



Introduction

You are aware that healthy soil, clean water, balanced biodiversity and energy all form part of natural ecosystems and that all of these components of ecosystems are vital to ensure balance and stability in nature. They also serve as natural resources for people. We now need to ask three important questions:

1. Is there a link between the availability of, access to, and use of natural and other resources and food security?
2. What is your role as an HFS facilitator in helping households:
 - To find out what natural resources are available in their area?
 - To gain access to the resources that they need?
 - To help them use resources wisely so that they will enhance food security?
3. What are the constraints with regard to resources?

Reflect for a moment on these questions and write your thoughts in the space below.

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This unit consists of the following sections that take into consideration the questions listed above:

- 2.1 Linking availability, access and use of resources to food security
- 2.2 Finding out about resources; participatory methods
- 2.3 Constraints regarding resources

Specific outcomes and learning outcomes

The specific outcomes for this unit are to first of all **analyse resources** in terms of their contribution to food security and then to **assess the state of natural resources** with groups and individuals in an area.

The table below shows you the **learning outcomes** that you will notice are linked to the four sections which are addressed in this unit. They are also linked to the list of assessment activities for this unit. A time estimate is shown for the completion of each activity. This will help you to plan the use of your time. When you have completed the activities, write down the actual time you spent on them.

Learning outcomes	Assessment Activities	Actual time spent
	Workbook activities	
2.1 Linking availability, access and use of resources to food security 2.2 Finding out about resources; participatory methods 2.3 Constraints regarding resources	2.2 Find out about the resources of two villages (2h) 2.4 Draw a resource map of an area (2.5h) 2.6 Draw a transect walk diagram (2.5h) 2.8 The rapid transmission (spread) of HIV/AIDS (1h) 2.10 The inheritance rights of women (1h) 2.11 Gender-related use and control of resources (1h)	
	Assignment Assignment 1: Information for this assignment is contained in Tutorial Letter 101. (3h)	

Key Concepts

Resources

Access to resources

Control of resources

Ownership of resources

Gender

Intra-household dynamics

Macro-level factors

Complementary

Intervention

Technological environment

Socio-cultural environment

Natural environment

Beliefs, attitudes and values

Indigenous knowledge

Constraints

TB

Malaria

Protozoa

Route of transmission

Inheritance laws

Resource mapping

Transect walks

Ranking

Scoring

Physiology

Psychology



Start-up activity



Complete this activity in groups or on your own in this study guide

Do you remember the household of Dikgang whom you met in Module 1? The father has Grade 10, and the mother has few privileges in the household. Dikgang's father was arguing with other male members of the family. The argument was about whether women should have access to and own all resources in a household. What are your immediate thoughts on this issue?

As we have seen in Unit 1, when we think of this or any other issue, we need to think scientifically and look at the issue from different perspectives before coming to a conclusion. You now know how to use the adapted version of Edward De Bono's *Six Hat Thinking Strategy*. We used this adapted strategy in Unit 1 when we looked at an issue through different coloured lenses.

White lenses: White is the colour of paper. This lens means that a person would look at the facts (just as books represent facts).

Red lenses: Red is the colour of blood and the heart, and the red lens in a similar way represents emotion. What are my feelings (emotions) on the issue?

Yellow lenses: Yellow is a sunny and bright colour, and the yellow lens represents a view where one looks at the positive side of something. Think about the points in favour of the issue.

Purple lenses: Think critically about the issue, without allowing your emotions to dominate. What are the weaknesses in a issue? What are the problems associated with the issue?

Green lenses: Green is the colour of new growth in plants, and the green lens represents a creative look at things. Think creatively and suggest new solutions for the issue.

Blue lenses: Blue is the colour of the sky. The blue lens represents a big-picture view. Evaluate all the arguments and think about the bigger picture.

You will now use this adapted strategy for the second time, but this time for looking at a different issue.

What you must do

1. Work in groups and discuss the issue below to get your immediate thoughts.

Should women have access to and own all the resources of the household?

2. Each group now looks at the issue from the perspective represented by the:

- white lenses/hats
- red lenses/hats
- green lenses/hats
- yellow lenses/hats
- purple lenses/hats
- blue lenses/hats

3. Discuss each one and write the group's ideas on the flipchart.

4. Come to a final decision on where *you* stand on the issue and write this down in the space below.

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You will gain much better insight on this issue as you work through this unit and the other units in this module.

2.1 Linking availability, access and the use of resources to food security

In Module 1 you learned that food availability, food access, food utilisation and food stability form the basic dimensions of the food security framework that we developed there. Figure 2.1 below reminds you of this framework and shows it as a structure (like a table) with the first dimensions as the three pillars (legs of the table).

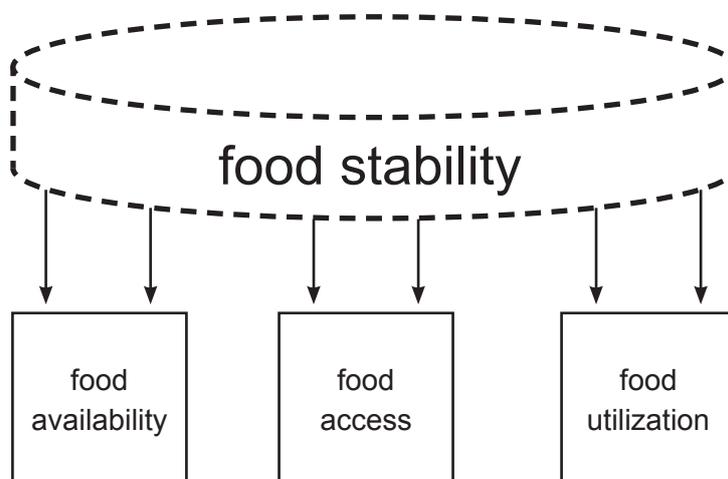


Figure 2.1 The dimensions of food security: necessary and complementary
Refer to Module 1 for definitions of food availability, access and utilization.



All three pillars in the framework shown in Figure 2.1 are necessary and none can sustain food security by itself. All three pillars must also act in a complementary way (be linked) to ensure stability. This means that any interventions that aim to strengthen any one pillar must also enhance or complement the other pillars. If this does not happen, food security will be compromised.

Let us consider the following example: A household increases its food production and income. However, this happens at the expense of taking proper care of the children in the household. The children’s food utilisation and health may therefore become at risk. The result will be that the children’s food security is compromised. (Source: Local capacity-building in Title II Food security Projects: a framework). The same is true for natural and other resources. The availability of, access to and sustainable use of resources need to complement each other to ensure stability and therefore enhance food security.

Although our focus in this module is on natural resources, you need to be reminded that the natural environment is but one component of the environment which influences what food people eat and therefore their food security.

2.1.1 The environment and food security

Why do the Sothos, who originally settled in the western parts of the country, and the Nguni’s, who settled in the eastern parts of the country, eat different food and follow different customs? To answer this question you first of all need to remember that both external environmental and internal environmental factors contribute to what people eat and therefore influence food security.

Activity 2.1 Environmental components that influence food security



Complete this activity on your own in this study guide

Look at the mind map below that gives you an overview of the components of the external and internal environment and answer the questions, that follow.

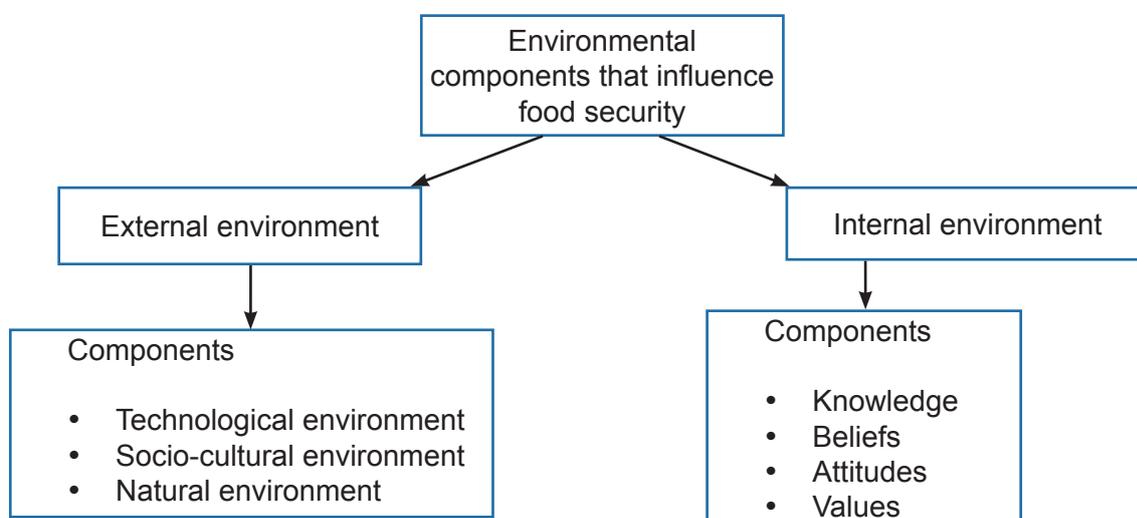


Figure 2.2 Components of the environment that influence food security

Questions

1. What aspects regarding food, do you consider form part of the technological, the socio-cultural and the natural environment?

