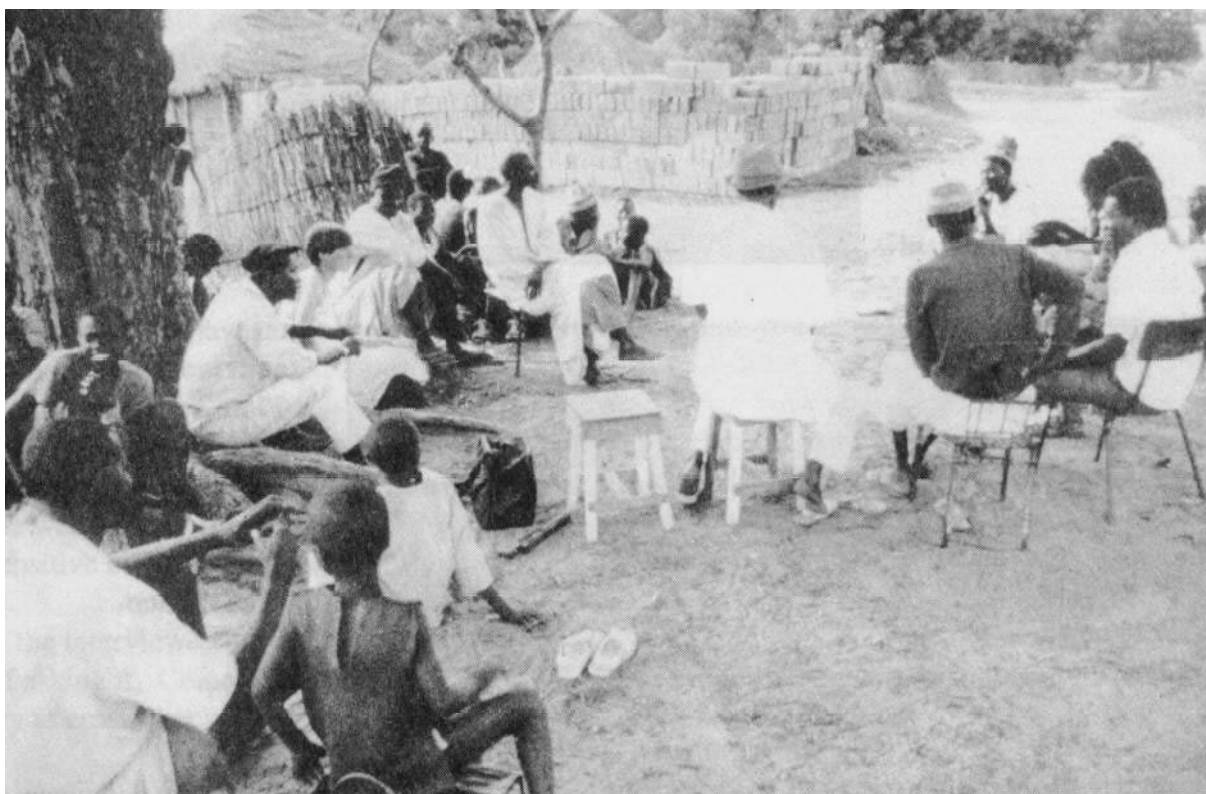
- They are informal conversations rather than formal question and answer sessions.
- They take place in the field or at the home of the interviewee. The interviewers go to meet the interviewees, rather than call them for an interview.
- Questions are not fixed before the interview. Rather than using a questionnaire, the interviewers draw up a checklist of issues, from which to choose certain topics to cover in any one interview. The planned direction of the interview may well change as the discussion gets underway.
- The success of the interview depends largely on a relaxed atmosphere and an open learning attitude of the interviewer(s).
- The interviews are short, probably no more than an hour for an individual interview and no more than two or three hours for a group discussion (this depends on how rushed or interested the interviewees are).

EXERCISE 2 INTERVIEW TECHNIQUE

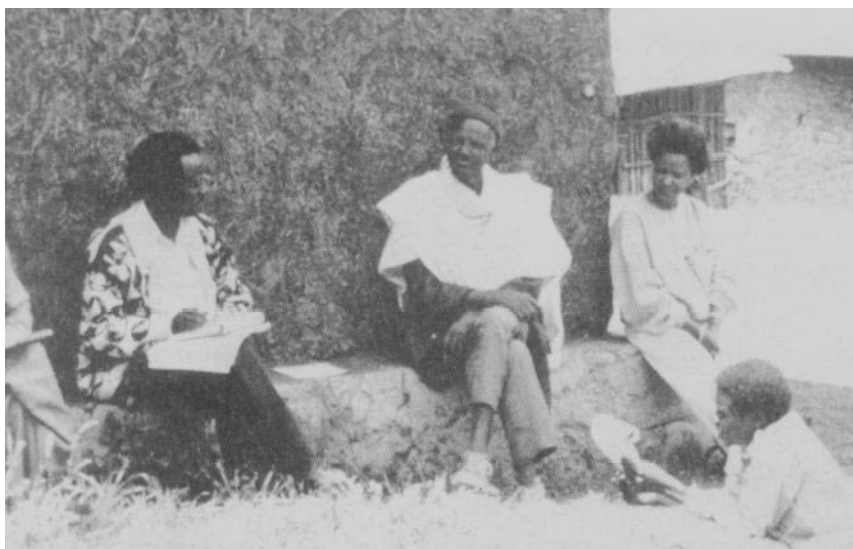
Before we consider what makes up a good interview, take a look at the following photographs (plates 1-5) of real-life interview situations. The only piece of information provided is the country in which the interview is taking place. Discuss what you see in each case: does it look like a good or a bad interview? Do the people look comfortable, relaxed, interested? Who seems to be the interviewer(s) and who the interviewee(s)? What about how they are positioned, the place of the interview, the number of people? Use your own judgement and make some assumptions where necessary. You may like to note down your thoughts in the form of two lists of guidelines for interviewing, one of "Dos" and one of "Don'ts". After you have completed this exercise, you can compare your lists of guidelines with the hints given below.



