

# SWELL UNIT 1



**Water and  
Livelihood  
Security**



# SWELL UNIT 1

## Water and Livelihood Security

**The Association for Water and Rural Development (AWARD)** has been operating since 1993. AWARD works to secure water to improve the quality of life of the rural populations and the sustainability of the natural resources within the Sand River Catchment in Mpumalanga province. Our focus is on addressing the links between water security and livelihoods. AWARD is a Section 21, non-profit company.

**Securing Water to Enhance Local Livelihoods (SWELL)** is a programme of AWARD which has been developed in partnership with others. The programme is being piloted in Ward 16 of the Bushbuckridge Local Municipality.

SWELL aims to enable provision and use of water for water-related livelihoods, in order to help reduce poverty. The SWELL methodology is based on a participatory process, where stakeholders, from villagers to water service implementers, learn together and develop strategies and plans from a collective platform.

### SWELL principles

- Our priority is the poorest and most vulnerable people.
- Villagers are key actors in SWELL.
- We emphasise an integrated approach to water management.
- We emphasise empowerment and capacity building.

Many people have a role to play in creating a better understanding of the linkages between water and poor people's livelihoods. These materials are aimed to inform and

support the various stakeholders who are engaged in this work and who seek to learn together in order to improve collective practice.

### SWELL UNIT 1: Water and Livelihood Security

In this unit

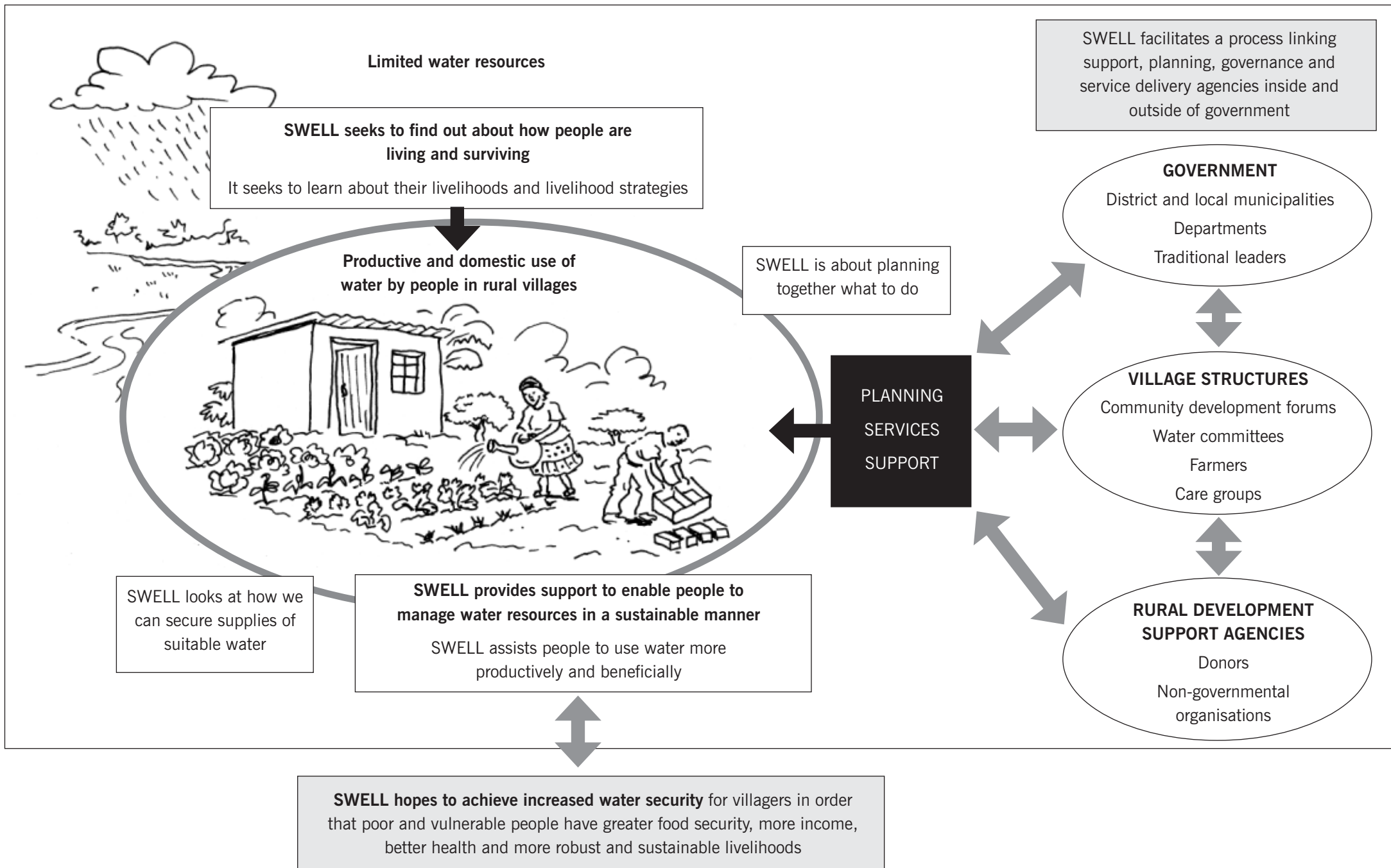
- **Looking at livelihoods**
- **The role of water in people's livelihoods**
- **Looking at water security**