The technological environment:

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The socio-cultural environment:

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The natural environment:

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2. What is your understanding of *knowledge, beliefs, attitudes and values* regarding the food people eat? How do these influence food security?

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3. Does any one of the components of the environment function on its own, or do all components influence each other with regard to what people eat? Give a reason for your answer.

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4. What is your role as an HFS facilitator in ensuring that all the components of the environment are taken care of?

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Comments on Activity 2.1

The technological environment includes aspects such as food processing, storage, and distribution, which will influence food availability.

The socio-cultural environment includes aspects of:

- *culture* which influences what people eat, especially during special events
- *economy* which will determine what types of food households can buy
- the *educational level* of the household members and its influence on food habits and;
- the *social organisations* within and outside the community and how they affect access to and use of natural resources.

Food processing, storage, and distribution, will be examined in detail in Module 6.

The natural environment in an area will determine whether there is availability of natural resources such as land, water, soil and biodiversity, which, in turn, will influence food production.

Knowledge, beliefs, attitudes and values are important internal environmental factors, which influence what people eat.

- *Knowledge*, for our purposes, refers to a person's range of information gained by experience. Every person has indigenous knowledge about food. People learn about food from other people. They learn about their natural and social environments and build a store of knowledge, which determines what they eat.
- *Beliefs* about food are closely associated with ideas about sickness, health, social and emotional feelings and a physiological state such as pregnancy or breastfeeding.
- *Attitudes* toward food, determine whether a person will like or dislike a certain food.
- A *value* is a permanent belief resulting in certain actions being preferred instead of others. The values of a person or group will usually be part of the value system of the society in which they live. Some foods might be valued because they provide prestige, security, and/or hospitality. These values often differ from culture to culture.

What is the difference between, physiology and psychology?

Physiology studies the functions of the body parts of living things, e.g your body parts such as your heart and kidneys.

Psychology studies the functions of the human mind especially those affecting behaviour .

What is your role as an HFS facilitator in ensuring that all the components of the environment are addressed?

All of the components of the environment, which we discussed above, influence each other. Therefore, when we examine the influence of the natural environment on food security, we cannot neglect the socio-cultural or the technological environments. When we work with households we thus need to consider the following factors:

- Households are different, in both composition and in socio-economic status.
- They may belong to different cultures, within a single community.
- The knowledge, beliefs, attitudes and values of household members.
- Which resources are available to them.
- Who has access to the resources.
- Who manages/uses the resources.
- Who controls the resources.
- Who benefits from the resources.

2.1.2 Availability of, access to and use of resources

Certain areas of South Africa such as where the Sothos settled, have a dry climate with little rainwater or other water available. There are specific wild plants, animals and other organisms adapted to live there. Other areas in our country, such as where the Ngunis settled, have a wetter climate with more rain and a large variety of wild plants, animals and other organisms adapted to live there. The natural environment in which people live needs to be considered when we look at the natural resources that are available to them. What natural and other resources are available in your area? You will have an opportunity to find out later in this unit when you use participatory tools specially meant for the purpose.

Thandi's neighbour has twin daughters. The twin daughters married men from two different villages. The one twin moved with her husband to Village A. The second twin moved with her husband to Village B. We will use the case study of the villages in which the two sisters live to help you explore the availability of, access to and use of resources in different areas.

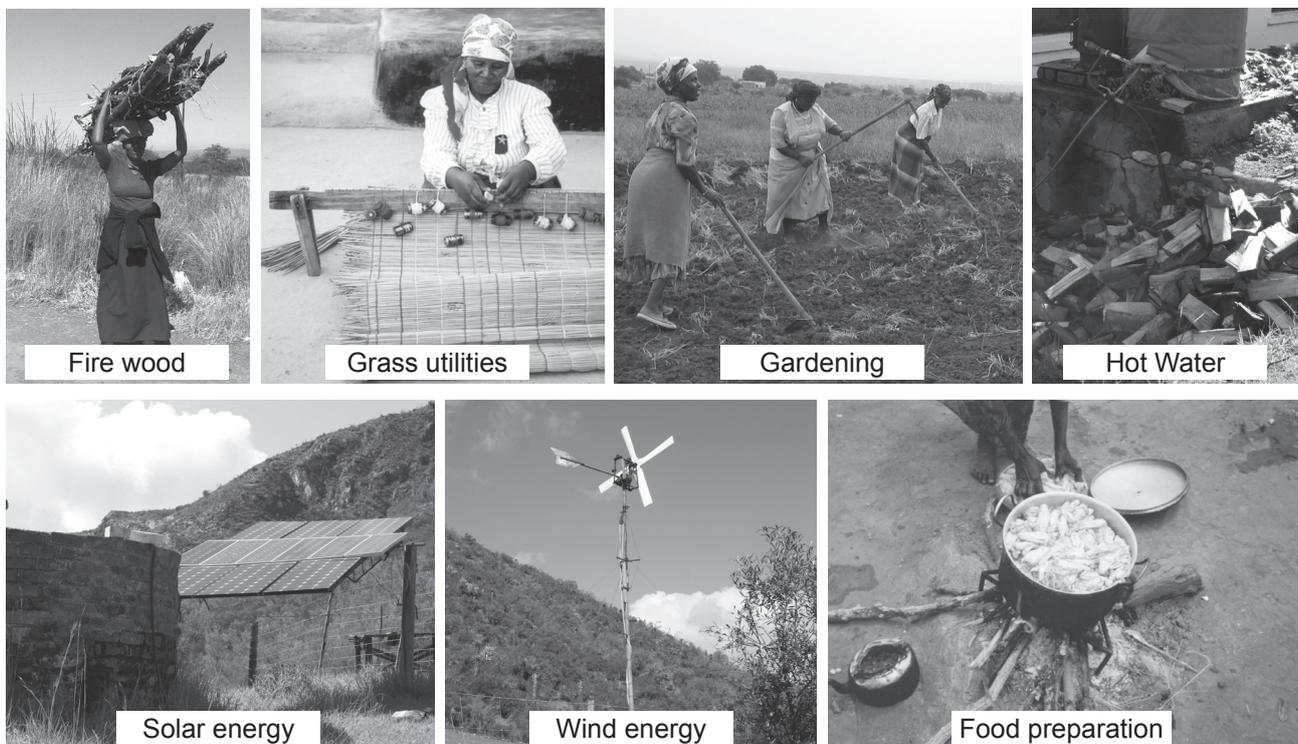


Figure 2.3 Different ways of using resources



Activity 2.2 Finding out about resources of two villages



Complete this activity on your own in your workbook

Aim: Assess and analyse the availability, access and utilisation of the natural and other resources of the two households in the different villages.

Time: Two hours

What you must do

1. Read the case studies below of Village A and Village B.



Village A

Overview

There is no headman or chief ruling the people, but the nearby municipality is responsible for the village in terms of issues such as land allocation for residential, business and project purposes. The village is partly peri-urban in the sense that a small number of households have homestead gardens in their yards.

Natural environment

The climate of the area is warm in summer and cold in winter. There is a good infrastructure and access to basic resources such as electricity and safe water, which is free. Most of the projects running in the village are funded and are successful. Some households have homestead gardens, which form part of a project. This is a way of producing food and the vegetables are sold to other people in the village. Households who participate in the homestead garden project are food-secure because they produce and sell the food and other products and get money to buy other necessities for the household.