Interview in Ethiopia



Group discussion in Senegal



Interview in Ethiopia



Interview in Cape Verde



Interview in Ethiopia

SOME HINTS ON INTERVIEWING

- Starting off well

If coming to a village for the first time, pay a courtesy visit to the leader to introduce yourselves and why you are there. Clearly explain the likely follow-ups to your visit – can the villagers expect any benefits from the research? Be honest. Ask permission to go ahead with the work.

Approach the place of interview on foot. Vehicles give the appearance of important, rushed and wealthy intruders. Project vehicles or government vehicles with prominent logos also reinforce this alienation.

Choose the location carefully. If outside, look for an area of shade large enough for everyone present. If discussing a particular area or feature in the village, try to be in sight of it. If the interview involves drawing a sketch map of the village or looking at aerial photographs try and get to a high point from which most of the village can be seen. If the topic is sensitive or personal, it is probably best to hold the interview in the home of the interviewee, where curious passerbys are less likely to interfere with the discussion.

If possible sit on the ground or at least on the same level as the interviewee(s). Chairs add an unnecessary air of formality. Tables or desks between interviewer and interviewee are even worse. If in a group discussion try to arrange to sit in a circle, for maximum eye contact between everyone. If there are several interviewers, don't all sit together in the group.

Don't come with too much baggage. Preferably only a small pocket-sized notebook. Don't wear an official uniform. Dress casually, but carefully. If you are unsure ask advice on appropriate dress.

- Sequence of discussion

Begin by introducing yourself: who you are, where you come from, why you have come.

Check that you have come at a suitable time. Suggest that you can come back later if you arrive at an inconvenient time.

Start the interview by talking about something familiar – perhaps something close at hand such as the crop in the nearby field, the stove in the home, or the livestock in the compound. Discussing the weather and the seasons are

always good ways of starting a conversation. Leave more sensitive or complex questions until later.

If the interviewee has difficulty answering a particular question, try and think of different ways of asking it. Come back to it later in the interview. Also, if you feel unsure about any answer, try to cross-check by asking the question again later, in a different way.

Always finish by thanking the interviewee and asking whether they should like to ask you any questions.

- Things to avoid

Don't ask questions randomly. Try to follow up each line of discussion before moving on to a new topic.

Try and avoid asking leading questions. Ask questions in a way that they require more than just a Yes or No answer. For instance, rather than ask "Will you plant groundnuts here after harvesting the maize?" ask "How will you use this land after the maize harvest?"

Don't dominate the interview. Try to spend more time listening than talking.

Don't ask too many questions about quantities. Switch between these and more qualitative and in-depth questions which give the interviewee a chance to express her own opinions.

Don't continue the interview if the interviewee seems uncomfortable or anxious to leave.

- Other tips

Use the six helpers of who? what? where? when? why? and how? These will offer ideas on how to probe a topic.

Take notes during the interview, after checking that the interviewee does not mind. Much of the details of the interview will be forgotten if you leave it until later to take notes.

Use the checklist as a means of guiding the interview. But don't try and cover every topic on the checklist in any other interview. Choose several topics and guide the questioning around these.

EXERCISE 3 A BIT OF DRAMA

The attached script is for a short role-play of a bad interview situation (Note the superior, official style of the interviewer, and the leading questions!) Try and make up two short role plays, based on your own area of work. One, like this one, showing what not to do, and the other of a good interview situation. Use the interviewing guidelines here to help you and use your own experience too. Try and keep the role-plays simple and humorous. If you are working in a group, you might like to split the work, so one group could write a good interview, and one a bad interview. Two people from each group could then act out their piece to start a discussion on interviewing skills.

BAD INTERVIEWING SKETCH

Scene: Woman farmer on ground, grinding grain. Interviewer comes in, wearing city jacket, stands over her, clipboard in hand.

Interviewer: Name. Family size. Husband's income. Number of chickens.
(*Pauses each time, answers not forthcoming*)
(*Repeats:*) Number of chickens.

Woman farmer: I sold two yesterday.

Interviewer: How many does that leave you with?

Woman farmer: Well, I had five yesterday, and I have three now.

Interviewer: So, on average you have four. (*Writes it down*).
(*Looks over to field*). That maize doesn't look very good.
Is that because of Stalkborer?

Woman farmer: (*Looks irritated*). Yes.

Interviewer: That sack of maize over there, is that to be sold at the market?

Woman farmer: Yes.

Interviewer: You'll get about 10 dollars for it, will you?

Woman farmer: Yes.

Interviewer: I need a chair to sit on.

Woman farmer: I don't have one (*Interviewer looks annoyed, woman gets up*).
I'll fetch my neighbour's chair. (*Returns with a chair and a friend*).

Interviewer: (*Brushes off chair, sits, looks at neighbour*).
What are you doing here? (*Looks at clipboard*). Go away, I'm not interviewing you until tomorrow. (*Neighbour leaves, puzzled*). (*Interviewer sitting, woman farmer on the ground again*).

Interviewer: Do you work? Do you have a job?

Woman farmer: No, I just cook, do the housework, fetch water, fetch firewood, go to the market, keep chickens.....

Interviewer: Right. So you don't work (*notes it down*). That's all I need for now. I'll come back later if I need.