### The SWELL learning support materials

This unit is the first in a series of learning materials which we have designed to support the joint learning and planning that takes place in SWELL. Each section in this unit introduces a set of concepts that underlie the approach, and explains the relevance to villagers and those of us who work with people to improve their access to and use of water. Examples from our experience in Bushbuckridge are given to link these ideas to the realities on the ground. In different areas, different examples may be relevant to use. The sections also include exercises for joint reflection, for the unit is intended for use as part of collective processes that are facilitated.

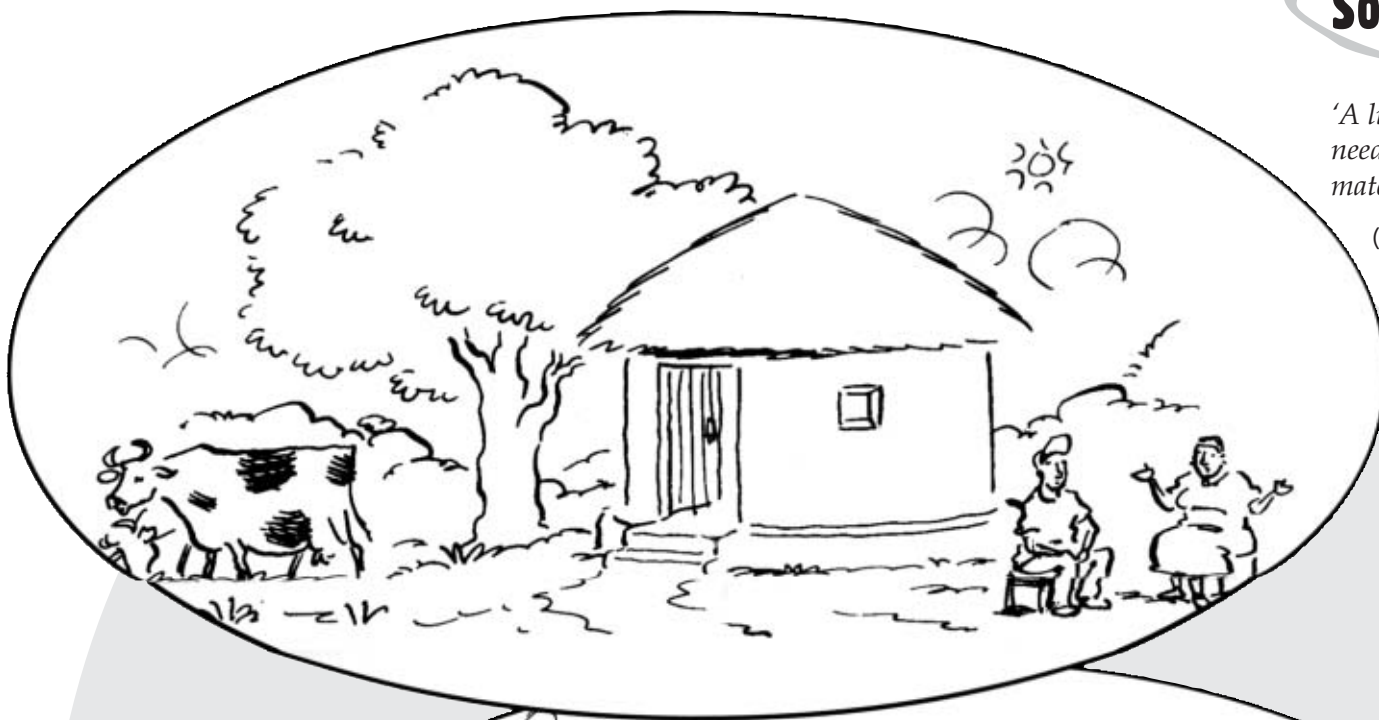
# What is SWELL?

SWELL is an approach that consists of the following elements:



# Looking at LIVELIHOODS

This section introduces the concept of livelihoods as a useful way to understand how the various things people have and do enables them to make their living.