Household activities

The household activities are the activities, which household members perform on a daily basis from the time they wake up until they go to bed in the evening. Most villagers are involved in project work during the day, from Monday to Friday. There are nine projects, which consist of the bakery, carpentry, dairy, sewing, poultry, egg and vegetable, brick-making, glass fitting and pillow making projects. In the evenings the women do the household chores, watch TV and socialise with their families.

Household food supply/acquisition

Most households buy their food from the local shops. Only a few households produce their vegetables in the yard. The food mostly purchased is maize meal, rice, flour, sugar, tea, meat (chicken) eggs, milk, vegetables (potatoes, cabbage, onions, tomatoes), tinned foods (fish, baked beans and spices). No indigenous wild fruit, vegetables or indigenous animals are used as a source of food.

Nutritional and indigenous knowledge (IK)

The primary caregivers (women), have little or no nutritional knowledge, and, in addition, have little indigenous knowledge about edible and non-edible plants in the environment. They prefer store-bought foods and do not consult with the older people who still have knowledge of indigenous foods.



Village B

Overview

One chief governs this rural village. External environmental factors play a very important role in the availability, production and distribution of food at the household level. Lack of access to the most important resources such as fuel (firewood) and water is a problem, which affects their food habits negatively. Without access to water, food production remains impossible. Many people are unemployed and depend on other household members to provide money to buy food. Lack of funds (sponsorship) prevents the development of gardening projects, which, in turn, delays development in the village.

The natural environment

The climate of the area is very warm and dry in summer and cold in winter. The villagers can only depend on rain, which has been scarce in the previous year. The people therefore use water from wells, but they are exposed to infection, because the well water is contaminated.

There is limited electricity in the village and firewood is still used as the main source of energy for preparing food. The women collect firewood in the bush (two hours there and back), but, since dry wood is scarce, they are using live branches from the trees or sometimes even cutting down the trees themselves. This is illegal and if the local authority catches them, they are fined.

Communal land around the village is used as grazing land for the animals. Only the households that have formed part of the village for a long time own a piece of land. The chief allocates land, but for newcomers there is no more land.



Household activities

The women face a number of specific constraints that prevent them from increasing their income. In order to prepare food they have to buy paraffin, gas or electricity or they have to steal wood. With the high unemployment rate their only hope for survival is the local forest, which is becoming more and more depleted. Apart from collecting water and firewood, the women are engaged in farming activities (seasonal) such as planting, harvesting and processing. The harvested crops are owned and controlled by their husbands.

Household food supply/acquisition

Basic food such as maize meal, sugar, tea, flour, potatoes and cabbage, is bought from the local shops and the nearest town. The women depend on money from their husbands and their mothers-in-law who are pensioners. Crops such as maize, sugar cane, cowpeas, njugo beans and pumpkin are planted. The food source is supplemented by indigenous foods, some of which are shown in Table 2.1 below.

Nutritional and indigenous knowledge (IK)

Although the women do not have nutritional knowledge, they have IK about edible wild foods. This IK was learned through socialising rather than from formal education. They depend heavily on wild foods, as resources are scarce. Foods prepared such as 'tshima' (sorghum), cow pea and njugo, which is a bean dish, are typical examples of foods, which form part of a balanced diet.

Table 2.1 Indigenous foods eaten by members of Village B

Foods	Sotho/Pedi name	Xhosa/Zulu name	English name
Vegetables	Lerotho Mokolonyane		African cabbage Black jack
Fruit	Mahlatswa Marula		Wild plums Marula
Wild animals	Mmutla Pela		Hare Rock dassie
Birds	Kgaka Mokowe		Guinea fowl Grey lourie

(Adapted from Masekoameng and Molotja, 2003)

2. Draw a table in your workbook, to compare the availability of, access to and utilisation of resources by the households of the two villages under discussion.
3. In your groups, discuss your findings and then individually write a summary of your findings.

Questions

1. Which village can be regarded as the most food-secure? Justify your answer.
2. What benefits are there in collecting indigenous foods from the natural environment?
3. What negative impact can the collection of firewood and indigenous foods have on the natural environment?
4. How can the negative impacts that you gave in Question 3 be reduced?
5. Assume that a major economic disaster strikes, that all the shops close down, and the transport is discontinued. Which of the two villages will be the most food-secure? Justify your answer.
6. Suggest long-term strategies to address the challenges faced by Village B.

Reflect

7. Reflect on your assessment and analysis of resources in the above activity and write down your answers to the following questions:
 - What worked well?
 - What did you find the most difficult?
 - What changes would you make to this activity in the future?
 - What have you learned from your experience?

2.2 Finding out about resources; participatory methods

In this section you will find out about a number of participatory methods and tools that can be used to assess the natural and other resources in an area. These are methods and tools that have been designed for use with groups of people to help them analyse their situations and come up with potential actions for change and improvement.

Initially your study group will practice using the participatory methods and tools among yourselves. Once you are thoroughly familiar with them they can be applied at the household and community levels. You can even use them as an individual to help you to understand people's situations.

We use the term **assess** to mean observing, describing and recording the present local situation. As an HFS facilitator you will use a variety of skills such as observing, listening, interviewing, discussing and reflecting, in order to get a clear picture of the current situation. To assess and analyse the issues and relationships within resources use (e.g. availability, access, utilisation), we will look at two participatory methods and tools that you could use with your households.

- Resource mapping and
- Transect walks

Why are these methods important to you? In Unit 4 you will have to work together with a few households to help them assess available resources in their area, analyse their use of resources and come up with workable solutions to improve their use of natural resources.



2.2.1 Resources mapping

We examined the general principles of mapping in Module 2. Now you have an opportunity to apply it to resources by drawing a resource map. Resources might be available in a community, but they may not be accessible to households for reasons such as cultural taboo or ownership.

What is a resource map? A resource map is simply a drawing of the area, which can be used for different purposes. Resource maps can be used to achieve the following:

- To obtain a clear picture of the **physical features** of the area (hills, rivers, wetlands, roads and erosion.)
- To indicate the **natural resources** that are present (forests, grasslands, grazing areas, fields, land-use, types of crops planted, areas under cultivation and irrigation).
- To indicate problems in land-use and resource availability, or access of different groups to different resources.
- To compare the same area at different times. This is called a **historical resource map**.
- To show where actions can be taken to improve the situation. In this case the resource map can be used as a **planning tool**.

The following example shows a resource map of Nthunzi in KwaZulu-Natal.

