

# DISCOVERING TECHNOLOGISTS

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*Women's and men's work at village level*

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**PRACTICAL ACTION**  
Technology challenging poverty



# *Gender and Technology Training Guidelines*

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# *Gender and Technology Training Guidelines*

## INTRODUCTION

Many studies have been done in the past few decades investigating the different roles of women and men. The conclusion of these studies is that women and men do not benefit equally from the sexual division of labour, access to resources, legal rights, political voice, and access to education. Women have more family responsibilities than their male counterparts and work longer hours. Yet their contributions are less valued and of lower status.

Development plans and programmes are frequently designed without considering either the contribution of women or their impact on women's lives. Women and men differ in their work. Development interventions will therefore have a different impact on them. They will benefit differently, and will respond differently. There is danger that men's work, lives and needs will be considered as the norm when designing development interventions. . We have to separate the differences between men's and women' role and needs, and take into account the social and economical obstacles to women's involvement in development projects.

For decades women have been in the forefront of meeting the basic needs of their children and families and responsible for food production and income generation. All over the world they produce goods and services needed by their families and their communities and make a major contribution to their national economies. Society also expects women to assume the bulk of the responsibility for the care and the nurture of the children. But these activities are not valued, and women do not have the same access as men to the services, resources and opportunities within their communities.

Technology is a vital element in the lives of any community in the developing world. It plays a significant role in food security and agriculture and in small scale artisanal production. It is important that field workers of NGOs and other development agencies working with communities understand the technological capabilities of the people of they work with.

Women in their daily activities use technical skills and knowledge. They continually innovate and adapt technologies in response to the difficulties that confront their lives. However, these technological contributions are invisible for a variety of reasons. Many relate to the activities in the domestic sphere, and are not recognised as being technical innovations, as they often consist of small adaptations to existing technologies rather than new inventions. This 'invisibility' means that extension of new technologies or technical skills often by-pass women

# *Gender and Technology Training Guidelines*

## **About the training materials.....**

The training package is a tool designed to increase the skills of field workers involved in the processes of technology development, working with women and men in local communities. It aims to improve the capability of men and women field workers to recognise and work with women's existing technical skills

Field workers working with small community groups or even larger village groups should find the training package useful to introduce to these groups an understanding of their use of technology. For field workers working on technology development these materials will be a useful reference of methods and tools for developing more gender sensitive technology interventions.

The materials are intended as a text to accompany a library of Audio/Visual aids. These include case studies, video and audio cassettes and exhibits. The training is designed for trainees to add new areas or develop new material appropriate to the groups they work with.

The materials used in the training are based on 'DO IT HERSELF' case studies. DO IT HERSELF is a research programme of the Intermediate Technology Development Group (now Practical Action) that focuses on grassroots technical innovation of women. The programme was carried out in Asia, Africa and Latin America. It was based on the assumption that women as technology users have specialised technical knowledge which they employ daily in the operation of production processes. It showed that women use their knowledge and skills to develop, modify and adapt techniques and technical processes, in which they are involved. A major challenge of the programme was to obtain information about women's 'invisible' technological innovations.

The 'DO IT HERSELF' programme also explored the ways in which technical development agencies can work with women in order to ensure that technical assistance is appropriate to and in the control of the intended users of technology.

### **These Training Materials are to help in:-**

- Understanding that flexible and adaptive technical capacity already exists and that recognising and strengthening this enables people to better tackle the crises that they face in their day to day struggle to survive.
- Understanding Survival, who is responsible for what and recognising women's contribution to the survival of their families and communities;
- Understanding about the tasks carried out by women and the technical components of these tasks; the value of their knowledge and skills;
- Identifying the knowledge and adaptations to technology that saves lives;
- Understanding why women's technical knowledge is ignored and undervalued;
- Beginning to build the self esteem of women with whom the field workers are working

## **HOW TO USE THE TRAINING PACKAGE**

# *Gender and Technology Training Guidelines*

Most of the sessions follow a similar pattern and a common process.

- Introduction to the purpose of the session.
- An activity, introducing an issue or experience (picture discussion/ case study / video/ exercise or role play)
- Discussion and analysis, usually in small groups
- Report back in the large group
- Summary by the trainer / facilitator.

You can use different training activities as they are or adapt them to suit your training and trainees.

You can be flexible with the activities according to the content of the session or you can pick and choose sessions according to your need.

It is important that before you design the training programme, you identify the training needs of potential participants. You need to have an accurate profile of the group with whom you intend to work. This will help you learn more about what makes your group unique and help you choose the training exercises that are appropriate to them. These issues are covered in handout 4.

The first priority as a trainer/facilitator is to help create the conditions that enable a learning environment. The training package contains a few techniques that could be used to create the learning environment. At the end of the manual you will find a section on training methods that explains why we use these different techniques.

The trainees may need time to develop their own capacity and may need to work longer with one or two selected materials or may want to go back and try out some specific activities.

This methodology of the training programme may be new to some participants. It is using participatory training techniques. There are no lectures. The materials are all based on real life experiences. In this kind of training there are no teachers, the participant and the facilitator help each other in the learning process.

The participants bring in much expertise from their work with rural communities. In this programme the participants help each other to improve their knowledge and skills.

## **CREATING A LEARNING ENVIRONMENT - ORGANISING THE TRAINING**

A trainer will be able to facilitate a group of 15-20 field workers, over a period of 5 days.

The training manual will come with the following training materials.

Case studies from the Do It Herself package -

# ***Gender and Technology Training Guidelines***

*(These are used extensively through out the programme)*

Videos

Picture cards

Posters - prepared for the British Council exhibition on Do It Herself

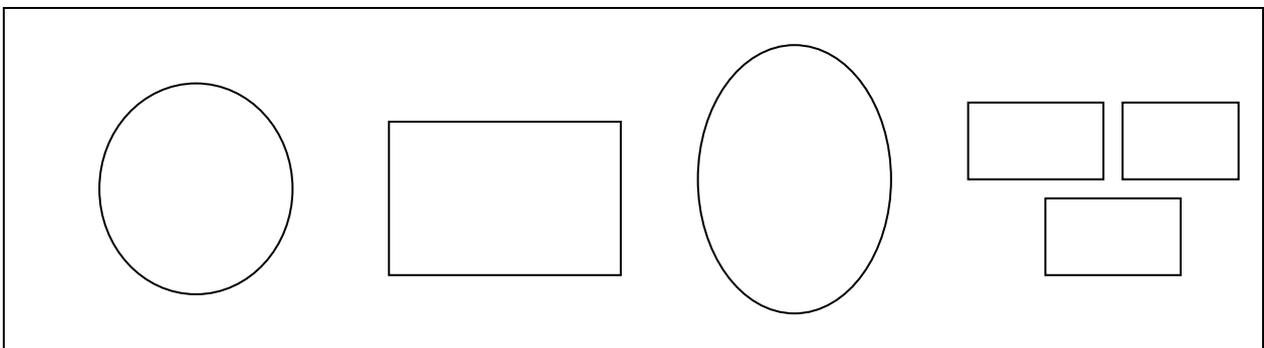
The training uses a number of techniques - role plays, small group work, etc. At the end of the manual you will find trainers' notes that explains why we use these techniques. There is also a list of games and energisers that you can use through out the programme.

## *Possible Seating Arrangements for the Workshop*

### TRAINING GOALS

At the end of the training, participants will be able to :

- understand what Technology is in the context of rural communities



- understand the concept of gender
- value the contribution made by poor rural women for survival of their communities
- determine the different roles of women and men
- identify ways to enhance women's existing technical skills.

### CHECK LIST OF MATERIALS USED IN THE TRAINING

- Cards (small, different coloured)
- Chalk board/ white board and chalk or markers
- News-Print and markers
- Felt pens
- Tape or glue or pins

## ***Gender and Technology Training Guidelines***

- Video (*N.B these were used in the original training and are no longer available*)
- Slide projector (optional)
- Posters
- Case studies
- Photo copies of case studies
- Writing paper and pens
- Materials required for demonstrations

### **TIPS FOR THE FACILITATOR**

- Be a facilitator and not a teacher
- Be well prepared and organised
- Read the case studies etc. before the session
- Work in small groups
- Be flexible and change the activities
- Be enthusiastic
- Have an evaluation at the end of everyday

## *Gender and Technology Training Guidelines*

*If all the modules are used, the sessions will cover five days of training. They are numbered in sequence. You can change the sequence as you like to fit in with the needs of your group. Some exercises may take longer than the time you allocate to them because participants may want to explore some ideas further. Be sensitive to participants' needs and be flexible. The programme builds in a continuous evaluation of the training. Participants carry out their own daily evaluations and these are fed back to the group at the beginning of the next day. Develop ways of doing this that are fun!*

### SOME QUESTIONS FOR A DAILY ASSESSMENT

What did you find most useful today?  
What did you find least useful?  
What changes would you recommend?  
Were the techniques relevant?  
Was the content relevant?

The learning outcomes build on the participants own experiences. So it is important to give the participants time to learn about each others' work. You can do this by making time to share experiences within the formal sessions or you can do this outside of the formal programme.

The programme is designed for training field workers. You will need to modify some of the sessions if you are using them with villagers.

The timing of the different modules is based on a group of 12 - 15 people. If there are fewer participants modules are likely to take less time. With more participants, they will take longer, but a maximum group size of 20 is recommended.

# *Gender and Technology Training Guidelines*

## SESSION ONE

### GETTING TO KNOW OURSELVES AND LEARNING ABOUT THE PROGRAMME

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*It is important to CREATE a positive beginning for any training programme. Participants must feel relaxed and enthusiastic. It is important for the participants to get to know each other and also get to know what the programme is - why it is being held and the goals / objectives.*

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PURPOSE                    To get to know each other better.  
                                  To understand the goals and plans of the training programme.

TIME                        1 hour 45 minutes

MATERIALS Felt pens / Markers / Chalk / News print / Black board / White board.

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*Prepare the meeting places avoiding the traditional formal class-room arrangements. Arrange the places so that everyone is able to contribute equally. You may select any of the arrangements listed in this package ( p.5 ) Prepare the time table as a news print and display it.*

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#### ACTIVITY 1 - INTRODUCTIONS

TIME                        45 minutes

Step 1 -                    Ask each participant to make a drawing of something which interests or is important to them

Step 2-                    Tape these pictures on the wall

Step 3-                    Ask each participant to introduce her/himself using the pictures as a point of reference

*OR*

Step 1 -                    Ask participants in pairs to share with each other their names, their organisations and their interests

Step 2 -                    Invite each couple to introduce the other to the wider group

# *Gender and Technology Training Guidelines*

## ACTIVITY 2 - TRAINING GOALS AND OBJECTIVES

TIME 30 minutes

- Step 1 Divide the participants into groups of three. Ask each trio to discuss their expectations from the workshop.
- Step 2 Ask trio to list their expectations and read them out to the large group
- Step 3- Facilitator introduces the training goals and matches participants' expectations with these goals

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*It is likely that some participants will expect to gain some practical technical experience from the workshop. The training programme does not provide initially for this, but participants themselves may have technical experience that is valuable to each other. The facilitator could arrange some space in the training time table to enable an exchange of participants' experience. Participants who live nearby could be encouraged to bring in materials for demonstration if they wish, or to take the group on a visit to their communities.*

*Another set of expectations could be that participants see this training as the first step towards designing a practical project with the groups they work with or, (in the case of villagers) for themselves. The final modules(session 17 & 18 ) provide an opportunity for participants to design their own project.*

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## *Gender and Technology Training Guidelines*

|              |  |
|--------------|--|
| ACTIVITY 3 - | AGREEING GROUP NORMS   |
| TIME         | 30 minutes   |
| Step 1 -     | Divide the participants into three groups. Ask each group to prepare norms for the training programme. |
| Step 2       | In the larger group, list the group norms and agree them.  |

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*Group Norms could include*

- *Be on time/ Punctual*
  - *Language - Use any language*
  - *Use simple English & speak slowly*
  - *Be friendly*
  - *Ask questions*
  - *Change seats/ mix up*
  - *All should participate/ give ideas*
  - *No smoking*
  - *Keep smiling*
  - *Respect others and their views*
  - *Be open*
-

# *Gender and Technology Training Guidelines*

## SESSION TWO

TECHNOLOGY IS.....

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*An understanding of the elements that make up 'technology' underlies all of the work in the different modules. It is suggested that that session two is always used as a starter module*

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PURPOSE To help the participants clarify their concept of technology

TIME 1 1/2 hours

MATERIALS: Cards describing typical activities of women and men (*see resource pack*)  
Two flip charts - one with the heading 'YES'  
and the other with the heading 'NO'  
Blue tack/cellotape

PREPARATION Change the names on the cards with common local names

### ACTIVITY:

Step 1 Prepare two or three cards for each task (depending on the number of participants), mix them up and divide them equally among the members of the group. Ask them to think about the statements on the cards. Do they describe what a technical activity is?

Step 2 Ask participants to stick the cards on the flip chart marked 'YES' if they think the statement does describe what a technical activity is, and on the flip chart marked 'NO' if it doesn't.

Step 3 Discuss the statements asking each participant to justify why they put the statement under 'YES' or 'NO'.

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### *Facilitator's notes:*

*There may be some discussion at this stage about the YES and NO categories, especially if participants have classified the same activity in different ways. The facilitator could ask people to explain why they decided that a particular activity was, or was not technical. This will lead to step 4. An alternative would be to have a longer discussion at this point.*

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## *Gender and Technology Training Guidelines*

- Step 4 Ask the participants individually to take a sheet of paper and write what they think is a definition of “Technology”.
- Step 5 Ask participants to read out their definitions. Facilitator to write up on newsprint.
- Step 6 Together with the group, pick out key phrases and underline these. Write them up separately.
- Step 7- Next using these phrases, develop one definition for the whole group, to include at least skills, knowledge and equipment
- Step 8 Facilitator sum up after discussion.