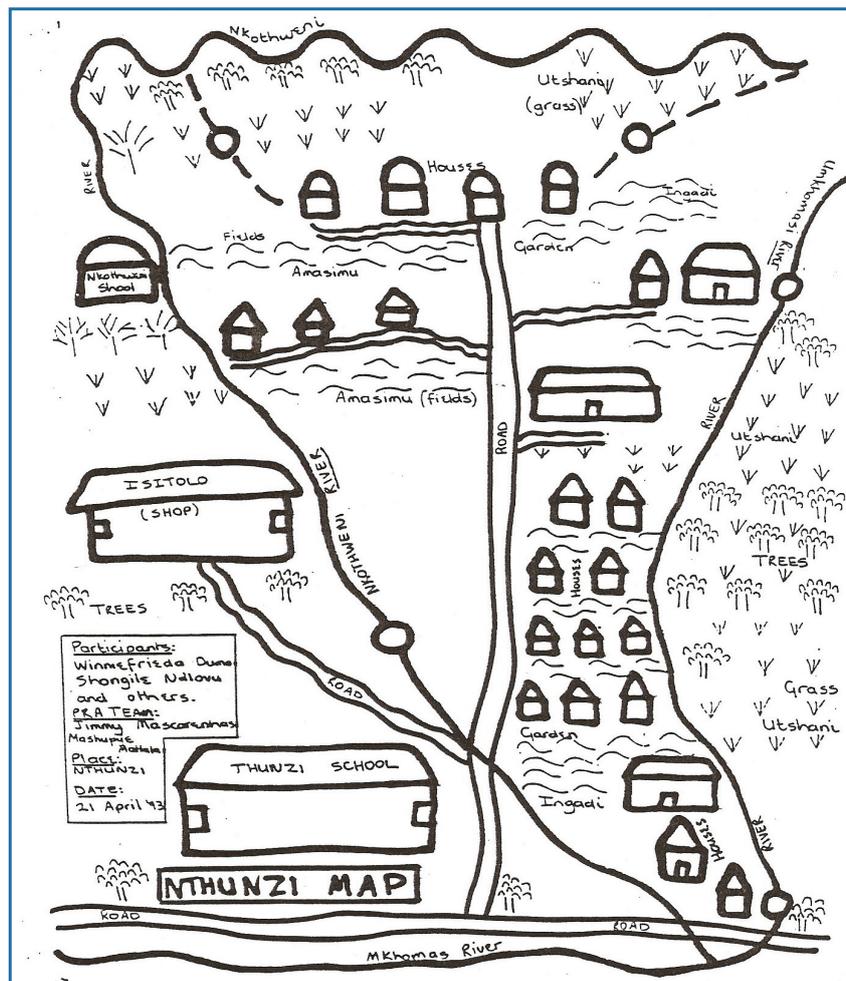


Figure 2.4 Resources map drawn in Nthunzi
(Adapted from Cousins & Kruger, 1993)

Activity 2.3 Read a resources map



Complete this activity on your own in this study guide

Examine the Nthunzi map to find answers to the following questions.

Questions

1. From how many rivers can the community draw water?

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2. Which natural resources are present in the community?

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3. What physical features are shown on the map?

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4. What do you think was the purpose of drawing this resources map?

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Comments on Activity 2.3

Making a resources map can help people in an area gain a clear picture of the physical features and resources that they consider important. Maps drawn by local people can show their perspective and reveal much about local knowledge of resources and their use of the land, settlement patterns and who controls and makes decisions about the use of resources. The primary concern is not to draw an accurate map but to get useful information about local perceptions of the natural resources.

Drawing the map is only the beginning of the process of finding out about availability and present use of resources. The map is a tool that can be used to stimulate discussion. It is when members of a household or community discuss the issue that real learning takes place that can lead to improved use of resources.

By completing the next activity, you will be practising making a resource map of an area which you know well. This is a group activity.



Activity 2.4 Draw a resources map of your area



Complete this activity in groups or on your own in your workbook

Aim:

Practising in a group of three to five people how to make a resources map that focuses on specific features and issues.

Time: 2.5 hours

What you must do

Here are suggestions to guide you.

A. Plan

1. Decide on a suitable place where you can make your resources map. It can be one of the group member's home villages or an area that all the group members know.
2. Discuss in your group why you want to draw this map. What is its purpose? **Choose two or three features and issues** that you will show on your resources map. If you try showing too many features and issues, it will become confusing. Look at this list for ideas:
 - Physical features: hills, valleys, large rocks, erosion
 - Types of natural vegetation such as grassland, bushes, trees
 - Cultivated areas and agricultural lands showing cropping and crop types
 - Land-use such as gardens, fields, grazing areas, forests
 - Rivers and water points
 - You can also include the village infrastructure such as the boundary, roads, houses, schools, markets, clinics, churches, special places such as sacred sites.
3. Draw up a list of questions to which you want to find answers. Here is a list to give you an idea:
 - What resources are plentiful?
 - What resources are scarce?
 - Where do people go to collect water and who collects it?
 - Where do people go to collect firewood and who collects it?
 - Do people have vegetable gardens and who looks after their gardens?
 - Do people have livestock and who looks after them?
 - What kind of livestock is there?
 - Where do the livestock go to graze?
 - Which resource do people have most problems with?
 - What are these problems?
 - Why are there these problems?
 - What is the community doing to solve these problems?
 - What are households doing to solve these problems?

B. Do

4. Take a walk through the area and make notes of the features and resource issues that you want to investigate. Also note the resources important to your household?
5. As a group, you can make a drawing of the map on the ground first. Mapping on the ground has a number of benefits:
 - It is easily visible to the group.
 - It encourages a lot of discussion.
 - It allows for a lot of detail.
 - It can be changed or corrected easily.
 - You can add to it as the space on the ground is not limited.

Of course the big disadvantage is that you cannot take your map away. If you want to keep a copy you have to copy it onto paper. If you have access to a camera, you can of course take a photograph of the map on the ground. The diagram below shows a group creating a resources map on the ground and it gives an idea of what it looks like on paper.

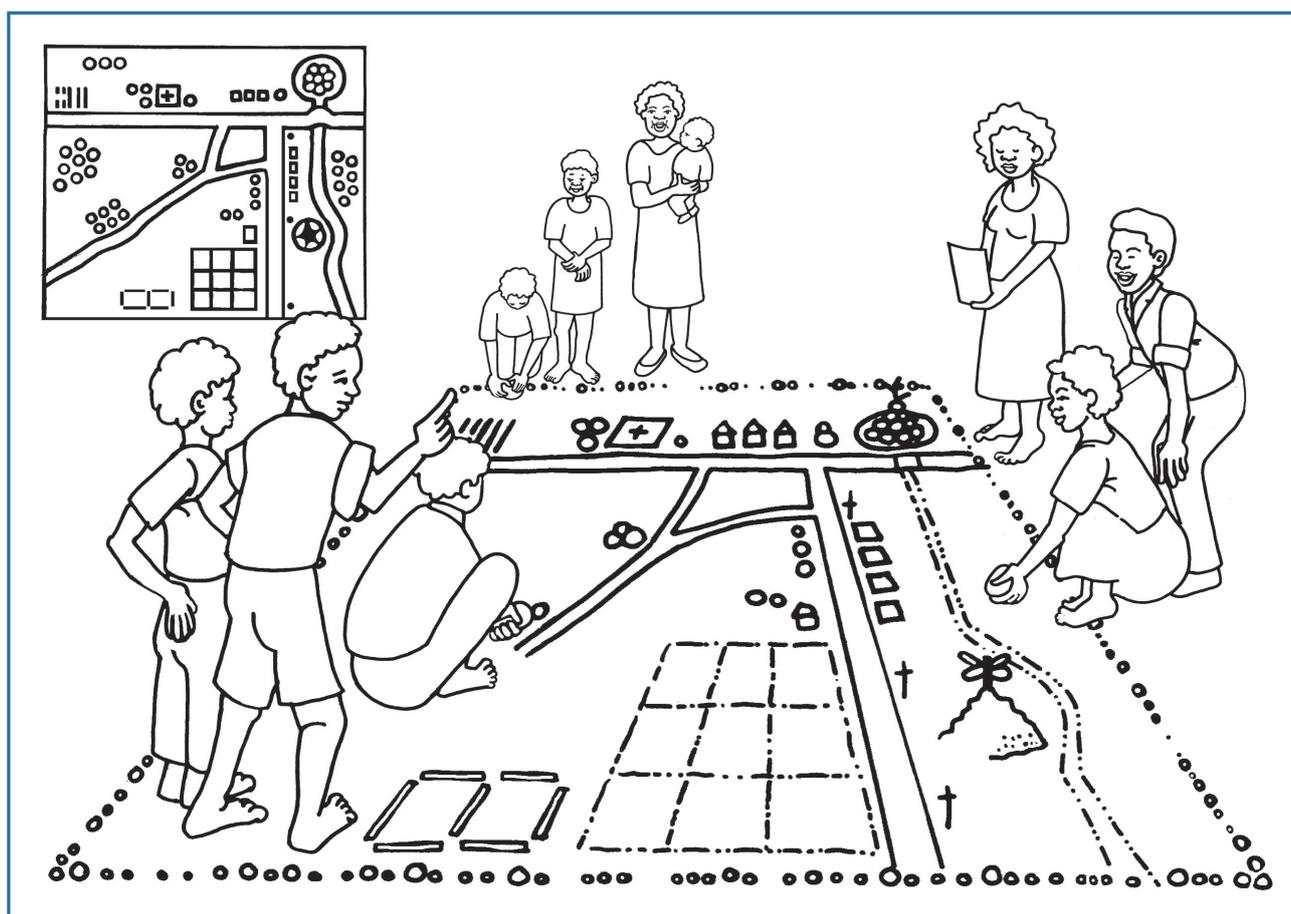


Figure 2.5 A group creating a resources map on the ground

6. Draw your map on paper. You can use colours to show different features.
7. The map is a tool, which should lead to a discussion about resources. When the map is completed, discuss in your group what you have observed about the present availability and use of resources in the area. Use the set of questions you formulated to guide the discussion.