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### *Facilitators notes*

*Substitute these names or activities or food items with those that are locally more appropriate, if necessary.*

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*This session is important to developing participants' perceptions about 'technology'. Many people think of technology as machinery, or maybe as computers and other high-tech objects. However, more broadly, technology is something that helps us to produce things. It usually does include tools and equipment, but in order to produce anything, we also need the skills and knowledge to use the tools and equipment to develop a product.*

*This understanding is vital when we explore further the idea of women and technology. Many women are involved in production processes, particularly in agriculture and food processing. Sometimes they use very complex skills, but they may not necessarily use complex equipment. (Examples of this are the fermentation techniques used by women in food production in Sudan. Using only simple equipment like gourds and knives, the women nevertheless produce many different foods through complicated, multi-stage processes).*

*This session therefore, begins to enable participants to recognise the value of the skills needed to do different things, and to begin to identify these skills as 'technology'. Part of the reason that women are perceived to be 'non-technical' is because skills are not always regarded as technical. (Another reason, which is addressed in a later sessions, is that many of women's technical skills are used within domestic tasks, which means they are 'women's work'. They are not valued).*

*This session, therefore, challenges the view that technology is only tools, machinery and equipment - the 'hardware'. It should also be pointed out here that the identification of some tasks as 'technical' and others as 'non*

## ***Gender and Technology Training Guidelines***

*technical' may be a value judgement. When reviewing the definitions of 'technology' provided by the participants, the facilitator should select words and phrases which will lead into a broader discussion of the issues and which will enable participants to begin to re-assess their understanding of what is technical and what is not. Discussion should begin also to question the value accorded to certain skills (for example, is blacksmithing more 'difficult' or 'valuable' than dressmaking?)*

*A further issue, which this session may highlight, is that of organisation. Production processes require organisation. Different tasks have to be carried out in a particular order (planting before weeding, grinding before oil extraction) and the labour and other conditions necessary to carrying out the tasks have to be organised. Where people have a lot of different things to do in one day (like most women) organising activities around a production process may require considerable skill. Organisation is a part of production and may be regarded as a part of technology.*

*The facilitator should thus guide the participants into developing a definition of technology which includes 'skills and knowledge' to carry out tasks. If the participants themselves do not identify 'organisation', the facilitator can raise this during the summing up.*

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# *Gender and Technology Training Guidelines*

## SESSION THREE

### IDENTIFYING TECHNICAL KNOWLEDGE AND SKILLS

**PURPOSE** To help participants identify their own technical skills and knowledge.

**TIME** 1 hour or 1 hour 30 minutes

**MATERIALS** 2 large sheets of paper to be cut into puzzle pieces. Two large pieces of paper to use as a base for the puzzle. Felt pens or Crayons, cellotape.

**PREPARATION** The idea is to cut the each paper into pieces that will fit together like a jigsaw. There must be a piece for each participant. To make it easier to fit the puzzle together, trace the outline of the shapes on to the large sheet of paper which will be the base. Mark the wrong side of the puzzle pieces so that participants will write on the blank side.. Make the other similarly. Once you have prepared the pieces, mix each puzzle separately.

#### ACTIVITY 1

**Step 1** Distribute the puzzle pieces. Ask each participant to write one technical skill they possess on the blank side of their puzzle piece. Remind the participants about the statements they discussed in the previous session, the definition of technology that the group came up with, and salient points in the discussion.

**Step 2** Explain that these are pieces of two puzzles. Ask the participants to put the puzzles together. Then tape them onto the blank paper and display.

**Step 3** Summarise by identifying the skills and knowledge available in the group. Discuss. What did the participants feel about identifying their skills? What do they think of the technological knowledge available in the group? How could they use these skills and knowledge in their work?

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*Facilitators notes*

## ***Gender and Technology Training Guidelines***

*If you are working with a group of field workers, it will be useful to carry out steps 4 and 5 where you provide them with an opportunity to identify also technology skills available within their communities.*

*If not, summarise after step 3 by highlighting the range of skills available and the types of contributions these skills make. If appropriate, challenge participants to place value on less recognised skills such as cooking or food processing.*

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- Step 4            Ask participants to think about the communities they work with. What skills and knowledge do the women and men in those communities have? Brainstorm a list of skills and knowledge.
- Step 5            How do the skills and knowledge available in the community differ from those of the participants? How can they use this skills and knowledge in their work?
- Step 6            Discuss what the participants have learned from this exercise.

### **SESSION 4**

#### **INVENTING AND DESIGNING**

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##### *Facilitator's note*

*The design of technology can influence who uses it and how it is used. The aesthetics or the way an object looks and the ergonomics or how the object fits the user, are often forgotten aspects of technology development. If the aesthetics and ergonomics are unsuccessful, the technology, or tool, can be unpleasant and difficult to use. It is also likely to fail in the market place. If the aesthetics and ergonomics are successful, it has often happened by accident rather than intent.*

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**PURPOSE**      To help participants become aware of the aesthetics and ergonomics of tools

**TIME**            1 hour

**MATERIAL**    Picture cards (these should show tools being used and show the tool clearly. *(These can be cut from magazines)*),. Two large sheets of paper, one with ***like*** and one with ***do not like*** written on the top.

**ACTIVITY 1**    IF I WERE AN INVENTOR

**TIME**            30 - 45 minutes

## ***Gender and Technology Training Guidelines***

- Step 1 Ask participants to invent a piece of technology that they feel will be really important to their lives or the lives of the people they work with. It can be as fanciful or as practical as they like (for example, a rainmaking machine, or a continuously cropping seed). Ask them to pick up any object in the room that will depict this invention and to try and sell this invention to another participant. Once the invention has been 'sold' - then the person who has bought it remembers the story and sells it to another participant.
- Step 2 Stop the process after about 20 minutes and ask each participant to introduce the inventions they have acquired to the group. The stories will probably have changed or been embellished.
- Step 3 Discuss the nature of these inventions. What sort of problems were they solving? Ask the participants to talk about how they felt about 'inventing' technology. Can anyone invent technology? Why not?
- Step 4 - Discuss the activity
- \* How did you feel about the activity?
  - \* Was it a challenge?
  - \* What did you learn?
- Explain the Sub-theme-
- \* What gets done
  - \* Designed for whom? who designs?
  - \* Whose needs are least recognised?

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### *Facilitator's notes:*

*It may be difficult here to get people to 'invent' a crazy idea: the tendency is to explain something that is known. Try a demonstration run through with one person, perhaps asking what is the biggest problem s/he faces in everyday life (e.g. lack of water) and then coming up with a crazy solution (stapler = rainmaker)*

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## **ACTIVITY 2 HOW TOOLS LOOK**

- STEP 1 Divide into groups of four or five participants. Give each group a card showing a tool being used. Ask the groups to look at the way the tool looks and the way the tool is being used
- STEP 2 Ask each group to write two lists, one on the things they like about the tool and one on the things they do not like about the tool.
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# *Gender and Technology Training Guidelines*

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## *Facilitator's note*

*It may be useful to ask a few prompt questions such as, does the tool look comfortable to use? Does the tool look easy to use? Would you like to buy a tool like this? If yes, why? If not, why?*

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STEP 3 Reassemble in the large group and ask the groups to report back. On the two sheets of paper write the key words which describe the things liked and not liked about the tools.

STEP 4 Summarise by asking the participants to say if and how the tools look different to things they see advertised on posters, on television, in magazines?

STEP 5 Ask participants to think of how they could use their awareness of aesthetics and ergonomics in their work on tool development?

## **ACTIVITY 3 IF I WERE A DESIGNER**

TIME 30 - 45 minutes

STEP 1 Ask the participants to each choose a tool from the picture cards (more than one person can choose the same tool) What would they do to it to make it look more attractive, what would they do to it to make it more comfortable to use? Ask them to sell the improved tool to another participant.

STEP 3 Stop the process after about 20 minutes and ask each participant to "market" the improved tool they have acquired to the group as if they were potential buyers.

STEP 4 Discuss the nature of these improvements. Ask the participants if they think it would be possible to introduce design improvements in their work. How did they feel re-designing the tools? Can anyone be a designer? If not, why not?

STEP 5 Discuss the activity

- \* How did you feel about the activity
- \* Was it a challenge
- \* What did you learn

Explain the sub-theme

- \* Designed for whom
- \* Who does design
- \* Whose needs are least recognised

## **SESSION 5**

### **WOMEN'S INDIGENOUS KNOWLEDGE**

# *Gender and Technology Training Guidelines*

PURPOSE To understand the importance of indigenous knowledge for women

TIME 1 hour

MATERIAL Two DIH Posters - Beginning Locally, Sharing Knowledge

## ACTIVITY

Step 1 Put the posters up in front of the large group. What messages do these two posters convey? Discuss.

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### *Facilitators' notes:*

*The two posters are about the extent of local knowledge and how this knowledge is shared. Focus the discussion on what sorts of traditional knowledge exists in the communities that the participants work with. Who has this knowledge? How is it being used? Who else knows about it and how is it being passed on? Is there danger of communities losing this knowledge?*

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Step 2 Divide the participants into three groups. Ask each group to focus on a body of knowledge within the communities that they work with (this could be knowledge of local plants, agricultural practices, food preservation techniques) that maybe in danger of being lost. Ask the groups to develop a strategy for collecting this knowledge, recording it and sharing it with other communities. Tell each group that they will be asked to present this strategy to the wider group and to justify the need for collecting, recording and sharing the knowledge.

Step 3 Each group makes a presentation to the larger group of their strategy.

Step 4 Discuss the presentations. From whom did the groups have to collect this knowledge? How would these people feel about sharing this knowledge? Where is the knowledge recorded? What would happen if this knowledge is not collected or recorded? Who was the knowledge shared with? What is the importance of sharing this knowledge?

## SESSION 6

### LOOKING AT WOMEN DIFFERENTLY

PURPOSE To help participants to become more aware of the existence of stereotypical attitudes towards different groups of people, including women, and how this affects their work with communities in technology development

# *Gender and Technology Training Guidelines*

TIME 1 hour

MATERIALS Sheets of paper, felt pens or crayons

## ACTIVITY

Step 1 Explain briefly that we all use stereotypes of different types of people in our daily lives. This exercise is to help identify commonly held stereotypes of some of the groups with whom we work.

Step 2 Ask each participant to draw a picture of the image that come to mind when the following words are mentioned. Use a different sheet of paper for each.

**Rural men, Rural women, Urban women, Urban men.**

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*Facilitator's notes:*

*Alternatively, you could provide the participants with old magazines and newspapers from which they could cut out pictures that would depict their images of the above. If you use this alternative you will need a number of pairs of scissors and some glue. Some participants feel diffident about drawing so this could be a better alternative.*

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Step 3 Ask participants to share what they have drawn, or the pictures they have chosen, with the group

Step 4 Group the pictures - urban men + women and rural men + women

Step 5 Discuss the drawings, in terms of the following :-

- How many pictures reflected stereotyped images of the traditional roles of rural people?
- How many pictures reflected stereotyped images of the traditional roles of women?
- Were these stereotypes of women different in terms of urban and rural women?
- Do you think these stereotypes are true?
- Are you using these stereotypes when you design your programmes of work?
- What have you learnt about your approach to villagers/communities
- What kinds of stereotypes do we have for technology?
- What kinds of stereotypes do we have for women using technology?
- How can we challenge these?

## SESSION 7

# *Gender and Technology Training Guidelines*

## UNDERSTANDING GENDER

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*This session is principally addressing gender attitudes in society, and may not be needed where participants have already received this type of training*

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**PURPOSE:** Understand more about how men and women fit into society.

**TIME** 1 1/2 hours

**MATERIAL** Handout on gender  
Newsprint  
Small cards in two different colours,  
Felt pens or crayons, cellotape or blue tack

### **ACTIVITY:**

Step 1 Introduce the session by saying that the idea is to focus on what men and women do - their roles and responsibilities. Participants should think about the different things that men and women do in the course of a day, and how those tasks are perceived by others.

Step 2 - Brainstorm from the group what they understood by the term Gender. List all responses but do not discuss at this stage.

Step 3 - Distribute cards and ask participants to write down men's tasks and women's tasks. Men should also think of what their wives, mothers and sisters do, and women of their husbands, fathers and brothers. Men's tasks to be written on cards of one colour and women's tasks to be written on cards of another colour. Paste the cards up under the two headings - men's tasks and women's tasks. Look at, but do not discuss.

Step 4 - Go back to group and talk about the statements listed in Step 2. Examine gender versus women's and men's roles, access to decision making, power, social status etc. Challenge participants as to why men or women 'have' to do certain jobs. End with the concept that gender is a social construct and not biological.

Step 5 - Summing up

Step 6 Go back to the cards. Change the headings to biological and social and redistribute the cards. Do this as a group. Discuss. What tasks are social? What tasks are biological? Have there been any changes?

## ***Gender and Technology Training Guidelines***

- Step 7 Reassemble the cards in their two colours - men's tasks and women's tasks. Change headings - putting all the men's tasks under the title of women and all the women's tasks under the title of men. Discuss. Is this possible? Can women do 'men's tasks'? What are the constraints? Can men do 'women's tasks'? What are the constraints. How do the men and women in the group feel about it?
- Step 8 Discuss what was learned from the session. Draw out importance of status of tasks relative to the skills involved.