C. Reflect

8. Reflect on your resources mapping activity and write answers to the following questions:
- What worked well?
 - What did you find the most difficult?
 - What changes would you make to a resources mapping activity in future?
 - What have you learned from your experience?
 - What can your households do to use resources better?

Comments on Activity 2.4

The resources map is a good tool to begin a process with because it is an easy exercise that initiates dialogue among the community members and the facilitation team members. A large open space should be found and the ground cleared. It is easiest to start by placing a rock or leaf to represent a central and important landmark. Participants are then asked to draw other things on the map that are important in the village.

Participants should not be interrupted unless they stop drawing, in which case questions can be asked such as whether there is anything else of importance that should be added.

Finally, the facilitator may want to ask participants to indicate some things that they would like to see in their village that are not currently on the map – in other words to draw a picture of what they would like the future to look like. This allows for some initial planning ideas and encourages people to begin contributing their thoughts at an early stage in the participatory process.

2.2.2 Transect walks

A very useful participatory method for collecting information about an area is to take a transect walk. As you are aware from the information that was provided in Module 2, a transect walk consists of walking through an area and paying attention to specific environmental features, resources and human activities, as well as issues such as water scarcity, soil erosion or any other problem.

Transect walks are sometimes referred to as *observational walks*, because they give the people who participate in them an opportunity to observe, discuss and identify issues of concern to the community. The word *transect*, means a straight line that cuts across a piece of land or area.

Transect walks may be taken in a straight line using the compass points, e.g. north, south, east or west; whichever is the most suitable. Walks can also meander and follow a particular feature in the landscape such as dongas, trees, and water points.

Here is an example drawing or diagram of a transect walk in an area called Tsupaneng in KwaZulu-Natal.

The transect walk for household food security should include the homestead area(s) of the households and features that influence their homestead area and natural resources use.

See Module 2.

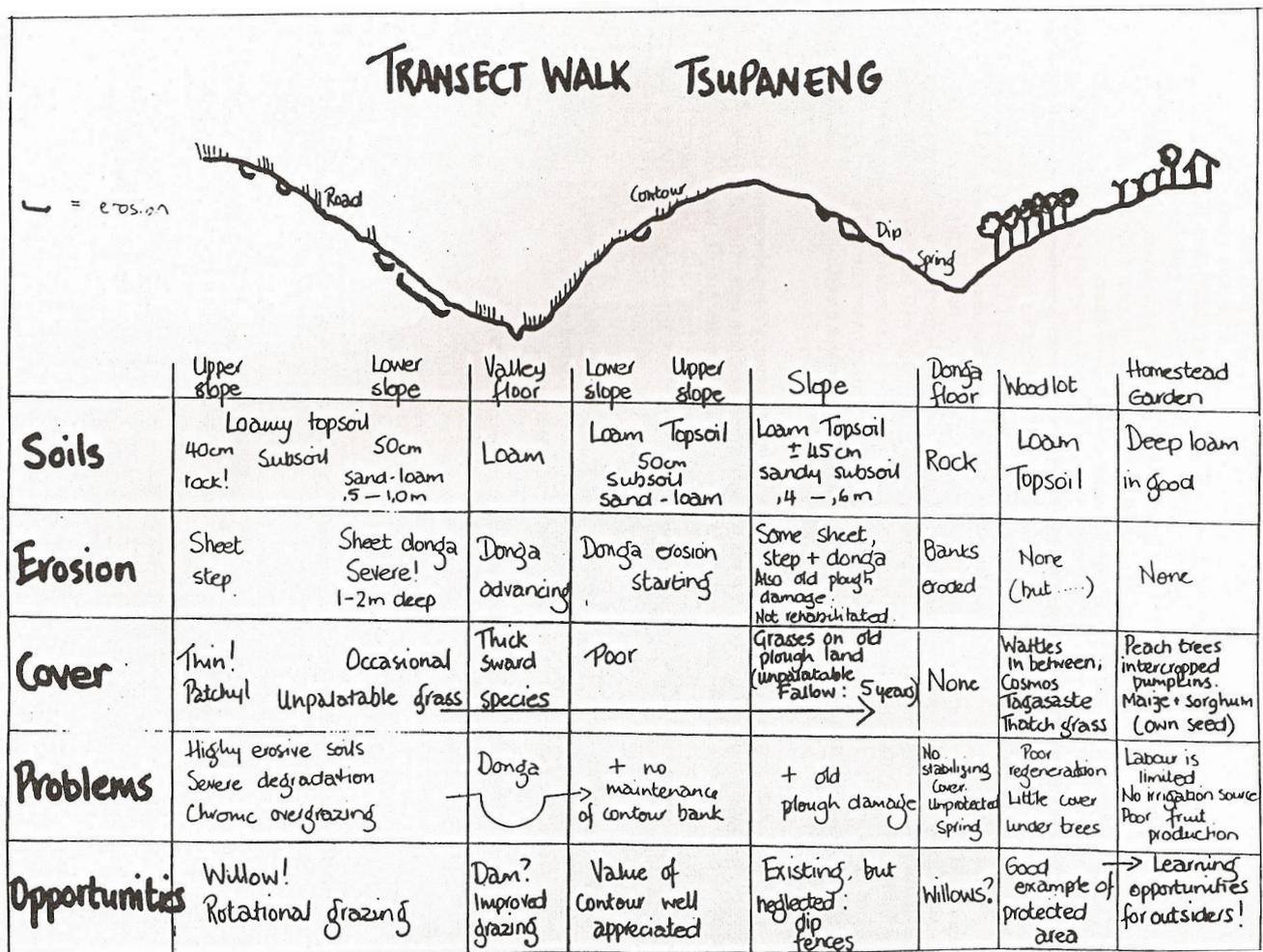


Figure 2.6 An example diagram of a transect walk in Tsupaneng KwaZulu-Natal
(Adapted from Cousins and Kruger, 1993)

Activity 2.5 Read a transect diagram



Complete this activity on your own in this study guide

Examine the Tsupaneng transect diagram to find answers to the following questions.

Questions

1. What kind of soil did the group find in the valley floor, the donga floor and the homestead garden?
2. What kind of trees and plants can be found in the woodland?
3. What crops are grown in the homestead garden?
4. What are the problems occurring on the upper and lower slopes?
5. What suggestions did the group have for the valley floor that is currently a donga?
6. What features and issues did the group focus on in their transect walk?
7. Did you have any problems answering the above questions? Elaborate.

Purpose of transect walks

Before a transect walk is undertaken you have to be clear about the information you want to gather. The group in Tsupaneng, for example, decided to focus on observing and recording soils and soil erosion, which was a big problem in their area. They therefore recorded the natural vegetation and cultivated plants that are growing there. In any transect walk people discuss problems, opportunities and possible solutions and then they record these in their diagram.

Transect walks can be useful for the following reasons:

- They can identify issues related to land, such as land use, crops cultivated, local cultivation patterns, local technology used for irrigation, water/plant/soil conservation, erosion, soil types, local vegetation, use of wild plants, resources in disrepair, and dip tanks.
- They can identify issues related to other resources/facilities, such as the condition of the roads, problems and opportunities relating to water points, plotting water gravity systems.
- In a village or homestead area, they can encourage the discussion of land drainage, sanitation, use of the back yard space, the location of taps, household chores, the state of the dwellings (houses), and interactions between them.

You can use transect walks at any point during an intervention or project cycle:

- as an assessment to establish what the present situation is.
- as a planning device to identify what needs to be done to improve things.
- as a means of monitoring and evaluating resources management, and
- as a development tool to check how successful a project has been.

Activity 2.6 Draw a transect walk diagram



Complete this activity in groups or on your own in your workbook

Aim: Practise in a group of three to five people how to do a transect walk and finalise a transect diagram that focuses on specific features and issues.

Time: 2.5 hours

What you must do

Here are suggestions to guide you.

A. Plan

1. Decide on a suitable place where you can do your transect walk. It can be one of the group member's home villages or an area that all the group members know.
2. Discuss the purpose of the transect walk in your group and decide upon what information you want to gather. Choose two or three features and issues that you want to explore. Look at this list given below for ideas:
 - Land use: crops cultivated, local cultivation patterns, local technology used for irrigation,

water/plant/soil conservation, erosion, soil types, local vegetation, use of wild plants, resources in disrepair or are no longer in use such as dip tanks.

- Resources or facilities: state of roads, problems and opportunities with water points or plotting a gravity water system.
- Village or homestead areas: drainage and sanitation, use of back yard space, location of taps, household chores, state of dwellings and interactions between different groupings.

3. Write a list of questions to which you want to find answers.

B. Do

4. Take a walk across the area in a straight line and make notes on relevant features that you observe. The idea is to stop at regular intervals, say every 500 meters, or every 10 minutes, or whenever a particularly interesting feature is observed. Use the opportunity to get clarity about the issues and discuss the problems and opportunities.
5. After the walk, share the notes you have made with the rest of the group and refine your ideas on the problems for household food security and possible solutions.
6. Involve everyone in the group to help make a transect walk diagram. During this time you will continue to discuss the issues and sharpen your ideas. Check the final diagram. Does it reflect adequately what you have observed?

C. Reflect

7. Reflect on the transect walk and the making of the diagram.
 - What worked well?
 - What did you find the most difficult?
 - What changes would you make to a transect walk activity in future?
 - What have you learned from your experience?

2.2.3 Ranking and scoring

We examined the participatory methods and tools of *ranking* and *scoring* in Module 2. However, you need to keep these methods in mind and refer to them when you work with your households. It is important to know which resources are used most and which are scarce.

2.3 Constraints regarding resources

The resources map and transect walk which you carried out in the community have made you aware that there are many constraints regarding access to, control over and the use and management of resources. These constraints affect the livelihoods of individuals, households and communities. Some constraints are difficult to address by households or by the HFS facilitator. Other constraints can be overcome more easily as you will find out when you work through the next section.

Examples of factors that cause constraints include macro-level policies, HIV/AIDS and other chronic diseases, as well as gender-linked constraints. Let us examine each of these in more detail.



2.3.1 Macro-level constraints

Policies, laws, regulations, decisions on **pandemics** (major epidemics such as HIV/AIDS and cholera) and the management of resources such as land, water and the natural environment are made on a macro-level and can cause constraints to food security. The individual, the household and even the HFS facilitator, have little control over these decisions. Refer to Module 1.

So what role can you, as a facilitator, play? Your role is that of a front-line worker who can observe first-hand the effects of macro-economic and other policies on households' management of resources. Whenever possible you need to share your knowledge with higher management advising them on the safety nets required and on groups that are at particular risk of food insecurity.

2.3.2 Diseases and resources

Many of us know of households where the bread winners suffer from serious diseases that impact on the ability of these people to work and their ability to use natural resources effectively and efficiently. These problems affect the food security of such households. HIV/AIDS, malaria and tuberculosis (TB) are three of the major public health challenges facing the world today that impact on food security. While TB is common among adults, it is more serious in children and the youth. Children and unborn babies are very vulnerable to malaria. Early recognition and treatment increase the possibility of recovery without permanent damage. HIV/AIDS, presents its own challenges.

Activity 2.7 Interpret information on major diseases



Complete this activity on your own in this study guide

Look at Table 2.2 which shows statistics on three major global diseases that influence the sustainable use of resources and then answer the questions that follow.

Table 2.2 Major diseases of the world

	Tuberculosis (TB)	Malaria	HIV/AIDS
What causes the disease	The TB bacterium	The malaria protozoan parasite	The HI-virus
Main route of transmission	Air, (cough, sneeze and spit) by people with TB bacterium in their body	Bites of a mosquito with the malaria parasite in its body	Unprotected sexual intercourse (80%)
Vaccine	Yes	No	No
Cure	Yes	Yes	No
Globally infected	2 billion	300 million	42 million

(Adapted from FAO/WHO. 2002)

Questions

1. Which disease has infected the largest number of people?

.....

2. What does *route of transmission* mean?

.....

3. Is malaria caused by a mosquito? Give a reason for your answer.

.....

.....

3. Reflect on the impact of HIV/AIDS and other major diseases on the macro and meso levels.

.....

.....

4. Reflect on the impact of HIV/AIDS and other major diseases on the household and its ability to use resources..

.....

.....

5. In your groups discuss cultural practices with regard to HIV/AIDS. Write down one of these practices that you do NOT agree with, and one that you DO agree with, in the space provided below.

.....

.....

.....

6. Discuss the link between major diseases and food security and write your response in the space below.

.....

.....

Commenting on Activity 2.7

Route of transmission means how the disease is spread from one person to the next or from one organism to the next. Chronic diseases have a great impact on all levels of society. On a macro level they cause a reduction in the labour force and a slowing of economic growth. Rural livelihoods often depend on managing resources such as livestock, smallholder agriculture, fishing and/or forestry and HIV/AIDS and other diseases affect production among the labour force and the staff of institutions and support services especially in the rural areas.



At the household level, HIV/AIDS and other diseases have a great impact on households and how they manage their resources and can cause:

- the loss of on- and off farm labour, leading to loss of productivity
- a decline in household income, and loss of assets, savings and remittances
- an increase in household expenditure (medical treatment, transport)
- the loss of indigenous farming knowledge and specialised skills, practices and customs.
- an increase in the number of dependents who rely on a smaller number of productive family members and a few scarce resources.

Cultural practices and HIV/AIDS

‘Dry sex’ in which the vagina is not lubricated, is desirable in some cultures. However, dryness increases the risk of bleeding during intercourse, leading to increased risk of HIV transmission

So what do you as a facilitator have to do with HIV/AIDS and other chronic diseases?

Your role is first and foremost to listen to the affected men, women and youth, to assess their needs, such as the need for a balanced diet, safe water and appropriate care. Then decide who you can contact for help. You also need to create awareness and provide information on preventing and managing the diseases. The medical aspects should be left to people with expert knowledge in the field.

All of us are aware of the serious threat of HIV/AIDS. The following activity demonstrates just how rapidly HIV/AIDS spreads.



AIDS = Acquired Immune Deficiency Syndrome, caused by the Human Immuno-deficiency virus (HIV), which attacks the immune system. People die of AIDS and therefore we refer to their offspring as AIDS orphans.

Activity 2.8 The rapid transmission (spread) of HIV/AIDS



Complete this activity on your own in this study guide

Aim: Gain an understanding of the rapid transmission of HIV by doing an experiment

Time: 1 hour

What you need

A base solution such as NaOH, Ca(OH)₂ or KOH; phenolphthalein; test tubes or small glass bottles, water and a little milk.

What you must do

Part A

Read the following information and answer the questions that follow.

The AIDS crisis in Africa

It is estimated that 84% of the world's deaths from HIV/AIDS have been in Africa. Some 90% of HIV-positive babies born are born in Africa. In 1999, the number of new cases of HIV infection in Africa was 300% higher than in the next worst area (Southeast Asia). More than 14 million Africans have already died of HIV/AIDS.

An ever-growing number of children are becoming AIDS orphans. These are children whose parents have died of HIV/AIDS and who have no one to care for them. One of their more serious problems therefore, is food insecurity. According to a former UN Secretary-General, Kofi Annan: 'By overwhelming the continent's health and social services, and by creating millions of orphans, AIDS is causing social and economic crises which, in turn, threaten political stability.'

Questions

1. In groups discuss what can be done to reduce the spread of HIV/AIDS in South Africa.
2. What can be done to help AIDS orphans?
3. Why do we talk of AIDS orphans and not of HIV orphans?

Part B

During the contact session you will be given a small bottle or test tube filled with a solution. As you know, HIV is transmitted through the exchange of body fluids. The liquid in the test tubes or glass bottles **represents** body fluid.

1. Choose four people in your class with whom you are going to share your 'body fluid'. Go to the first person and pour your liquid into his or her test tube or bottle.
2. Shake this liquid in the test tube or bottle of the other person (to mix it), and pour half of it back into your test tube or bottle.
3. Do another three such 'exchanges'.
4. Your tutor will now put a few drops of phenolphthalein in your test tube or beaker. Phenolphthalein is an indicator that colours a base solution pink. All people with pink test tubes or bottles will be considered 'HIV-positive'.