# *Gender and Technology Training Guidelines*

## SESSION 8

### OUR PERCEPTIONS ABOUT GENDER

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*This session is principally addressing gender attitudes in society, and may not be needed where participants have already received this type of training. The Handout provided for Session 6, should also be used with this exercise*

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**PURPOSE:** To discover different perceptions about gender

**TIME** 1 ½ hours.

**MATERIAL** 2 boards with “Totally Agree” and “Totally Disagree” written on them  
List of statements (*see resource pack*)  
Handouts 1 & 2

#### **ACTIVITY**

- Step 1 Facilitator explains that very early in life people learn who they are and what roles and responsibilities they are expected to perform.
- Step 2 Ask participants to close their eyes and reflect back to their childhood and recall the first time they discovered they were different from the opposite sex. Ask them to recollect the place, the others who were there, what was said, who and how the message was given about what it means to be a boy or girl.
- Step 3 Ask the participants to find a partner in the group and discuss their recollections.  
Next, discuss with the partner what gender roles they are expected to take on today as a man or woman in their culture.
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*Facilitator’s notes:*

*Participants may wish to share these insights with the wider group or they may not. If they do, leave time for sharing*

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- Step 4 Facilitator places 2 boards with words “TOTALLY AGREE” on one end of the room and a board with the words “TOTALLY DISAGREE” on the other end. Ask the participants to choose a position in the continuum when one of the following statements are made. Ask participants to volunteer to tell the group the reason for the position they have taken. (*This exercise should be carried out quickly and should be FUN*)

# Gender and Technology Training Guidelines

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*Facilitator's notes:*

*This session may address very personal issues of identity, and participants should only talk to the wider group if they feel comfortable about it. The facilitator's summing up should raise issues identified in the session and stress how much such examples underpin our concepts of 'maleness' and 'femaleness'. These concepts influence our attitudes and behaviour, and need to be recognised in order for men and women to be able to live more equal lives.*

*Points you may emphasise in Step 5*

*Almost all women's recollections were being told "not to do" things. While there were "taboos" for women, men mostly remembered being treated as special. If there are marked differences in step 5, discuss.*

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## SESSION 9

### IDENTIFYING TECHNOLOGY IN THE ROLES PLAYED BY WOMEN AND MEN

**PURPOSE** To identify the technical components of daily tasks of women and men in different communities

**TIME** 3 hours

**MATERIAL** Sets of picture cards depicting the different parts of a day in the life of women and men (*see resource pack*)  
Counters, match sticks

#### ACTIVITY

Step 1 Remind participants of the definition of 'technology' developed by the group in SESSION 2.

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*(NB. If session 2 was not carried out, the facilitator should prepare a short introduction based on the facilitator's notes for session 2, emphasising that technology is not just machines but also skills and knowledge, and also that people who use less machinery should not necessarily be regarded as less 'technical'.*

---

Step 2 Divide the group into three. Give each group a set of cards and ask them to arrange the cards in a 24 hour sequence. (*Facilitator needs to copy the set of cards to make similar sets, if necessary*). Using counters/match sticks, ask

## ***Gender and Technology Training Guidelines***

participants to identify the number of technologies used in each task.  
*Remember the definition of technology that the group developed.*

- Step 3 Discuss how long a woman works in a day. What are the tasks she performs? What technologies does she use in performing these tasks? How long is a man's day? What tasks do they perform? What technologies do men use? Is there any difference between the technologies used by women and men?
- 

### *Facilitators note:*

*Three sets of picture cards are needed, one for each group. These cards are included in the resource pack. The facilitator needs to photocopy from the available set and duplicate.*

---

## IDENTIFYING TECHNOLOGY IN THE ROLES PLAYED BY WOMEN AND MEN

*(alternative exercise in Session 9)*

PURPOSE To identify the daily tasks of women and men in different communities

TIME 3 hours

MATERIAL Time charts - one for each participant (*see resource pack*)  
Copies of "A day in my Life" case studies (*see resource pack*)  
Newsprint

### ACTIVITY

Step 1 Select a case study. Give each participant a copy. Ask someone to read the case study aloud.

Step 2 Ask participants to individually list the tasks that the women in the case study perform on the twenty-four hour time chart. What tasks do the men in the case study perform? (If the case study does not give descriptions of men's tasks, then ask the participants to imagine what they might be).

Step 3 Facilitate a group discussion on these tasks:

What are the tasks that the women in the case study perform over a twenty-four hour day?

Which tasks involve the use of technologies?

What tasks do you think the men in the case study perform?

# *Gender and Technology Training Guidelines*

Which of the men's tasks would involve the use of technology?

Step 6 Discuss. What have the participants learned about women's and men's use of technology?

---

*Facilitator's notes:*

*Some of the conclusions that came out of this session in previous workshops were:*

*Women have a wide range of tasks with technology components women's technology is buried in domestic tasks men use the hardware*

*Although this exercise is derived from the 24 hour day exercise used in Gender Planning Training, it is important to use it in this context to identify the range of technologies and technical tasks carried out by women and men.*

---

## **SESSION 10**

### **ACCESS AND CONTROL OVER RESOURCES**

**PURPOSE** To identify the differences between men and women in their access and control over resources and the implications of this difference for technology development.

**TIME** 1½ hours

**MATERIAL** Flip chart paper, crayons

### **ACTIVITY**

Step 1 Brainstorm resources ( e.g. land, water, fodder, fuel, animals, trees, machinery, electricity, tools, transport, advice and information, credit, training, education, literacy) needed to carry out specific daily tasks such as collecting water, making a garment, reading the newspaper, farming etc.

Step 2 Divide the participants into three or four groups. Ask the groups to take a community that they are familiar with and to identify what resources women and men have access to in their daily lives. *Select 3 resources that are key to technology use.* Ask participants to discuss who has control over these resources in that context. Is it the women? is it the men? The group should summarise their discussion on flip charts.

Step 3 Reassemble in the large group and present each group's findings.

## *Gender and Technology Training Guidelines*

Step 4 Discuss the presentations. What resources do women have access to and control over? What resources do men have access to and control over? Are there some resources that women have access to but no control over? What problems does this create? How does this affect use of technology by women and by men. How does it affect technology development for women? for men?

---

### *Facilitator's notes:*

*When key resources are identified we can identify the gender patterns of access to and control over these resources is often decided by the group who controls it rather than by those who use it.*

*It is often overlooked that access and control over resources are not equally distributed within a household. Because men and women play different roles within a household they also have different access to and control over resources. New technology may be less accessible to women than men simply because women have less access to resources like transport, education, credit or land.*

---

## **SESSION 11**

### **DEVELOPMENT INTERVENTIONS**

**PURPOSE** To help participants to identify the gender and technology implications in their work

**TIME** 1 hour and 30 minutes

**MATERIAL** Project scenarios (*select from resource pack*)

---

### *Facilitators notes:*

*In this activity, the participants will need to role play a typical project scenario linked to their own experience. It is important that the participants are familiar with each others' work if this session is to have a good outcome. So, provide an opportunity for participants to share their own project experiences before doing this activity. Sharing experiences can be done in a formal session - or you could build up to this by a series of informal evening sessions. Suggestion for a formal session is provided at the end of this exercise*

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*Outlines of five project scenarios are supplied which can be used if need be to develop a typical local project. (Handout Session 10). Alternatively, other ideas could be developed if more appropriate. A scenario should be developed for each group (3 in all), ensuring that each reflects local experience. Typical examples may include construction of a small dam, transfer of food processing technology, improved pottery or blacksmithing skills, and new agricultural techniques. The scenarios can involve either men or women, or both.*

---

### **ACTIVITY**

- Step 1      Divide the participants into four small groups. Explain that they will be asked to enact a role play. Three of the groups will be project personnel and 'beneficiaries' and one group will be project 'evaluators'. The project evaluators will be visiting each project group to discuss the gender and technology implications of the project.
- Step 2      The three project groups should each divide into 2: beneficiaries and project staff (who can be NGO, government or others). They discuss the project scenario for 20 minutes, and decide what they want to present to the evaluators. This can be positive or negative, or different for 'beneficiaries' and 'staff', or for women and men.
- Step 3      The evaluators read the project scenarios and discuss the questions they will want to ask on each 'project visit'.

---

*Facilitator's notes:*

*A draft list of questions, to be used for Step 3, is included in the resource pack. This may be given to only to the team of evaluators during the exercise. At the end of the session, copies of the handout can be given to all participants.*

---

## ***Gender and Technology Training Guidelines***

- Step 4 Have the evaluators visit each 'project' in turn. The project groups will need to introduce the different participants and explain briefly their project to the evaluators before the evaluators start asking questions.
- Step 5 Once all the groups have been 'evaluated' ask the evaluators to present a short report on their observations of each 'project'. Discuss their observations in the larger group. Did the projects benefit women and men in the same way? Were any needs ignored? Why? Were there any technological interventions that could have been used to bring greater benefit to the women? to the men? Was the project and/or technology appropriate for women and men?

### **SESSION 12**

#### **ATTITUDES OF FIELD WORKERS AND VILLAGERS**

**PURPOSE :** To help participants examine their attitude towards villagers and think about the attitude of the villagers about them.

---

*Facilitator's notes:*

*This exercise can be used for groups of villagers as well. In this case the purpose is 'To help participants understand their attitudes towards community workers, and think about the attitudes of community workers towards them'*

---

**TIME:** 1 hour 30 min

**MATERIAL** Statements written out separately on cards, or slips of paper (*see resource pack*)

#### **ACTIVITY**

- Step 1 Divide participants into two groups  
Group A - Field workers  
Group B - Villagers
- Step 2 Distribute the statements to each group. Have one statement for each group member. Give the field workers the villagers' statements. Give the villagers' the field workers' statements.
- Step 3 Ask the villagers group to individually react to the statement they have received imagining that they are villagers hearing these statements from field workers. In the same way, ask the field workers' group individually to react to the statement they have received imagining that they are field workers and hearing these statements from villagers.
- Step 4 Ask each group to discuss the statements they got and their reactions within the group.

# *Gender and Technology Training Guidelines*

- Step 5      Redistribute the statements so that the field workers' get the field worker statements and the villagers' get the villagers' statements. Ask the groups to react to the comments made on the statements.
- Step 6      Discuss the statements and group reactions.
- \*      How adequately do the statements reflect attitudes of field workers and of villagers?
  - \*      What are the implications of these statements?

## **SESSION 13**

ANALYSIS OF THE VIDEO *(please note the video was produced over 10 years ago and is no longer available, this section is for reference only)*

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*Facilitator's notes:*

*This is an optional exercise to carry out if you have access to facilities to use the video produced with the resource pack.*

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**PURPOSE**      To bring the message in the video *(to highlight the range of technical skills possessed by women, and women's potential for technical innovation)* into context for the participants ask them to relate it to their own experience.

**TIME**            1 hour

**MATERIALS**   Video (Discovering Technologists)

### **ACTIVITY**

Step 1            Participants watch the video

Step 2            Divide into 3 groups and ask the participants to focus on the following questions:-

- What prompted the innovations in the film?
- Can you think of any innovations from your life and work?
- What messages does the film provide on women and technology?

## **SESSION 14**

UNDERSTANDING INNOVATION

**PURPOSE**      To understand the role of innovation in women's lives

# *Gender and Technology Training Guidelines*

TIME 1 hour

MATERIAL: DIH Posters: Using Nature, Processing Food, Diversifying Work  
A story of a 'conventional invention' (e.g. the internal combustion engine, the telephone, the light bulb)

Step 1 Show the posters to the whole group and discuss the messages in the posters. What are the innovations described in these posters? Why did the women innovate? What impact did these innovations have on the women's lives?

---

*Facilitator's notes:*

*Make sure that in the discussion participants recognise that the women used their knowledge of nature to increase their options for survival, and for improving their production. Some of the innovations were a response to constraints on women's time and labour. They also innovated to minimise their risks.*

---

Step 2 Distribute the story of a 'conventional' invention. (the invention of the internal combustion engine, the invention of the telephone) After participants have read the story, discuss: how does this story differ from the stories of the women in the DIH posters? what is similar in the two stories?

---

*Facilitator's notes:*

*The purpose of this exercise is to make participants realise that the nature of peoples' (particularly women's) innovation is incremental and related to improving some aspect of their daily lives. The innovations may not be as dramatic as those in industry, but they have as great an impact on lives and livelihoods.*

*Emphasise the importance of testing during a technology process as an indicator or understanding the different stages of the process. Talk about ways in which women test. They use all 5 senses sight, hearing, touch, taste and smell. In a laboratory various pieces of equipment are used to test the different stages of a process: for example a thermometer is used to check temperature, and a moisture meter is used to measure how much water is left in a product.*

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Step 3 Further discussion on the importance of innovations for survival of communities and on using innovations - e.g. how can these be used to take advantage of market opportunities?

# *Gender and Technology Training Guidelines*

## **SESSION 15**

### **SURVIVAL & COPING STRATEGIES**

**PURPOSE** To understand women's capacity to adapt technology for survival

**MATERIAL** 3 DIH survival case studies - cassava (Case Study 3), tamarind (CS 7), lamps(CS 6).  
Copies for each participant

**TIME** 1 1/2 hours

### **ACTIVITY**

Step 1 - Divide participants into 3 groups and ask them to select their facilitator and rapporteur.  
Distribute the Case Studies. Ask participants to take 15 minutes and individually read the Case Studies.

Step - 2 Ask each group to choose one case study,. Make sure that all three are covered by the larger group. Discuss the case studies for 30 minutes answering the following questions:

- (a) what were the problems the women faced?
- (b) how did they adapt technology to overcome the problem
- (c) what were the obstacles they faced in adapting the technologies?

Step 3 - Ask each group to make a 10 minute presentation to the main group

Step 4 - In the main group, ask participants to give examples from their own experience of how technologies are being adapted for survival.

Step 5 - Discuss. If people, and women in particular, are constantly adapting technology for survival, what are the implications of that for extension workers? for policy makers? How can extension workers help women overcome the obstacles they face in adapting? Are there any changes the participants need to make in their approach to their work?

# *Gender and Technology Training Guidelines*

## SESSION 16

### INVOLVING WOMEN IN TECHNOLOGY DEVELOPMENT

**PURPOSE:-** To make participants understand the importance of involving women in technology development.

**ACTIVITY** Role Play

**TIME:-**1 hour

- Step 1 Ask seven participants to volunteer for the role play. Explain the context and the different roles to the participants. Give them time to prepare.
- Step 2 Carry out the role play
- Step 3 Discuss the role play. What happened? Why?

### THE ROLE PLAY - DEVELOPING TECHNOLOGIES

#### Field Worker (male)

The field worker has a technology package that he wants to introduce to the community. (The role playing team can choose the technology). He tries hard to convince the group about the new technology. He selects only men as participants for the training.

#### Woman Leader

Tries hard to explain what they have been doing all these years with knowledge learnt from their grand mothers and mothers. Want to know how the technology the field worker is introducing can improve their activities. Can't see why women should not participate in the training.

#### Village women (two)

Supports the woman leader's views

#### Old man from the village

Explains that things have gone on successfully all these years and it is not necessary to introduce anything new.

#### Young men from the village (two)

Wants the training programme to go on as planned as they want to participate. They think the knowledge that the old woman is talking about is old fashioned. They want to be 'modern'.