Questions

1. How many learners were 'HIV positive' at the start of this activity?
2. How many learners were 'HIV positive' after exchanging 'body fluids'?
3. Write the increase in the number of people 'infected' with HIV as a percentage.
4. What did you learn from this activity?



Comments on Activity 2.8

An interesting way to discuss the sensitive topic of HIV/AIDS in your groups is to use De Bono's *Six Thinking Hats Strategy*. The table below gives you examples of what you can do.

Table 2.3 De Bono's hat strategy to look at the issue of HIV/AIDS

<p>White lenses/hat (facts, questions)</p> <ul style="list-style-type: none"> Brainstorm high-risk activities (multiple sexual partners, drug users sharing needles, etc.) Research statistics: How many people in South Africa/my province/our city/community are HIV-positive? What is being done to help people who suffer from HIV/AIDS? 	<p>Red lenses/hat (feelings, intuitions)</p> <ul style="list-style-type: none"> Feelings of anger because many people (maybe close relatives or friends) suffer from HIV/AIDS, sometimes because of unfortunate circumstances such as rape. Feelings of frustration because government is not seen to be doing enough to help people who are HIV-positive. Feelings of guilt: I may be part of the problem and not the solution. I might be HIV-positive, but I am still sexually active.
<p>Yellow lenses/hat (positive, why it will work)</p> <ul style="list-style-type: none"> Greater focus on educational programmes to advise people about HIV/AIDS. Assisting people with HIV/AIDS (and their families) to cope with their status. 	<p>Purple lenses/hat (caution, weak points)</p> <ul style="list-style-type: none"> The pandemic poses a serious threat to society and therefore to food security. We are losing many skilled people, and many children become orphans because both parents have died. Children become food-insecure.
<p>Green hat/lenses (creative, alternatives)</p> <ul style="list-style-type: none"> People should be educated to avoid high-risk activities. Anti-retroviral medicines could be made available to all HIV/AIDS patients. 	<p>Blue hat/lenses (overview, holistic)</p> <ul style="list-style-type: none"> Everyone has the responsibility to practise safe sex. We should support people with HIV/AIDS. It is our problem.

2.3.3 Resources and gender-linked constraints

Have you ever had to fill out a form where they ask what sex you are? The word *sex* in that regard is incorrect and they should ask what your **gender** is. *Gender* therefore refers to whether a person is male (man) or female(woman). *Gender roles* refer to the socially constructed roles of, men and women. For example, in certain parts of the world women collect only non-wood products such as herbs, mushrooms and medicinal plants, while the men collect firewood. In other parts of the world men and women

Gender relations are women's roles in relation to those of men (and vice versa), rather than women's or men's roles separately considered.

both harvest all these products.

When we zoom in on the role of women in rural households we see that they play a triple role: reproductive, social and productive.

- **The reproductive role**, performed almost exclusively by women, includes child bearing and rearing, household maintenance such as cooking, fetching water and wood for fuel.
- **The social role** or community building is mostly dominated by women and includes arranging funerals, weddings and social events.
- **The productive role**, performed by both women and men, focuses on economic activities.

Why is it important to look in particular at the role of women? If we take into consideration the major roles women perform in households and communities and we want to enhance food and nutrition security in households, then the active engagement of women is absolutely necessary. To make this happen we need to understand who uses and controls the different resources.



Access to resources and services varies greatly among different household members and socio-economic groups. Women, youth and the landless are often at a disadvantage in terms of access to both resources and services. Constraints can therefore be gender-linked and decreased productivity is often the result of gender-linked differences in access to resources.

Activity 2.9 Gender-related use and control of resources



Complete this activity on your own in this study guide

At a household resource management workshop held in Namibia in November 1998, participants from various countries in Southern Africa came up with the information shown in the table below. It shows general **consensus** regarding the roles of men and women in terms of ownership, control, use, management and access to resources in rural areas.

Key

M= men

W= women



Table 2.4 Gender-related access to and control over resources

Resources	Owned by	Controlled by	Used by	Monitored by	Accessed by
Land	M	M	W/M	M	M/W
House	M	M/W	M/W	W	M/W
Water		W	M/W	W	W/M
Wood for fuel	W	W	M/W	W	W
Livestock	M	M	M/W	M	M/W
Finances	M	M	M/W	M	M/W
Labour	M/W	M	M/W	W/W	M/W

Discuss the information in the table in your groups and individually answer the following questions:

Questions

1. According to the table above, are more resources owned by men or women?

.....

2. Who controls most of the resources?

.....

3. At the household level, who do you think should have more say over resources? Give a reason for your answer.

.....

.....

4. Should the government play a role in deciding on gender-related access to resources? Give a reason for your answer.

.....

5. If the information in the table above were for an urban (city) or peri-urban (outskirts of the city) area, how would the management of the resources differ for men and women?

.....

.....

6. Discuss and give one example of gender-linked issues concerned with HIV/AIDS

.....

.....

.....

.....



"We as women and girls are often unable to negotiate safer sex with our partners. We often take on the role as care-takers of AIDS patients and orphans, which reduces our time to perform other tasks."

Comments on Activity 2.9

Your group may have different ideas as to who should manage resources on a household level. However, we cannot address the issue only from our own point of view. We need to look at it from a more scientific perspective. For example when we look at the access to, and management of water and land and inheritance rights, we find the following:

Water: In many parts of the world, women and girls assume much of the responsibility for carrying water for household use. The lack of water often limits production, and the dry season increases the time women spend on collecting water, especially when it has to be carried long distances. There can be conflicting demands for water within villages and households. For example, there may be a situation where water is needed for both household gardens and the irrigation of larger fields.

Many villages have water users' committees, which are responsible for managing water. The committees should have representatives from different levels and gender in the community, and try to agree on compromises over water needs. The importance of women's water needs compared with those of other activities requiring the same water supply, should be taken into consideration when decisions are made. There should be structures in place to ensure that water resources are not mainly for the benefit of only certain groups of people.

Land: Access to land is a highly sensitive issue, politically, religiously, legally and culturally. The poor in a community typically do not own land but can use it. In many countries, women have less access to and control over land than men. In some cases, legislation says women have a basic right to land, but customary laws and practices continue to prevent woman from exercising that right. In other cases, legislation has undermined women's access to land (FAO, 1998). Women's access is often limited to household and personal crop use through a male family member, and their landholdings are typically smaller than that of men.

Weak inheritance rights: People with weak inheritance rights are particularly disadvantaged if they lose a spouse (for example through death or divorce). Many households affected by HIV/AIDS have had their homes, land and other assets taken from them following the death of the household head. This worsens the situation of poor households, as you can see in the following case study.



Activity 2.10 The inheritance rights of women



Complete this activity in groups or on your own in your workbook

Aim: Identify constraints to and opportunities for better management of household resources.

Time: 1 hour

What you must do

1. Divide into small groups of three to four people.
2. Read the case study below and discuss the questions that follow in your group.
3. Each person then answers the questions in the workbook.



The Kantono case study

Kantono was a prosperous farmer in Naboa village, Pallisa, Uganda. He owned large tracts of land on which he grew a variety of crops and kept hundreds of cattle, sheep and goats. He had a large family to support, most of whom were relatives that could not maintain themselves. The family however, provided the labour that his farm required.

In 1998, Kantono's health started deteriorating seriously. He was sickly, very weak and could no longer supervise work on his farm. His relatives blamed it all on his wife Balike, whom they accused of bewitching him to steal their clan's wealth. Despite all the pressure imposed on her by her husband's relatives, Balike remained committed to her 30-year old marriage, which had yielded thirteen children and seven grandchildren.

After some persuasion, Kantono agreed to visit Pallisa Hospital where he was diagnosed with HIV, the virus that causes AIDS, locally known as O'silimu. He calmly accepted his fate but his relatives still blamed Balike for being a Malaya (prostitute) who had brought the disease into the home. Kantono's health worsened and everything in the once well-to-do home, fell to ruin. The crop harvest declined and disaster loomed around the home.

Kantono died at the beginning of 2000 and no sooner had his body been lowered into the ground than his relatives, who had come from various parts of Pallisa, started wrangling over the property he had left behind. Balinke watched the scenes as they unfolded until after Kantono had been buried.

The Kantono case study, including questions for discussion, is reproduced with the permission of Household Agriculture Support Programme (HASP), Uganda (HASP, 2002).

Questions

1. What is the Kantono case study all about?
2. What factors may explain the decline in farm productivity in this case-study?
3. Why do you think Balike was treated in this manner by Kantono's relatives?
4. What can be predicted for the future of the following people and property after Kantono's death:
 - a) Balike?
 - b) Kantono's thirteen children?
 - c) Kantono's farm?
5. What lessons can we learn from this case-study?

Comments on Activity 2.10

You know that a real-life situation as presented in a case study, is a useful way to develop skills, discuss issues or find solutions to specific problems. For example, case study exercises can help to identify constraints to and opportunities for better management of household resources.

The Kantono case study gives people the opportunity to discuss and understand the socio-cultural and economic effects of HIV/AIDS on some of the most vulnerable members of rural households (women and children in particular). People are usually very touched by the Kantono story; many male participants have reacted by saying that they were going to call a family meeting to tell all their relatives what they wanted their wives to inherit in the event of their deaths – in other words, the men wanted to make sure that their wives inherited their land and houses. The following table gives you an overview of common constraints faced by women.

Table 2.5 Common constraints faced by women in relation to financial services and income generation activities

CONSTRAINTS	At the individual and household level	At the intermediary level	At the national level
Economic	<ul style="list-style-type: none"> • Tend to work in the invisible sectors: casual work, piecework, seasonal work, home-based work 	<ul style="list-style-type: none"> • May lack access to banks/financial services in their own right 	<ul style="list-style-type: none"> • Lack of access to markets if mobility is constrained • Perception of men as controllers of money/loans
Political	<ul style="list-style-type: none"> • Lack confidence to claim political and legal rights • Lack leadership and lobbying skills • Tend to have a weak bargaining position and to be isolated and less organised 	<ul style="list-style-type: none"> • Women and men do not equally share power and authority in institutions • The overall banking environment is hostile towards women 	<ul style="list-style-type: none"> • May have no legal rights to household assets, hence cannot use these as collateral • Lack political positions to establish/ influence appropriate laws • Lack legal rights to land, both traditional and formal



Institutional	<ul style="list-style-type: none"> • Apart from access to credit, lack facilities for training, and counselling on what to do with credit • Often lack accounting and managerial skills, and have limited time for business development training 	<ul style="list-style-type: none"> • Many technically competent implementing agencies have little or no experience of operating sustainable savings and credit programmes (are more used to dispersing grants) and lack business development skills 	<ul style="list-style-type: none"> • National institutional procedures may entail bureaucratic delays for loan approval
Environmental	<ul style="list-style-type: none"> • Natural resources depletion and water scarcities mean women have to travel further to get water or fuel, hence they have less time for income-generating activities 	<ul style="list-style-type: none"> • Governments are beginning to realize that it is impossible to separate development from environmental issues. Because of this interdependence, natural resource management is forming part of the economic decision-making 	
Socio-cultural	<ul style="list-style-type: none"> • Mobility constrained by social norms • Have low self-esteem and may have difficulties valuing own work • Have to balance multiple roles as mothers, economic producers and community workers • View bankers as powerful and important • The language of commerce can be confusing • May not want to take risks • May be too modest and not good at marketing their abilities 	<ul style="list-style-type: none"> • Banks and financial institutions do not view women as a potential market, women's entrepreneurial activities considered as hobbies • Advertisement about sources of credit and application procedures might not reach women 	<ul style="list-style-type: none"> • Women's issues and constraints not viewed as a priority at the national policy level
Demographic	<ul style="list-style-type: none"> • Take greater responsibility for raising children 	<ul style="list-style-type: none"> • Not enough banks per capita, not enough banks in remote or poor areas, so women have to travel to reach banks 	<ul style="list-style-type: none"> • Large rural to urban migration, hence fewer people to serve in rural areas; policy-makers do not think rural areas require financial services

(Source: Murray and Boros, 2002)

Something to do

Reflect on how you, as a facilitator, will help address the constraints on the individual and household level.

What is your role as a facilitator in identifying and addressing gender-linked constraints?

As an HFS facilitator you will need a good understanding of the roles and responsibilities of both men and women and of the issues surrounding their access to and control over resources. The facilitator must pay particular attention to reaching and supporting the groups who face the constraints. Participatory tools such as **gender analysis** can be used to identify constraints of men and women regarding natural and other resources. Gender analysis tries to answer fundamental questions such as who does or uses what, why, and how. It also involves looking at the division of labour in and among households, examines the access and control that men and women have regarding resources, and reviews the benefits of their labour. Using gender analysis can therefore improve our understanding of who in the household has the over-all decision-making power over resource allocation and who has access to and control over these resources.

Activity 2.11 Gender-related use and control of resources in an area



Complete this activity in groups or on your own in your workbook

Aim: Conducting a gender-related exercise to establish the use and control of resources in your area

Time: One hour

What you must do

1. Brainstorm in your groups and compile a list of resources which you regard as important for your community.
2. Form a female and a male group.
3. Each group must compile a table similar to the one above (Table 2.5) Add columns to your table for different age groups (young, adult, aged) and disadvantaged groups.
3. Assign ticks to each of the resources according to the level of access and control for.

What is meant by **control of resources**?

Someone decides how the resource can be used and by whom. This does not necessarily mean that they own the resources

What is **ownership of resources**?

A resource such as land can be owned by someone while another person uses it or decides about its use.

Questions

1. Which resources do women and men (and the young and old) use? Are there differences in their use according to gender, age, social group? What access and control do disadvantaged people have?
2. Who decides about the use of these resources?



3. Who has ownership over the resources (the right to sell or give them away)?
4. What are the main differences between women and men when it comes to the type of resources they use, control, or have ownership over?
5. Among women and men of different socio-economic groups, who are the resource-rich? Who are the resource-poor?
6. What is the relationship between women's labour and their use and control of resources? What are the links between men's labour and their use and control of resources? Give information on other relevant groups.
7. How will the death of a male (or female) adult in the household change the access, control and ownership rights over resources, including land, of the surviving partner? What happens to the children in a household when both parents die?
8. What services and structures in the community can support rural women and men in managing resources and improving their livelihoods? Give the same information for disadvantaged groups, different socio-economic groups, grandparent or child-headed households, as well as households taking care of sick relatives or orphans.
9. Discuss your data in your male and female groups and each student should then write a conclusion in his or her workbook.

Reflect

10. Reflect on the gender-analysis activity and write answers to the following questions:
 - What worked well?
 - What did you find the most difficult?
 - What changes would you make to the activity in the future?
 - What have you learned from your experience?



If we do not have good quality natural and other resources available, or access to them or do not use them sustainably, it can lead to various degrees of food insecurity.

Jiggins et al. (1997), summarises the constraints faced by rural women as follows:

- The legal and cultural status of women which affects the degree of control that they have over productive resources, inputs such as credit and the benefits that flow from these.
- Property rights and inheritance laws, which govern access to land and other natural resources.
- Ecological factors such as the seasonality of rainfall and the availability of wood for fuel.
- Economic factors such as product market failures.
- Gender-determined responsibilities such as feeding the family, which leave less time for other activities that generate income

In Unit 4 you will get an opportunity to conduct a gender-related exercise regarding access to and control of resources with your households.

Concluding remarks

The main concern in this unit was to find the link between the natural and other resources and food security and to establish your role in using this link to contribute to food security of households. We use participatory methods such as resources mapping and transect walks to find out about the availability of, access to and use of resources in an area which is familiar to you.

An ongoing challenge for people in an area is to access and utilise the available natural resources in ways that are sustainable and which will contribute to the stability dimension of food security. There are many examples in South Africa and elsewhere of people in rural areas who have developed good practices and are using their resources responsibly. When you work with people in a community, try to find out as much as you can about their traditional or indigenous practices that are sustainable. There are of course also many examples of poor resource use actions and these will also become evident when you start to interact with people in an area. How to use our natural and other resources sustainably is the topic of our next unit.