# *Gender and Technology Training Guidelines*

## SESSION 17

### TECHNOLOGY AND THE POLICY ENVIRONMENT

**PURPOSE:** To help participants understand the influence that the policy environment can have on their lives and how they can influence the policy environment

**TIME:-** 1½ hour

**MATERIAL** DIH case studies: Nkejje (CS 4), Tonga (CS 7)

#### **ACTIVITY**

- Step 1 Distribute the case studies to the participants and ask them to read them individually.
- Step 2 Discuss the case studies. What policy measures were described in the two case studies? How did they affect the women's lives? How did they affect the ways in which women used technology? How did the women react?
- Step 3 Divide the participants into groups of three. Ask each group to take an experience from their own lives of where policies of governments either at the national or local levels, significantly affected the use of technology in their lives or the lives of their communities. Ask them to write a case study based on this experience.
- Step 4 Read out the case studies.
- Step 5 Discuss what can be done about influencing/changing such policies.

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#### *Facilitators notes:*

*Step 5 can be carried out briefly by the whole group, or it can become more detailed by breaking into small groups again, to produce recommendations for strategies. In this case allow a further 45 minutes.*

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# *Gender and Technology Training Guidelines*

## SESSION 18

### PLANNING A TECHNOLOGY INTERVENTION

**PURPOSE** Participants will be able to plan a technological intervention taking gender issues into account

**TIME** 3 hours

**MATERIALS** Handout 4 of Steps in Gender Analysis (*distribute night before*)

### ACTIVITY

**Step 1** Divide the participants into groups of five or six. Ask each group to consider a community scenario that they are familiar with and to identify a problem - perhaps one that they are facing already, or a hypothetical one. Either way it should be one that may be helped by a technological solution (*The scenarios used in Session 11 are some examples. If necessary facilitator can use the same scenarios for this session too*). Tell the participants that they will be required to plan a project with the community. This exercise will help them go through the steps for a gender analysis of the project context. The exercise will also help synthesise what has been learned in previous sessions and apply it to a practical context.

**Step 2** Explain each step as described in the handout. Discuss. Then leave participants to develop their project plans.

**Step 3** Each group presents its project plans and the gender analysis to the main group.

**Step 4** Discussion:

- How did the gender analysis help in the formulation of project plans?  
Or did it make it more difficult?
- How did you feel going through the process?
- What do you feel about the final project?
- In a real life situation how do you think this gender analysis should be undertaken? Who should provide the information?

## SESSION 19

# *Gender and Technology Training Guidelines*

CHANGING EXISTING PROJECTS, TRAINING COURSES OR SIMILAR ACTIVITIES

**PURPOSE** To enable participants to include the perspectives they have learned in their ongoing everyday work

**TIME** 3 hours

**MATERIALS** Handout 5 of 'key points to consider' taken from 'Steps in Gender Analysis' (*distribute the night before, with a brief explanation that each participant will apply this exercise to one area of their work the following day*)

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## *Facilitator's notes:*

*Many participants will already be involved with training courses which have been designed in a top down way, or in a way which ignores the skills that women bring into such programmes. They may be able to identify modifications which will improve the sensitivity of training or other project activities to gender and technology issues. For the exercise handout 5 should be distributed the night before, but they should also receive the Handout 4 for Session 17 at the end.*

*If the group has mixed objectives, some or pairs can discuss project design (Session 17) and some can discuss project modification. The steps in the two sessions are broadly parallel.*

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## **ACTIVITY**

**Step 1** Introduce the session and ask participants to describe briefly to the main group, one activity in which they are involved or with which they are familiar

**Step 2** Divide participants into pairs and ask each couple to run through the 'key points to consider' in relation to the activity that they have chosen. Then together identify which aspects of the work could be modified to include issues considered during the training. Approximately one hour should be spent on each partner's activity.

**Step 3** In the main group, each person's partner should briefly describe where they agreed changes could be made to the activities identified in Step One.

**STEP 4** Discussion:

- How did you feel about going through the process?
- What kinds of changes are possible?
- How will colleagues adapt to the changes?

## ***Gender and Technology Training Guidelines***

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*This is a long session, and the facilitator should circulate constantly to ensure that participants are not getting stuck or confused. The key word is 'simplicity'. Small changes may be all that can be made, but most innovation is brought about through incremental changes!*

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### **SESSION 20**

#### **FOLLOW UP ACTION**

**PURPOSE:** Agree on a follow up action plan

**MATERIALS:** Flip charts and marker pens

**TIME:** 1 hour

**ACTIVITY** Facilitator invites the group to contribute to the following

- Share what we hope to do when we go back to our work
- How can we continue the momentum

Each participants' views are written on the flip chart and possible future activities are discussed based on this.

# *Gender and Technology Training Guidelines*

SESSION 21

EVALUATION

TIME: 1 hour

**ACTIVITY** Ask participants to write answers to the following questions

- What have I learnt about myself
- What have I learn about gender
- What questions do I still have
- What did you find most interesting
- What did you find most important to your work with women and technology

Give 3 reasons for your answer

Any other comments

## **Alternatively**

Divide participants into three groups, an ask them to think about, discuss and agree answers to the above questions. Then plan a short play to show the other groups what they feel.

*Resource  
Material*

# *Gender and Technology Training Guidelines*

## RESOURCE MATERIAL

### SESSION 2

Facilitator can make cards using these statements

- 1) Deepak is reading the newspaper (Man)
- 2) Anula is planting vegetables (Woman)
- 3) Mahinda is repairing the roof (M)
- 4) Dilushi is mending the children's clothes (W)
- 5) Lakshmi is cooking rice and curry (W)
- 6) Nangi is sweeping the floor (W)
- 7) Dulan is riding a bicycle (M)
- 8) Upali is chopping wood (M)
- 9) Prabha is bathing the children (W)
- 10) Chandrani is collecting water (W)
- 11) Anil is selling pots (M)
- 12) Manjula is making pots (W)
- 13) Ajit is drinking tea with his friends (M)
- 14) Nelun is washing the clothes (W)
- 15) Amal is putting the sleeve into a suit for a client (M)
- 16) Kamala is word processing (W)
- 17) Kamal is preparing dhal (a food) for customers (M)
- 18) Ranjini is grating coconut (W)
- 19) Ramya is taking the children to school (W)
- 20) Nimal is working on the computer (M)
- 21) Sunethra is grinding maize(W)

# *Gender and Technology Training Guidelines*

## SESSION 5 - DIH Posters

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## SESSION 7 - Handouts

### HAND OUT 1

#### THE THEORY OF GENDER

1. **Gender** is one of the ways in which society is organised. Other ways are by class, ethnicity, religion and age.
2. **Gender** is a social, not a biological construct.

**SEX** refers to biological differences and the functions of women and men in creating children.

**GENDER** refers to the attitudes, characteristics, roles, values that are determined, shaped and perpetuated by society - that society considers appropriate for men and for women.

3. **Gender** allocates to men and women different, but often complementary, overlapping roles, responsibilities and activities.
4. Both men and women contribute significantly to the social and economic well being of families - and their respective contributions are essential to the survival, maintenance and growth of communities and countries.

#### “Traditional” Gender Areas of Contribution

| <b>Women</b>                     | <b>Men</b>                       |
|----------------------------------|----------------------------------|
| Household maintenance/child care | Production for consumption /sale |
| Family/social relations          | Public sphere/external relations |
| Culture/spirituality             | Politics                         |
| Production for consumption/sale  | Protection                       |

5. **Gender** has given women and men different life experience, knowledge, perspectives skills and needs. Both are valid and valuable.
6. **Gender** relations are unequal. In many societies, women are subordinate to men and traditionally dependent on men. Women are vulnerable to overwork, poverty, exploitation, oppression and violence.

## *Gender and Technology Training Guidelines*

Women have less access to decision-making power, and are less able to have their unique and valuable perspectives represented.

7. **Gender relations** are dynamic - not static. They are influenced and changed over time by changes in economics, politics, technology, education, environment, the influence of other cultures and the media, mass advocacy, crises and conflict.
8. **Gender relations** are created by society. They are changed and can be changed by society. They are perpetuated by some forces and changed by other forces.
9. Women (and other oppressed groups) have resisted and organised to change their situation throughout history.

| <b>SEX</b>  | <b>GENDER</b>  |
|---|--|
| Cannot be changed   | Can be changed   |
| Examples:<br>Only women can give birth<br>Only men can supply sperm | Examples<br>Women can do traditional male jobs as well as men (give examples of these)<br>Men can take as good care of children as women (do you know of any instances?) |

# *Gender and Technology Training Guidelines*

## SESSION 7 HANDOUT 2

### DEFINITIONS OF CONCEPTS/TOOLS USED IN GENDER ANALYSIS

#### GENDER ROLES - WHAT ARE THEY?

- a *Reproductive Role* Child bearing, child rearing and domestic tasks done by women and essential to the existence of the society.
- b *Productive Role* Work done by both women and men for pay in cash or kind.
- c\* *Community Managing Role* Voluntary, unpaid work primarily done by women, an extension of their reproductive role which ensure care of the family and community such as providing water , health care and education.
- d\* *Community Politics Role* Activities undertaken primarily by men include community level

*Role* organizing and national politics . Payment is in cash or through status and power. (Source: Moser/Levy)

\* Community Work has also been described as the collective organization of social events and services: ceremonies and celebrations, community improvement activities, participation in groups and organisations, local political activities. (Source: Two halves make a Whole, CCIC, Ottawa).

## *Gender and Technology Training Guidelines*

### ROLES OF WOMEN AND MEN WITHIN THE HOUSEHOLD AND COMMUNITY

|                      | WOMEN   | MEN   |
|----------------------|---|---|
| REPRODUCTIVE<br>ROLE | Childbearing and child rearing<br>Organisation of the household   | No continuous responsibility but may have occasional customary domestic tasks   |
| PRODUCTIVE ROLE      | Rural areas: often disguised in subsistence economy or domestic work<br><br>Urban areas: mainly in small scale enterprises ('informal sector') often in household (often disguised) and neighbourhood level | Often is 'primary' income earner (perceived as such even when unemployed)<br><br>Often organise around this role i.e. workers organisation/trade unions |
|                      | Where 'secondary' income earners, make a critical contribution to income in poor households   |   |
|                      | In households headed by women may be sole income earner   |   |

## *Gender and Technology Training Guidelines*

|                            |  |   |
|----------------------------|--|---|
| COMMUNITY<br>MANAGING ROLE | Is an extension of reproductive role into community action because goods and services they need in reproductive role is not provided/badly provided                  |   |
|                            | Increase in situation of scarcity<br><br>Tendency to be involved in unpaid community provision and maintenance of goods of collective consumption and basic services | Tendency to be involved in unpaid community provision of goods of collective consumption and basic services |
| COMMUNITY<br>MANAGING ROLE | Organised at formal political level<br>i.e. traditional decision making structures or political parties  |   |
|                            | Tend to be leaders by virtue of relationship with other men or are rank and file   | Tend to be leaders (especially in traditional decision making structures)                                   |

*Source: Adapted from Moser, C 'Gender Planning in the Third World: Meeting Practical and Strategic Gender Needs' WORLD DEVELOPMENT Vol. 17, No 11 1989*

### GENDER NEEDS

Women and men have different needs, because they have different needs in society. It is useful to distinguish between two types of gender needs

Practical Gender Needs (PGNs) Are the needs identified by women and men which arise out of the customary gender division of labour. PGNs are a response to immediate perceived necessity, identified within a specific context. They are often concerned with inadequacies in living conditions such as water provision, health care, employment.

Strategic Gender Needs (SGNs) reflect a challenge to the customary gender relations and imply changes in relationships of power and control between women and men. SGNs which women identify arise from women's recognition and challenge to their subordinate position in relation to men in their society, for example, equal access to employment, equal pay equal legal rights. SGNs which men identify arise from men's recognition and challenge to their exclusion from domains which customary male roles impose and which contribute to the perpetuation of women's subordination, for example, sharing child care. SGNs are context- specific.

Source: Levy, C and Beall, J, Gender Planning Training Materials, 1992.

# *Gender and Technology Training Guidelines*

# *Gender and Technology Training Guidelines*

## SESSION 8

1 List of statements - *Facilitator can prepare cards using one statement for each cards.*

Women are naturally better caretakers of children

Women are more peace loving

Women's and men's traditional roles must continue

Women are not capable of learning new technology

Men are better leaders

Men should be in charge of technology

Men are better at technology

Culturally, women should not be included in technical matters

The most important role for a woman is to be a mother

Culture should always be respected

Women can change the system

Men can change the system

# *Gender and Technology Training Guidelines*

**SESSION 9** - Picture cards - These need to be photocopied, if necessary, to make sure that each participant has two or three cards.

**SESSION 9** - *Alternative Exercise* - Handout 1

## 1 'A DAY IN MY LIFE' CASE STUDIES

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*Intermediate Technology Sri Lanka started a radio programme in 1993 and 1994, to share the message from the DO IT HERSELF programme with rural women in Sri Lanka. The programme was centred around a fictitious character - Madam Tasty - who had arrived in Sri Lanka from Europe to research the processing of jak fruit. Madam Tasty discovers that her scientific laboratory experiments are useless without the information she can get from rural women about their traditional processing technologies. Madam Tasty builds up a rapport with rural women and on her travels continues to share information in food processing technology from Africa and other parts of the world. These letters were written to Madam Tasty to the Navaliya newspaper (a women's magazine) that ran a weekly page parallel to the radio programme.*

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### A DAY IN MY LIFE CASE 1

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Before I go into the way we spend the day I want to introduce our family members. My Appachchi (father) works away from home. During the week days my mother, sister, our cat and myself are at home. I studied for my advanced level examination last year. Now I am at home. My sister studies in a Colombo school. My mother is a very efficient housewife. Ours is a very pastoral village.

My mother and I get up at 3.00 am. Why should I write lies to you, we get up so early because my mother makes string hoppers and we have to cook rice for our sister to take to the school. Younger sister gets up at about 4.30 am.

As soon as my mother wakes up she boils the water to make tea. Unlike others who writes to you, we drink plain tea with a piece of jaggery or little sugar on the palm. I specifically mention this because I don't want you to think that all Sri Lankans drink milk in the morning. We prepare lunch early morning. My sister leaves at about 5.30 am. My mother takes string hoppers to the boutiques at about 6.00 am.

Cleaning the house is my duty. That is not a difficult task. But I feel very lazy to sweep the front yard because it is big as the Indian Ocean. Anyway I finish my cleaning duty by about 8.00 am. My mother and I take leftover rice from the dinner for breakfast.

## ***Gender and Technology Training Guidelines***

My mother is self employed. She handles tailoring orders till 12.30 p.m. I do the gardening till about 10.00 am. After that I do homework of my English class. Mother goes to the well for a bath before lunch. I don't like to bathe in the hot sun. Our well is in the middle of a paddy field. Younger sister comes home at about 4.30 p.m. Mother and I collect firewood, coconut fronts and other things needed for the dinner. We go to the boutique in the evening. Sister and I draw the water from the well. We fill all pots, buckets and other utensils because our well is not walled and it is not wise to go there in the night.

After that my sister irons her school uniforms. As we do not have electricity she uses four to five coconut shells to heat the iron. By 6.00 p.m. we finish everything. Before we light the bottle lamps we offer flowers to the Lord Buddha and vow to observe the five precepts. Then we close the doors and windows and light the lamps. After a little chit chat mother goes back to the sewing machine and sister to the studies. I give a hand to mothers work. By 8.00 p.m. we are ready for bed. We chant "Karaneeya Metha Suthra" for about seven to eight times. I read library books till 10.30 - 11.00 p.m.

Many others who write to you watch television. We listen to radio dramas. Our life flows like that unless we boil jak during the season or a visitor comes or someone gets sick.

Samanthi Elapatha,  
Padukka.

# *Gender and Technology Training Guidelines*

## A DAY IN MY LIFE

### CASE 2

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I decided to write to you because you introduced so many things to us. We start the day very early, at about 4.00 a.m. Ours is a four member family a daughter, son, my husband and me. Our main problem is water. We have to go far away. But we are not complaining. That is life.

My husband is a retired Gramasevaka (village officer in-charge). Now he is free lancing for various newspapers. He helps me to do the household work. After a cup of tea we prepare the breakfast and our children attend to their studies. They make the beds, sweep the house and draw the water by about 6.00 p.m. After that they offer flowers and food to the Lord Buddha. Then they get ready for the school. Sometimes my husband goes out and I wash pots, pans, cup, plates and clothes. I spend at least half an hour in the garden. If my husband is at home he also joins me. After 10.00 a.m. I go to the kitchen and prepare two curries and rice. Then I offer food to the Lord Buddha. Our children come home at about 2.00 p.m. Until then I listen to the radio or read the papers.

If I do not have to help the children in the afternoon I weave coconut fronts, clean the eckles, and collect fire wood from the garden. Sometimes neighbouring children come get some help to do their home work. Very often a friend from the village society drops in. By about 5.30 p.m. I go to the kitchen. Our children sweep the garden, water the plants and draw the water. We offer flowers to the Buddha and together chant "Gatha" at 6.00 p.m.

By 8.00 p.m. almost everything is over. Then we listen to the radio. We go to bed at about 10.00 p.m.

Kehma Karunathilaka,  
Dickwella.

# *Gender and Technology Training Guidelines*

## A DAY IN MY LIFE

### CASE 3

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I am not writing this to get a present from you or to get my name published in the Navaliya. I hope that this will be useful to you. Our village is seven miles away from Kandy town. Surrounded by paddy fields, a stream and a tea estate our environment is very peaceful.

I get up at 4.30 am. After making tea I prepare parcels of rice for my children to take to the school. I prepare the breakfast. My eldest daughter is 19 years old and the youngest is 11 years. They leave home at 6.30 am.

My husband sweeps the front yard before he goes to work. He draws the water also. Our Garden is about half an acre. He goes around the garden to collect firewood and ripe fruits. He leaves home at 7.45 am. After that I am alone with three pups and a kitten. They keep me company until I clean the house. Then I wash our clothes.

Now I am 45 years old, retired prematurely from a government clerk's job. I love to eat fruits for breakfast. We have many fruits in our garden and sell the excess fruits. I buy eggs, fish and meat out of that. After 12.00 noon I am free to listen to the radio. Our children come home at about 2.30 p.m. After that we take lunch together. They love to eat jak, breadfruit and yams with meat, fish or dry fish. When we have such things I won't cook rice. Children attend to their studies from 3.00 p.m. to 5.30 p.m. They do not attend to tuition classes. I help them in all subjects except dancing and music. They are good in their studies. I am proud of them.

At about 5.30 p.m. we sweep the house and light the Buddha lamp. The television is not a hindrance to us because we watch selected programmes. By about 9.30 p.m. we go to bed. I have something special to tell you. Our monthly income is less than Rs. 5000/- . But we manage well. We do not have high hopes. If you are coming this way please drop in here. Many beautiful birds come to our garden. I'll write to you if someone gets sick.

Thilaka Siriwardana  
Muruthalawa.

# *Gender and Technology Training Guidelines*

## A DAY IN MY LIFE

### CASE 4

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I like to write everything about our life to madam Tasty. Considering the limited space, I'll write only about the way we spend our time these days.

Ours is a five member family. Mother, father two younger sisters and me. Our village is twenty two miles away from Moneragala.

My parents are very busy. But peace, tranquillity and happiness of our home depends on their dedication. My father is a farmer and he works part time as a mason. These days we are waiting for our paddy crop to ripe. My sisters are boarded at Moneragala for schooling. I am waiting for my Advanced Level results.

My mother wakes up about 4.00 am. She prepares the tea and call us. Until we wash and observe five precepts, she milks the cows. Then my mother and father both take the cows to the field. By the time they come back I finish sweeping and cleaning. Three of us take breakfast together. Mother never forgets to make herbal porridge in the morning. If father has to go somewhere mother hands over everything needed. After that we have a brief rest. Mother teaches sewing and lace making to me. Now I can make dresses. I am good at knitting also. That is an extra income for us.

We start cooking at about 10.00 am. Everyday we prepare greens. After lunch mother goes to the fields to check the cattle. We are not used to take naps. Four days a week I teach maths to the village children. I enjoy and earn something as well out of that. In the evening mother brings the cattle home and boils the milk. We go to the kitchen to make dinner at about 5.00 p.m.

I sweep the house and offer flowers to the lord Buddha. Father comes home about 6.00 p.m. after that mother attends to his needs. They discuss day's happenings and plan for the future. Our dinner time is 8.00 p.m. After that we listen to the radio. I attend to the studies also. Mother reads NAVALIYA. Father studies astrology. He casts auspicious times for farm work So far it hasn't failed us. Our life is monotonous.

It changes a little during the harvesting season. As we do not have time to observe others we live peacefully without any hindrance to the others.

Aparna Nirmohi Ratnayaka  
Moneragala,

# *Gender and Technology Training Guidelines*

## UNDERSTANDING TECHNOLOGY IN THE GENDER DIVISION OF LABOUR

### TIME CHART

| WOMEN'S TASKS   | MEN'S TASKS     |
|-----------------|-----------------|
| 3: 00 am        | 3: 00 am        |
| 4: 00 am        | 4: 00 am        |
| 5: 00 am        | 5: 00 am        |
| 6: 00 am        | 6: 00 am        |
| 7: 00 am        | 7: 00 am        |
| 8: 00 am        | 8: 00 am        |
| 9: 00 am        | 9: 00 am        |
| 10:00 am        | 10:00 am        |
| 11:00 am        | 11:00 am        |
| 12:00 noon      | 12:00 noon      |
| 1: 00 p.m.      | 1:00 p.m.       |
| 2: 00 p.m.      | 2:00 p.m.       |
| 3: 00 p.m.      | 3:00 p.m.       |
| 4: 00 p.m.      | 4:00 p.m.       |
| 5: 00 p.m.      | 5:00 p.m.       |
| 6: 00 p.m.      | 6:00 p.m.       |
| 7: 00 p.m.      | 7:00 p.m.       |
| 8: 00 p.m.      | 8:00 p.m.       |
| 9: 00 p.m. etc. | 9:00 p.m. etc., |

## SESSION 11 - Handouts

### Handout 1

# *Gender and Technology Training Guidelines*

## SCENARIO ONE

The national Electricity Board has targeted the village as a site for the development of a village hydro-electric scheme. The scheme has the capacity to provide 50 of the 100 village households with electricity. A small dam will be built across the river running through the village and the water will be diverted through a PVC pipeline to the powerhouse. From the powerhouse the water will re-enter the river so it will not affect water needed for irrigation of the paddy fields.

A village electricity consumer society has been formed to manage the scheme. They will organise the construction of the civil works and decide the distribution of the electricity. To be eligible for a connection, households will have to contribute equity, either in terms of cash or labour.

The society has come up with a number of suggestions for ways in which the electricity could be used. One, favoured by the village youth society is to set up a small metal workshop to be run by the village youth society. The youth society comprises a large number of unemployed young men and women. Other suggestions are to supply the village hall with lighting and television for those whose houses cannot be joined to the power supply and a communal grinding machine.

A majority of the families in the village depend on rubber tapping in the nearby rubber plantations for an income. The paddy lands in the village are owned by a handful of wealthy families. Rubber tapping is carried out primarily by the women who spend about six to seven hours a day on this work. A few families own about a dozen rubber trees each. They gain an additional income by taking the latex from these trees to be processed in the adjoining village. Many of the men in these families have gone to the city for employment and only return to the village on weekends. Several others have joined the army. There are fourteen very poor households in the village. These households are headed by women with young children. Their husbands have been killed or have disappeared during the recent political upheavals in the area.

# *Gender and Technology Training Guidelines*

Session 11 - Handout 1

## SCENARIO TWO

The village is an old colonisation scheme in the dry zone. Many people in the village depend on drying of cashew (*substitute cashew with a local food crop, and drying with other processing method, if necessary.*) for a living at certain times of the year. It is mainly the women who are involved in the processing and the production is manual and time consuming. An international NGO wants to introduce a processing machine into the village to speed up production/ improve quality/ relieve drudgery. The NGO developed the machine in South America, and believes that it will be successful here in Sri Lanka (*substitute Sri Lanka with the name of the country where the training is conducted*).

The machine has not yet been field tested in this country. In order to use the machine, credit will probably be necessary both to purchase and maintain the machine. The community will also have to find capital to increase the supplies of raw materials at certain times of the year. The villagers are not familiar with using machinery for processing cashew and may need training in using the new machine.

# *Gender and Technology Training Guidelines*

Session 11 - Handout 1

## SCENARIO THREE

In the settlement areas of the major irrigation schemes, the availability of water enables the settlers to cultivate their fields three times a year. The settlers have been allocated three acres of paddy land and two acres of highland. Most of the settlers have arrived in the area from the more densely populated parts of the country. They have settled as nuclear families with few or no kinship ties with their neighbours. They carry out their farming activities independent of each other.

It is intended that families should be helped to grow cash crops on irrigated plots. The extension services may also be able to widen the range of advice offered.

Traditionally, women are responsible for cultivation of home gardens which provide a significant contribution to the household diet. These gardens are usually rain-fed.

Women also have the responsibility for household tasks such as food preparation, water and fuel wood collection, and child care. There is a scarcity of fuel wood in the area.

# *Gender and Technology Training Guidelines*

Session 11 - Handout 1

## SCENARIO FOUR

A local NGO has developed a cycle trailer (*or substitute with an alternative, largish piece of equipment*). It is fairly expensive and difficult for individuals to buy unless they have access to credit and a regular income.

The cycle trailer was introduced in the dry zone of the country where people experience severe shortages of water. The NGO thought that it would be culturally unacceptable for women to use the equipment. Therefore, they did not give much thought to how women might benefit as well as men. Several men have started innovative income generation projects using this equipment. But there are very few women users.

Nevertheless, there may be opportunities for using the equipment to cut down the domestic tasks and relieving the drudgery. It could also be adapted to be more appropriate for women to use.

In most of the households where the trailer is being used, the men are assisting the women with household transport tasks. It is the men in these households that now fetch the water for domestic use, whereas before the trailer was purchased that was the responsibility of the women. The women still fetch firewood, but most often they use the trailer as a handcart. The trailer has helped increase the amount of water and firewood that can be collected on one trip. This has reduced the time that women spend on these tasks.

# *Gender and Technology Training Guidelines*

## Session 11 - Handout 1

### SCENARIO FIVE

A dry zone in Africa (*substitute with country where the training is held*) often experience food security problems, even in good years. In drought years, communities in this area are usually dependant on government good handouts to stay alive. Local people have thus become accustomed to handouts either in the form of money or food. Most people are engaged in some form of agriculture, but men's tasks and women's tasks are different. There are a number of women headed households.

A local NGO believes that it is important to break the culture of dependency, and that a participative approach to the problem identification and resolution will enable the community to develop the capacity to stand on their own feet.

The NGO intends to adopt a "process approach" and to identify and develop activities which will help the poorest. The NGO tries to work with existing structures and institutions. It envisages that its inputs will comprise helping people to share and exchange information, training, advice, institutional strengthening and organising visits to other areas or groups.

# *Gender and Technology Training Guidelines*

Session 11 - Handout 1

## SCENARIO 6

An urban settlement has developed on the outskirts of an industrial area of town. Rural-urban migrants seeking employment opportunities rely on their own resourcefulness to find housing solutions. The materials they have are limited and often the innovative use of recycled waste materials from the city provides some shelter from the weather.

Many thousands of people live with the threat of eviction as local authorities fail to recognise this "informal settlement" or the rights of its inhabitants. An NGO has been facilitating discussion between popular organisations, representing the local inhabitants, artisans and local government agencies. An active forum has evolved, in which information exchange and networking are proving to be essential elements of efforts to influence local policy makers to change their opinion of the settlement and to work in partnership with men and women residents. The NGO is seeking to develop an adequate standard of housing for all, persuading the local authority to recognise appropriate building technologies and accepting standards of construction that will be accessible to the local residents.

The same NGO, through its programme of technology transfer, aims to introduce a stabilised soil block machine for self-help construction and, in the longer term, to create income generating opportunities. Working with local artisans and residents they hope to introduce this machine by way of a revolving loan scheme. Existing machines have been studied, and require some strength to use.

In the settlement, 60% of the households are headed by single women who carry the responsibility for the welfare, nourishment and shelter of their families. They have little extra time available, but are desperate for opportunities which will enable them to earn an income. All trained artisans operating locally are men and construction is seen as a male role. Brickmaking is a relatively well paid occupation. The NGO is committed to working in partnership with men and women to improve living standards. What can they do?

# *Gender and Technology Training Guidelines*

## SESSION 11 - Handout 2

### QUESTIONS TO ASK PROJECTS ABOUT GENDER AND TECHNOLOGY

With the type of projects presented above, evaluators may want to consider more specific issues as well as the more general questions. Suggestions for both are given below.

#### General Questions

1. What are the main objectives of the programme or what is the main problem that the programme is intending to address?
2. What are the main responsibilities of women and men in relation to a project?
3. What are the main changes to these roles and responsibilities envisaged by the project.
4. What are the main advantages (and disadvantages) to women and men of this project?
5. How have men and women been involved with the identification of needs and design of the project?
6. How will women and men be involved in the work of the project?
7. How are women's and men's existing technical skills being included in or strengthened by the project?
8. How (and with whom) have you tested any equipment being introduced by the project?
9. How have you ensured that any new equipment is appropriate to the lives of the users?

#### Specific issues for each scenario

##### Scenario 1

- I. Will men and women have equal access to electricity?
- II. How will the provision of electricity benefit the women in the village?
- III. How will the provision of electricity benefit the men?

# *Gender and Technology Training Guidelines*

## Scenario 2

- I. Who will own the machine?
- II. Who will operate the machine?
- III. Who will be trained to carry out maintenance?
- IV. How will access to credit be facilitated for the work?

## Scenario 3

- I. How will the project support traditional roles and responsibilities?
- II. Are all participants able to have control over their own labour?
- III. How is the project supporting the different agricultural priorities of men and women?

## Scenario 4

- I. What assumptions have been made about men's and women's use of technology?
- II. How has women's access to technology been supported?
- III. How has the issue of what is (or is not) "culturally acceptable" been addressed by the NGO?

## Scenario 5

- I. How have the poorest, especially women, been enabled to participate in the project?
- II. What has been done to re-evaluate women's and men's technical skills?
- III. How have the existing structures and institutions been helped to become more democratic?

## Scenario 6

- I. What assumptions have been made about men's and women's use of technology in this project?
- II. How has the issue of what is (or is not) "culturally acceptable" been addressed by the NGO?
- III. If the project is promoting women's access to new skill areas, how is this being supported?

# *Gender and Technology Training Guidelines*

## **SESSION 12** - Statements of Villagers and Field Workers.

*Facilitator will need to prepare cards using these statements.*

### **Group A - Villagers' Statements**

- I've always found it difficult to use machines, *(specify a relevant piece of technology hardware or technique)* but I am going to try again.
- The Field Worker did not explain how it works - next time I'll ask more questions.
- The field worker knows a lot of book things but very little about the village.
- I have very little education, so people think I am don't know how to operate a machine, *(specify a relevant piece of technology hardware or technique)*.
- I should be at home where I belong, I don't need training.
- I may not be able to read, but I know how to preserve jak fruit *(substitute any common local food procesing practise)*.
- They must be stupid because they don't understand the things we do when our kids are sick.
- They think I cannot understand how these machines , *(specify a relevant piece of technology hardware or technique)* work because I am poor and a woman.

### **Group B - Field Workers' Statements**

- We know best how to help people in your situation.
- We have machines, *(specify a relevant piece of technology hardware or technique)* that will solve your problem.
- There is a right and wrong way to use these machines. *(specify a relevant piece of technology hardware or technique)*
- We have tested the way of using these machines *(specify a relevant piece of technology hardware or technique)* - that is the best way..
- I wonder how I can be sure that these women want to learn or need to learn.

## ***Gender and Technology Training Guidelines***

- How can I teach them to use this machine , (*specify a relevant piece of technology hardware or technique*) when they can hardly read or write.

### **SESSION 13 - Video (*Discovering Technologists*)**

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### **SESSION 14 - DIH Posters**

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### **SESSION 15 - DIH Case Studies**

#### **1. Salt extraction from Sierra Leon.**

Sierra Leoneans use salt for food preparation, preservation of fish, meat and oil, and to treat wounds and injuries. Even though it plays a vital part in their day to day life and they have a long coastline, only 35% of the required salt is produced locally. Small-scale producers who are all women do this.

Most women living in the coastal low lands practise salt processing as their primary occupation and the main source of income for their families during the dry season. Women join this informal industry as soon as they are of age and they have usually mastered the difficult skills involved in producing a marketable product by their early 20s.

At first women processed salt by boiling sea water in earthenware pots over traditional 3 stone fires and sun drying it. They had to work in temporary huts built on the beaches. This system had many problems, as salt concentration of the sea water was low. Hence a lot of fuel was consumed to evaporate large quantities of brine to get a little salt.

Women solved this problem by collecting brine from ponds. Boreholes were dug along the tidal path, which filled with brine during high tide. At low tide the brine was collected and evaporated until the salt crystallised. This method took a shorter boiling time and also cut down repeated journeys to the sea.

The appearance of salt crystals on the leaves and stems of a particular tree species led women to discover a method of extracting salt from the silt at the base of this tree in the months of February and March. For this they used the perforated baskets traditionally used by women soap makers. Later women developed the design of the basket to a conical shape to solve technical problems. But this reduced the silt holding capacity. The funnels couldn't be enlarged because they were not so firm, and it required women to be in impossible physical positions as well. Finally women came up with the rectangular shape for the funnel which enabled faster and more productive filtration.

The stoves used for evaporation have been developed from the 3 stone open fire to an efficient wall-protected fire. This stove developed by women is widely used as it needs less fuel and it could accommodate an evaporating dish of any size or shape.

## *Gender and Technology Training Guidelines*

Although a technically more efficient two-burner was later introduced, it proved more costly to maintain and its adaptation has thus been very limited.

Evaporating dishes have also changed from earthenware to enamel basins, which give a whiter salt. But enamel was more costly and less accessible. Therefore all salt processors use rectangular shaped evaporating dishes made from scrap metal and drums. These are made locally and always freely available.

The skill level of the operators of the salt-from-silt extraction technology is the most crucial element in determining the quality of the salt. Making an efficient funnel requires a very careful process of lining and plastering. The boiling operation on the other hand involves the skilful regulation of the fire, in order to facilitate the crystallisation of pure salt (sodium chloride), while preventing the crystallisation of bitter magnesium salts and burning the final product.

The more experience a salt producer has, or the more skilled she is, the whiter and purer her salt. The transfer of skills and knowledge in salt processing, the sharing of information about new ideas, practices and technologies, happens through observation of older women and at a personal level among the women producers.

The Government's attempt at large scale solar salt producing failed due to environmental and technical problems. Women's technology has survived through the years adapting to changing circumstances and becoming more efficient.

# *Gender and Technology Training Guidelines*

## SESSION 15 - Case Studies

### 2. Indigenous vegetables in Kenya

Traditionally mostly women have carried out the cultivation and marketing of indigenous food plants through out Kenya, until the colonial administration insisted that local farmers grow cash crops. But over reliance on cash crops is dangerous because when a crop fails it is like having a famine.

Unlike the exotic cash crops, indigenous plants are disease-and-drought resistant, are not as prone to major pests and are cheaper to grow since they can do without expensive fertiliser and pesticides. Crop management of indigenous plants is relatively easy and makes fewer demands on women's time and energy. Indigenous crops often grow faster than exotics, and can be harvested in weeks rather than months. Moreover the preservation of diets rich in indigenous food plants means better nutrition. Indigenous food plants also tend to be environmentally more appropriate.

Women's farming, food processing and marketing in Kenya, as in many other countries is perceived as haphazard and small scale. Women, who grow indigenous plants, are not credited with any value as producers. Agricultural policies and extension services often deny the importance of women's knowledge of local food plants by targeting male commercial farmers. Even when women do get involved in agricultural schemes, they have received little support for growing indigenous plants.

Recently some women's groups in the Saiya district have taken the initiative to grow indigenous vegetables on a commercial basis, and in doing so have upgraded production and processing technologies. Women have proved that indigenous vegetables do very well without fertiliser. They used cattle manure and compost to enrich the soil. Women are gradually adapting this method in the production of exotic crops as well.

Traditionally women depended on rain to grow indigenous crops or simply collected edible plants in the forest. Now that indigenous plants are threatened by extinction, women found that with a constant water supply the vegetables fared better. Thus by using the water pumps provided by the Indigenous Food plan Programme, a programme run by 2 national NGOs in collaboration with an international NGO to support the women in their efforts, crops are being watered daily, and improving.

Women have also started to use horticultural management practices. For example the use of inter cropping local varieties with others which overcame some of the disadvantages of mono-cropping such as vulnerability to disease, weather and soil erosion. It also extended the period of time over which women took different crops to sell at the market.

Recently the women have started collecting, drying and packaging their own indigenous seeds for sale. By increasing their own seed crops they hope to retain

## ***Gender and Technology Training Guidelines***

control and avoid dependence on multi national companies, which have begun to take an interest in this potentially lucrative market, as, ironically, indigenous vegetables have become fashionable amongst the middle classes in the capital city, Nairobi, and the market for them is growing.

However today's young women know much less about local plants than their grandmothers did. Thus as the knowledge of these plants decline from generation to generation, in the hope of preserving this knowledge and practices of indigenous food plant varieties, work has been undertaken for the documentation and dissemination of information.

# *Gender and Technology Training Guidelines*

## 3. Cassava processing in Uganda

In the mid 1980s, after years of civil war, most of the crops in the country were wiped out. Widows and orphans who returned to their villages found that the only crop available was the not so popular Cassava plant. But women have since developed ways of using every bit of this plant for a whole range of needs.

Certain properties of Cassava such as its tolerance to drought, poor soil and neglect, and the fact that it can be stored underground for several months after maturation make it an important food source, particularly in times of food shortage.

Ugandan women use the whole Cassava plant not only as a food crop, but also for firewood, cooking oil, medicine and building material, and as a source of cash income.

Cassava roots normally cannot be stored for more than a few days after digging. They are usually dug up, peeled and then cooked, mostly with beans or meat, and eaten immediately. For long term preservation women usually slice and dry the Cassava into tablets. Women use the processed Cassava for home consumption particularly during the dry season when fresh food is not readily available or too expensive to buy.

The dried Cassava tablets do not last longer than 4 months after which they will require further drying. In order to solve this problem women have recently developed *mawogo nkyenka*, cassava pellets, which keep for longer periods if packed and can be used throughout the year. The simplest meal made out of *mawogo* mixed with cooked beans is called *katogo*. To make this the mixture is boiled until it is quite tender. Cow's ghee can be added to improve the taste. Village women resort to this meal periodically because it saves firewood and does not require any other sauce.

The production of these dried Cassava pellets is limited, however, due to poor grating facilities. There is room for improvement of the grating technology for increased production and also for upgrading the techniques for even longer preservation of Cassava food products.

Women use pure Cassava flour made from the sweet variety as a much cheaper and more available alternative to wheat flour, to prepare cakes and cookies, and to develop other new products for the market. Some women, either individually or in co-operatives, bake cakes for parties, or biscuits, which can be packed and stored for long term use.

Women have also adapted their traditional brewing technology for the production of the local alcoholic drink, *enguli* from Cassava. Women sell the

processed *enguli* to breweries that further process it to a more refined drink, Uganda gin. It is also sold at the local markets or large-scale distilleries.

The women also make of the by-products of *enguli*. The residue that remains after the initial squeezing and filtration of the Cassava is the main source of animal feed in the

## ***Gender and Technology Training Guidelines***

area. Another viscous liquid that remains in the distillation tank which can be easily drained out

of it, is an efficient and cheap substitute for cement. Now most women in Luwero have reduced the dependence on cement and lime by replacing them with *amuna* a bi-product of *enguli*, for brick making, plastering, joining bricks during construction and floor making.

Another use of *enguli* is that it can be used as a preservative. Cassava can also be used for medicinal purposes. It also acts as good glue when heated. The starch residue after making the glue is sold by the women to textile industries or village tailoring places.

# *Gender and Technology Training Guidelines*

## Session 15 - Case Studies

### **4. Nkejje fish in Lake Victoria**

The women living along the shores of Lake Victoria make use of the many species of fish that exist in this huge area of fresh water to ensure the livelihood of their families. The small Nkejje fish help prevent malnutrition and related childhood diseases such as measles and Kwashiorkor, as it is believed to have a medicinal value.

Women have been involved not only in the processing of fish products but also in fishing itself. To catch the Nkejje fish, women use rectangular floats to which they would attach a special thorny scrub whose ash would attract the Nkejje as it fell in the water. Traditional fishing equipment used in shallow waters was made out of papyrus, tree bark, banana fibres and creepers.

As modern fishing technology has replaced traditional equipment, women's sphere of activity has become limited to the processing of the fish which is done by smoking it in banana leaves, peels or grass. The low fat content of the Nkejje fish makes it suitable for sun drying which is done on a clean rock. To protect the flavour of the fish and exposure to the sun it is covered with grass. The drying process continues at night due to the heat radiating from the rock surface.

The Ugandan government together with 2 international companies and advice from a foreign fishery expert, introduced Nile perch and tilapia into the lake in 1965, without any consultation of the local community. The new fish fed on the Nkejje almost to the point of extinction. As the Nkejje fish decreased, the growth of Plankton and other Algal plants increased, as it was the Nkejje that fed on them, creating an alarming ecological imbalance. Also the big Nile processing plants set up around the lake have posed a pollution threat. Being dependent on the high-protein *nkejje* to combat malnutrition in their children, low income mothers have suffered from the scarcity of fish, and the fact that they cannot give Nile perch to children because of its high fat content.

In the midst of all these changes women have developed innovative ways to deal with these new circumstances. To make the now scarce *nkejje* last, after drying the fish, women pound it into a powder using a mortar and pestle or a grinding stone, and sieve it. In this way it can be preserved for long periods of time without any preservatives and can be used in baby and other food in small quantities when needed. Since the fish has to be completely dry to be pounded it cannot be washed after it is dried. Therefore in order to assure the hygiene of the product women have started washing the fish immediately after catching, stacking them on sticks passed through their gills to be laid out on Papyrus mats made specially for the clean drying of the Nkejje.

Seeing the demand for this product various entrepreneurs have taken up the local women's idea of powdering the fish. Also recently the government has given

## ***Gender and Technology Training Guidelines***

importance to the Nkejje fish. Thus the Animal industries and Fisheries minister has banned the use of fishing nets with small holes. Secondly the authorities, to ascertain if the local belief that the Nkejje had medicinal value was true, carried out research. Based on these results national nutrition clinics were established which used Nkejje to combat various childhood diseases.

The women have asked permission to have artificial ponds to cultivate the fish, but up to now no help has been offered in this direction. This is mainly because the government still supports the Nile fish processing and exporting companies despite their harmful effects to the community.

# *Gender and Technology Training Guidelines*

Session 15 - Case Studies

## **5. Building hope; self-management and construction**

Women living in a marginal urban settlement, an emergency camp of La Chimba in the northern part of Santiago, Chile managed to turn the squalid area where they lived into an area of permanent housing. One of the fundamental factors which helped them achieve this was their realisation of the importance of groups joining together with regard to production and non-paternalist training, in order to share their gender perspectives and overcome their traditional inequalities in education.

As a result of crowded living conditions children suffer from Diarrhoea and bronchial problems every year. Women began to realise that giving children Penicillin every year was pointless if the cause wasn't got rid of. Thus the idea of building homes began to take shape. The group that started with 40 women later enlarged as more women joined.

For raw materials the women insisted that they wanted 'the best' so that the houses would last till the end of their lives. By 'the best' they meant plastered brick. They were tired of living in huts made of planks and mud. They started by collecting existing material from each house, anything that could be put to use. They chose, counted and cubed the materials they needed to finish the 40 houses.

After the women got organised they started publicising the campaign to get financial and technical advice regarding the plans. They contacted non-governmental organisations such as Youth for Development and Production who advised them to first draw up their designs for the houses taking into consideration the "sanitary huts" and the developed sites. But the next year, as a result of continuous floods, the NGO couldn't offer much help. But they managed to offer them various designs that the women in turn returned with their amendments. But the women were not entirely satisfied with the designs as they wanted their homes to relate to the family and the designers didn't successfully achieve this because they were not aware of what the women wanted. Finally after the plans were decided upon, the women managed to find financing with the help of the same NGO.

With the combination of the women's determination and strength and the training and information given by the NGO the houses started taking shape. They learnt the basic details of building like layout and squaring off the houses. The women then passed the information on to the others. But here the women faced some problems. They were never trained in building or carpentry. Therefore they had to self-teach themselves with leaflets and what a friendly technician told them.

The first part of the money was allocated to each family to buy raw material. More money was given as the building progressed, proportional to the lineal meters built. They also proposed a contribution for each family to be put in a rotating fund. With the money donated women built the front of the house and part of one of the sides. The ones who had started by themselves completed what they had already built while

## *Gender and Technology Training Guidelines*

others completed the house with their share of the money, money raised through other activities, and other additional funds from the College of Architects.

Teams of 10 women each were formed with a mason for every 20 families. The College of Architects paid for the mason and the material. The women built the houses in stages. The first stage was building 9 lineal meters of wall. The second stage consisted of closing the box.

To get the rotating fund together the women organised fares on Fridays, Saturdays and Sundays. These fares were carried out while the construction was going on. The women organised a market where they sold used clothes and food, organised fares, balls and lotteries where the whole community could meet socialise and unite.

Some families who didn't take part in the building activities left the area. The building work itself was hard for the women. Some fell ill, got tired, faced accidents, but some women did it, accepting the fact that they had to do it. If they couldn't actively take part in the building because of illness or other jobs, someone from the family always took their place, while those who stayed at home helped in other ways like kneading and backing. Women who didn't pay or didn't want to pay contributed by helping in the construction itself. The group was not strict about the payment, whenever the women had money they contributed. If they didn't they helped in other ways.

The first 2 stages took 8 months. To build the roofs the women managed to find funding and technical assistance and put up the roofs themselves. The final construction was done by a construction company that the municipality organised after the mayor a woman who was visiting, saw the work done by these women. She was impressed and requested them to apply for an existing subsidy for aide with second stage progressive building at the department of housing and helped the women to finish their construction. They also got the municipality's approval at the end of the construction that the houses complied with all the by laws. The municipality paid a mason to help the women at the final stages of building.

In the public sphere being women, it was naturally difficult to operate on the same level as men (harsh deals, coldness, and manipulation); on the other hand, being a woman brought with it a special sensitivity for grasping situations. In the sphere of work itself the job was physically difficult to accomplish, because the tools and equipment were made with men in mind. But the women had a keen interest to learn and some women even wanted to be trained in some specific aspects of building. They also discovered that they already had some useful skills for example they were able to transfer the concepts of measurement, which they used in making pastry, across to making cement.

For the women the most important aspect of the project was re valuing themselves; the realisation that they were capable of doing what they intended, knowing that they were not restricted only to the home, but that there are other alternatives which allow them to share, to develop and to participate. They could leave the home, enjoying a newly earned freedom.

# *Gender and Technology Training Guidelines*

# *Gender and Technology Training Guidelines*

Session 15 - Case Studies

## **6. Coping with a lack of electricity in marginal urban areas**

The group of women called the Roses of America was based in one of the poorest marginalized urban areas of the city of Tacna. The lack of electricity underlined all the disadvantages of these women, who were largely Andean immigrants. As the men had to work from 4 a.m. to 11 p.m. to survive in the economic crisis faced by Peru, it was left to the women to look for strategies to survive the grinding poverty and the deficient conditions under which they lived in the marginalised urban settlements.

Coming to live as immigrants in marginalized urban areas forces these women to adjust to limited space and to different guidelines as far as nourishment, utilities, education, health, transport, work and leisure were concerned. Women had to organise their day around the care of their younger children. Therefore whatever they did had to be done close to home.

In this environment, women were perhaps more aware of poverty and of sexual division of labour. Even if they took part in commercial pursuits like hawking and peddling, they had to take more risks, such as the possibility of suffering abuse, and they had to demand even more of themselves if they were to fulfil their domestic duties as well. Added to all this, they had to endure a permanent depreciation of their activities.

The absence of electricity prevented them from making the most of their evenings, which they wanted to use to speed up the textile work they were involved in, they wanted to feel secure in their homes and to facilitate the task of caring for their children. Therefore it was necessary to make their nights less dark and the streets which they used lit up.

To do this the immigrant women from the high plateau used several devices that they had learnt from their ancestors. For example the use of the Mecha chua which was a handmade candle crafted from local materials like sebum of alpaca, Llama or sheep mixed with hot kerosene and strongly compacted and put on a small clay plate, with a twisted cayto in the middle. But this candle was smelly and smoky and was able to give good light only for a couple of hours.

They had to consider viable options in terms of money as well. A candle every two days was too expensive. Even a second hand car battery was not feasible. Glass lamps were too fragile and didn't give much light. The women tried mixing fuel with water of other combustible substances, but this too didn't work.

As a result of the limitations of these lamps women gradually turned to another kind of lamp which was made with empty milk cans into which they put strips of braided rag or a twisted wick, after fastening the can at both ends. Domestic kerosene was used as fuel. This lamp did not smoke or blacken too badly.

## *Gender and Technology Training Guidelines*

It too, underwent a number of variations by its users, who were always trying to maximise its usefulness and trying to avoid the danger of starting a fire. One of the variations was adapted from a lamp that one of the women had, made by her father a tinsmith. This stimulated the most interest among the women. They worked on the drawbacks of this lamp, added a few other elements and finally perfected a satisfactory model.

In the process of making the lamp the women created some imaginative instruments to make do for the lack of tools such as pliers and electric soldering irons. A mechanism called the metal window was used. A manual instrument made from metal scraps operated this. Knitting needles and crochet needles were used to draw the patterns on the tin. Tins that opened easily and pieces of iron to wrap the circular parts were commonly used. To make the lamp more use-worthy women discovered ways to make the kerosene fumes safer. Other adjustments were - mechanisms for faster lighting, making better wicks, making it more safer on the wall, saving fuel by using water and even making it more artistic and attractive by means of colourful decorations.

These lamps were very cheap as they were made out of disposable materials, and fuel consumption was minimal. They could be used for about 8 hours and they were easy to make and to maintain. One of the drawbacks was the faint smell of kerosene that lingered in the house.

The women worked on a kind of production line because some of them were more skilful at preparing the materials, others at cutting, others at assembling and others at finishing off. They were also planning processors of fumigation which was very expensive and only done by the municipality. This would provide them with employment as well, since it was a necessary and urgent service.

# *Gender and Technology Training Guidelines*

## Session 15 - Case Studies

### **7. Survival skills of Tonga women in Zimbabwe**

The Tonga people originally lived around the Zambizi River and its tributaries, but were forced to leave this area when the river valley was flooded after the construction of the Kariba Lake Dam and Hydroelectric scheme. When they were moved their whole farming system was disrupted as where they were resettled was considered to be the poorest in Zimbabwe in terms of soil conditions and rainfall. This meant that the levels of agriculture production were not adequate to sustain food security for average households of 7 members throughout the year. The drought relief the government offered year after year was inadequate as well.

Tonga women through the years devised methods of coping with these harsh environmental conditions. They innovated and adapted food production and processing technologies and identified new sources of food. While the attempts by expatriates and development agencies to promote drought tolerant crops have not yielded any significant results the women have managed to identify, collect and process 47 indigenous plants whose leaves were used for relish, and over 100 tree species with a variety of edible parts.

From January to March when the traditional cereals are in short supply women collect cereals from certain types of indigenous grasses and process these to produce a meal. The Baobab tree is also widely made use of by women for various purposes. The traditional morning meal of tea and bread has been substituted with porridge and a drink made with the fruit of the Baobab tree. The Baobab drink is also used to treat fevers and strobic complaints.

Women extract oil from the seeds of the Baobab. The bark can be pounded and burnt to ash to be used as a kind of caustic soda in the preparation of other green vegetables. A cash income can be gained as well by selling mats and rope woven with the bark of this tree.

In times of drought women have started to use poisonous plants not normally used. But these are made fit for consumption using skilled time consuming preparation methods. A wide variety of green vegetables are used as well. They also collect rainy season vegetables sun-dry them on metal sheets and store them in jute bags for consumption during the dry season.

As a result of the Tonga women's knowledge and skills another fruit that has started to be used widely is the Tamarind. Women climb trees to collect the fruit that they store in jute bags for a period of twelve months until the next harvest period. The fruit is of high nutritious value and does not rot, which renders it especially valuable in drought stricken areas. The fruit is stored in traditional units that women make out of mud, raised slightly above ground level.

## *Gender and Technology Training Guidelines*

Tamarind is used as a flavouring agent and also as a substitute for commercially used beverages such as tea or coffee which are not available due to lack of money or distance from retail outlets. Usually the ripe fruits are used, but when there are none, women

collect the unripe fruits, soak and boil them and add ash to neutralise the acidity. It could be used as a snack food, or could be added to cereals. As a medicine, concentrations of tamarind may be used to cure gastro-intestinal disorders in people, and as a cure for sleeping sickness caused by the tsetse fly in animals. The acidic liquid from the Tamarind and other wild fruits is used to curdle fresh milk.

The Tonga women have also realised the commercial potential of the Tamarind and other wild fruits and have started marketing the fresh fruit by the roadside and at the bus stops.

One of the problems the women face is that though they are aware of the existence of this market they have not yet identified the strategies for exploiting it. They are also concerned that once large-scale commercialisation of tamarind catches on they will lose control over the source of the fruit and this subsistence crop will move into the control of others.

Despite the wide availability of tamarind in many rural areas, and its prime importance in the diets of many rural families, neither the government nor NGOs recognise the importance of the fruit. In many places they are actively promoting cash crops.

# *Gender and Technology Training Guidelines*

## Session 15 - Case Studies

### **8. Pottery Technology in Kenya**

In western Kenya, pottery has traditionally been a woman's domain. Women would produce various types of pots and pans mainly for household use in food processing, preparation, and storage. The distribution of surplus pottery production was originally limited to a small geographic area. However, due to the increasing economic significance of pottery in recent times, pottery has become a major means to a livelihood for the women in the region.

Women potters in the western provinces of Kenya collect the clay from communal lands along the rivers free of charge. The women potters can tell the various properties of certain types of clay by colour. In different districts the process of pottery making is different. Some women use the clay immediately after they have dug it out of the source. In some districts the clay has to be stored in a cool place out of direct sunlight for a week or two before use. The women also know by experience the proportions by which the various coloured clays need to be mixed for different purposes.

The process of pottery making is very time consuming and labour intensive. For example for the pot to dry it must be left indoors for one to three weeks depending on its size. Pots that need colouring and polishing are worked on inside a hut or at night when it is cool, a day before firing. Firing takes place on a dry day, at a time when the direction of the wind is quite constant, usually in the afternoon.

Although pottery is the major income source for many women in western Kenya, it is not a full time occupation. The skills and knowledge are only passed through generations as well as among the different regions and tribes, through informal channels of communication.

Also the appearance of modern aluminium pots for cooking, and jerrycans for fetching water and the gradual abandonment of traditional practices in food preparation have threatened markets for the traditional potters. But women have invented a wider range of products to deal with this ongoing change. For example, in response to changing eating habits, women have started producing ceramic casseroles for oven cooking, non-stick frying pans and shallower flat bottomed pots to cook on the stoves used in the city. They have also started producing decorative flower and plant pots, used in tourist hotels and big buildings in the cities, as well as lampshades, candlesticks, ashtrays and other ornamental pottery.

National policies that implement large-scale farming of cash crops have affected the pottery industry as well as the basket and mat weaving industries. In order to plant the cash crops vast areas of papyrus that was used in both these industries, as firewood and as raw material had to be cleared.

## *Gender and Technology Training Guidelines*

Another problem rural pottery makers as opposed to the urban pottery makers face is the lack of transport for their products. This is a major set back in marketing the goods.

Due to this kind of increasing economic hardship women have begun to form pottery groups through which they attempt to maximise their resources, as well as minimise the risks associated with individual small-scale enterprise. Group production also reduces fuel wood consumption that helps with the decreasing availability of fuel in the area.

Being alert to market needs, women have started to apply their skills to new activities such as the production of ceramic liners for charcoal burning stoves and fuel efficient food burning stoves. As these stoves save time, money and energy, and are comparatively safer the market for them is growing. This means that the production of these stoves is a potentially lucrative business.

# *Gender and Technology Training Guidelines*

Session 15 - Case Studies

## **9. Fermented food in Sudan**

Sudan has about 60 different kinds of fermented food products that have been an important part of the country's food culture for thousands of years. The most complicated sorghum fermentation process that the women carry out is the preparation of a clear sorghum beer called assaliya. This process has 40 steps and takes 2 days or more to prepare. It is believed that the West African clear beers were developed from the assaliya. If this were true then it shows how women would have taken this knowledge horizontally across the continent, since it is improbable that men had detailed information about this complex process.

One of the fermented drinks, abreh, fills the role of a nutritious thirst quencher in the hot climate of Sudan. This is because it is filled with an easily digestible sugar and also decreases the risk involved in drinking contaminated water. Moreover the flakes are lightweight and easily transportable by travellers.

Most of the fermented foods used in Sudan are famine foods that could be stored for a long time. When food shortage is a chronic state, women develop techniques to make the most of any available organic material. Fermentation also improves the digestibility of a food.

Women's knowledge of fermented food stuffs has played an important role in coping with periods of famine, but a lack of understanding of this capacity has led to international aid agencies organising relief operations around imported food stuff.

One of the first examples of the mechanised processing of traditional foods is a machine that has been developed with the close consultation of the women. But though this machine has the potential of relieving these women from a laborious task, it also carries the threat of pushing the many rural and peri-urban women producers and vendors out of the market.

The factory product is cheaper and available in the urban market. Though some still prefer to buy the traditionally made sorghum product, the lower price of the factory product has serious implications for the women's production.

# *Gender and Technology Training Guidelines*

## Session 15 - Case Studies

### 10. Shea butter extraction in Ghana

Shea butter is widely used in Ghana as a traditional cooking oil, pomade for hair and skin, treatment of boils, wounds and other skin diseases, for the manufacture of soap, and fuel for lamps. It is exported as a substitute for cocoa butter in the pharmaceutical and cosmetic industries. The collection of Shea fruits and their processing into butter are exclusively a woman's job and one of the main sources of income for women in Ghana. Women use variations of a traditional extraction technology, which achieves a very high oil extraction rate. The process is nevertheless time consuming and labour intensive.

In the process of production, kneading is the most crucial step in determining the quality of the final product. Its successful execution depends on the recognition of changes in appearance, colour, viscosity and temperature of the kneaded mass, possible only for a well-trained and experienced eye to see.

There were various attempts to modify the method of production. The first was the use of the corn mill for the grinding of roasted Shea nut granules. This was a modification introduced and adapted by the women. There were other changes suggested, but without any consultation of the women. The Mali oil extractor, which was introduced by the Nation Council of Women in Development, was one of them. This was abandoned after a few trials, as it did not extract as much oil as the traditional method and the quality was poor as well. Later a machine designed by local engineers was introduced. This machine, though better than the imported Mali oil extractor, didn't satisfy the women.

Finally the engineers launched a new attempt but, this time listening to the ideas of the women Shea butter producers. Initial trials with the women showed that the traditional method had an efficiency of around 83% that compared favourably with the current industrial technology. Therefore they decided that improvements were only needed to make the process less time and energy consuming for women.

One of the things the engineer was asked to design was a more efficient baffle-impeller arrangement in the kneader along the guidelines provided by the women. The best result obtained after 9 trials gave an extraction rate slightly lower than the manual process, but cut down working time by about 66%. There are still shortcomings, but now that there is a relationship established between the designers and the women it is expected that these failures too will be solved in the future.

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**Session 17 - Case Studies - Use the same material provided for Session 15**

## *Gender and Technology Training Guidelines*

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# *Gender and Technology Training Guidelines*

## SESSION 18 - Handout

### STEPS IN GENDER ANALYSIS

(Information for this handout was drawn from Gender Issues in Animal Traction: A handbook published by ATNESA and edited by Lotta Sylwander and Roger Mpande)

#### STEP 1 -IDENTIFYING GENDER ROLES

Gender planning recognises that women have a triple role: reproductive, productive and community managing activities. Men commonly take responsibility for productive activities and community politics roles. Refer to handouts used in previous sessions for listing of these roles. List these roles for men and women in your community.

#### Consider

- Where the activities take place
- When they are done
- How much time it takes
- Why women do some tasks and men others
- How roles and responsibilities differ by age, ethnic or social group
- How roles and responsibilities have changed over time

#### Key issues for technological intervention

- What technologies are being used for what activities?
- Which activities are time consuming and labour intensive? Who does them? Can the introduction of technology save time? What implications will this have on labour?
- What will the impact of the technological intervention be on women's reproductive and productive tasks?
- Will the introduction of the technology help reduce the labour input into reproductive tasks?
- Will the introduction of the technology change the existing division of work?
- Will the project affect basic services and needs such as water, fuel, and transport? What will be the impact of these effects on women's lives? on men's lives?
- What implications does this information have for designing training programmes and other project activities?

# *Gender and Technology Training Guidelines*

## STEP 2 - ACCESS AND CONTROL DIAGNOSIS

In designing a project for implementation, identifying gender-specific activities is not enough. Project design needs to take into account women and men's access and control to resources and the flow of benefits from project activities to women and men.

First, identify who has access to and control over the following resources and the benefits from these resources. (Remember, access to resources does not necessarily imply control over them.)

- Land
- Capital
- Labour
- Skills/technologies
- Education
- Credit/savings
- Information
- Political power

Go back to the exercise that discussed these issues for further explanation.

### Key issues for technological intervention

- Do women and men have equal access to the resources required for the use of the technology?
- Who controls these resources? How will this affect the project?
- Can the current patterns of control be changed?
- Do women and men have equal access to the skills and training required for the use of the technology? Can women benefit from the training the project provides?
- Do women own land? Does this affect the project?
- Do women have access to credit? What implications does this have for the project?
- Who are the decision makers in the village? Will this affect the implementation of the project activities? Can women be involved in and contribute towards project activities?
- How has information about the project been shared in the community? Are women and men both aware of the proposed intervention and activities? What are the attitudes towards the project?
- Will women both benefit from the technological intervention? If yes, how? If no, why not?
- Will the project affect women's existing access and control over resources?

# *Gender and Technology Training Guidelines*

## STEP 3 - OPPORTUNITIES AND CONSTRAINTS

Gender analysis also requires taking into consideration other factors which could influence the potential impact of the project and present opportunities or constraints to achieving the project goals and activities. These factors are:

socio-cultural factors - social norms, social organisation, traditions, religion, organisational and institutional arrangements

economic factors - level of poverty, inflation, infrastructure, income distribution, economic organisations

environmental factors - quality and availability of land, availability of water, fuel,

political factors - power relationships, influence of government, legal systems, community organisation,

demographic factors - migration, life expectancy, mortality

services - government, extension, education, health care, funding

legal - right of ownership, franchise, inheritance

The task is to assess these factors in terms of how they can influence the project.

### Key issues for technology intervention

- What perceptions and beliefs exist about the use of technology by women and men?
- How can these affect the project goals and activities?
- What economic issues affect women's use of technology?
- What environmental issues are crucial to women? How will these be affected by the technology intervention?
- What institutional services are important for the project?
- What are the constraints (if any) in the organisation of the project?
- Is there likelihood of conflicts arising due to project activities? How will the project tackle these?
- At the end of this step, you will have developed a 'picture' of gender roles and relationships within the community for which your project is designed. The situation of women within this community will emerge in terms of what conditions they face and the status they have within the community. Once you have an idea of the gender roles and relationships, you will be able to design activities that meet the practical and strategic needs of women.

# *Gender and Technology Training Guidelines*

## STEP 5 ANALYSING GENDER NEEDS AND INTERESTS

**Practical Gender needs.** These are the immediate and practical daily needs such as food, water, housing, income, health etc. and the conditions in which women and men live. They are unique to specific contexts, and can be addressed by provision of specific outputs. Practical gender needs do not challenge the divisions of labour and women's subordinate position in society. Meeting women's practical needs improves their ability to carry out traditional roles and responsibilities, but does not alter gender relations in a society.

**Strategic needs** - These are long term issues that almost all women (and men) face. They relate to women's disadvantaged position, lack of power, education, resources etc. Strategic needs vary according to context and are related to the gender division of labour, power and control. They include issues such as legal rights, domestic violence and equal wages. Strategic gender needs can be addressed by increasing women's self confidence, education, organisation etc. to ensure that women are in control of their development. Meeting women's strategic needs means empowering women, challenging their subordinate position and transforming relationships.

It is important to identify practical and strategic needs before planning a project.

### Key issues for technological intervention

- What practical needs of women will be met by the use of the technology?
- What practical concerns of women could have a negative/positive impact on the project?
- How could the position of women in the community and within the household, affect the goals of the project?
- Are there any strategic needs of women that the project can address?
- What impact will the project activities have on women's position in the community and within the household?
- What could be the community's response to meeting the strategic needs of women?
- How will the changes in the roles and position of women be made sustainable?

## STEP 6 - PLAN THE INTERVENTION

Now you have all the information to design a gender sensitive project!  
Identify the objectives of the project.  
List the activities that it will carry out.

## SESSION 19 – Handout

# *Gender and Technology Training Guidelines*

## Key Points to consider in adapting ongoing projects

(taken from STEPS IN GENDER ANALYSIS, drawn from Gender Issues in Animal Traction: A Handbook published by ATNESA and edited by Lotta Sylwander and Roger Mpande, November 1995)

### STEP 1 - IDENTIFYING GENDER ROLES

This step is about the recognition of the different gender roles (productive, reproductive, community management, community politics) in the activity you are carrying out. (For information on Gender Roles, refer to earlier handouts)

#### Consider first

How much is known in your work about:

Why women do some tasks and men others in the communities in which you are working

How roles and responsibilities differ by age, ethnic or social group

How roles and responsibilities have changed over time

In relation to the above, are there any implications for:

Where the training or other activities take place?

When they are done, including during which seasons?

How much time they take, and at what times of the day?

Content of training?

Adding extra components to the training or other activity?

#### Consider second

How much is known in your work about:

Which technologies are being used for which activities?

The technical skills and knowledge already possessed by the participants?

Which activities are time consuming and labour intensive?

How these activities are shared between women and men?

In relation to the above, are there any implications for the work that you are doing:

Introducing technology to save women's time in productive tasks?

Introducing technology to save women's labour in productive tasks?

Introducing components that build on existing skills and knowledge?

Introducing components that share existing skills and knowledge?

#### Consider third

How much is known about the impact of your activity on:

Women's reproductive and productive tasks

In relation to the above, are there any implications for work that you are doing:

Reducing the labour input specifically into reproductive tasks?

Changing the existing division of work?

Affecting basic services and needs such as water, fuel, and transport?

# *Gender and Technology Training Guidelines*

## **STEP 2 - ACCESS AND CONTROL DIAGNOSIS**

This step is about including in training and other activities, issues about women and men's access and control to resources and the flow of benefits to women and men.

### **Consider first**

How much is known in your work about who has access to and control over the following resources:

Land, Capital, Labour, Skills/technologies, Education, Credit/savings, Information, Political power.

In relation to the above, are there any implications in the work that you are doing for:

Changing patterns of access to the resources required for training or other activity?

Changing the current patterns of control over resources?

Introducing extra components and/or training so that women and men can benefit equally from resources?

Introducing extra components so that women and men benefit equally from the training the project provides?

Addressing issues around land ownership?

Addressing issues of access to credit?

Addressing issues of women's participation in the activity?

Addressing issues of women's access to decision making?

## **STEP 3 - OPPORTUNITIES AND CONSTRAINTS**

This step is about including in training external factors which affect the lives of men and women differently.

### **Consider first:**

How much your work includes a general understanding of:

Socio-cultural factors - social norms, social organisation, traditions, religion, organisational and institutional arrangements?

Economic factors - level of poverty, inflation, infrastructure, income distribution, economic organisations?

Environmental factors - quality and availability of land, availability of water, fuel?

Political factors - power relationships, influence of government, legal systems, community organisation?

Demographic factors - migration, life expectancy, mortality?

Services - government, extension, education, health care, funding?

Legal - right of ownership, franchise, inheritance

In relation to the above, are there any implications for work that you are doing:

Changing existing perceptions and beliefs about the use of technology by women and men?

Addressing economic issues which affect women's use of technology?

Addressing environmental issues that are crucial to women?

Improving institutional services so that women and men benefit equally?

## **STEP 5 ANALYSING GENDER NEEDS AND INTERESTS**

## *Gender and Technology Training Guidelines*

This step is about understanding gender needs and including them in training and other activities.

### **Consider first:**

How much your work includes recognition and analysis of women's **practical<sup>1</sup>** daily needs such as: food, water, housing, income, health other needs unique to specific contexts, which can be addressed by provision of specific outputs.

In relation to the above, is the work that you are doing:

Meeting women's practical needs?

Constrained by practical concerns of women not being met by the project?

### **Consider second:**

How much your work includes recognition and analysis of women's **strategic<sup>2</sup>** needs, such as legal rights, domestic violence and equal wages the need to increase women's self confidence, education, organisation etc. to ensure that women particularly are in control of their development.

In relation to the above, is the work that you are doing:

Empowering women, and/or challenging their subordinate position?

Transforming gender relationships in the community and within the household?

Addressing any other strategic needs of women?

## **STEP 6 - PLANNING THE CHANGES**

Now you have all the information you need to plan changes to your work.

Identify the gaps

Decide which are the most important

Identify which are the changes that are most likely to be feasible

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<sup>1</sup> Practical gender needs do not challenge the divisions of labour and women's subordinate position in society. Meeting women's practical needs improves their ability to carry out traditional roles and responsibilities, but does not alter gender relations in a society.

<sup>2</sup> These are long term issues that almost all women (and men) face. They relate to women's disadvantaged position, lack of power, education, resources etc.

*Games, Energizers  
&  
Exercises*