## So what is a livelihood?

*'A livelihood is a way of making a living; and to make a living one needs to own or have access to particular assets and resources, both material and non-material.'*

(SWELL workshop participants)

People engage in different activities and strategies to make a living. The activities and strategies they use will depend on the resources available to them. For example, people require certain skills, time, relationships, tools and materials to be able to grow, find, buy or barter for food, or to collect, buy and store water. They will need the same kinds of resources to generate an income. If people do not own or have access to the resources they need, they will be limited in how they are able to make a living.

### What are resources?

There are five main kinds of resources. These are:

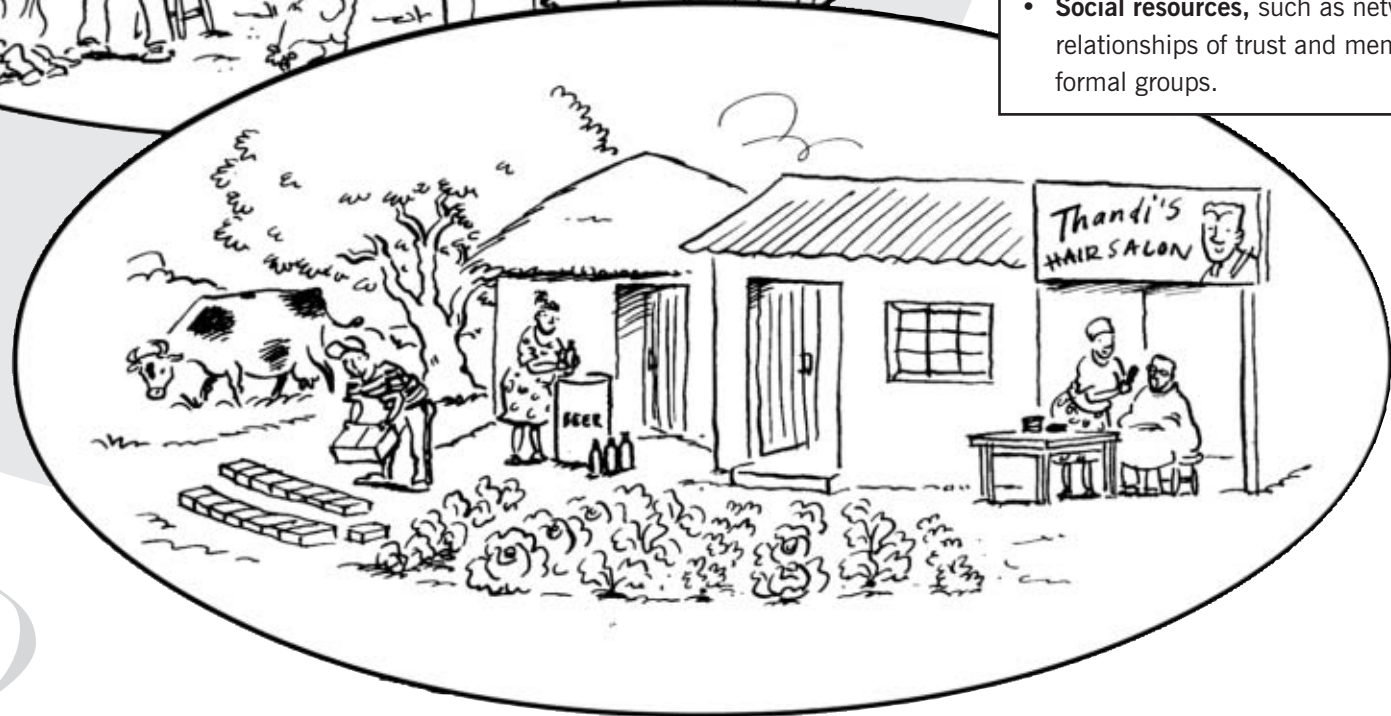
- **Human resources**, such as skills, knowledge, health, ability to work.
- **Physical resources**, such as water pipes, roads, shelter, tools and equipment.







- **Financial resources**, such as cash, savings, livestock for sale, social grants and wages.
- **Natural resources**, such as water, land, clay, forests and grass.
- **Social resources**, such as networks, relationships of trust and membership of formal groups.



## What is a *sustainable* livelihood?

*'A sustainable livelihood is "a better way of making a living"; where people are able to maintain or even enhance their way of living on an ongoing basis, relying on the assets and resources available to them.'*

(SWELL workshop participants)

A livelihood is sustainable when people:

- can sustain the capabilities, assets and activities they need to make a living,
- have the ability to cope with stresses and shocks, and
- can maintain and enhance those capabilities and assets without undermining the natural resource base.

People make their livelihoods within the context of a *household*. In other words, it is the combined capabilities, assets and activities of individuals within households that make up people's livelihood strategies. So, to understand how people 'make' their livelihoods, we start with households. We try to understand how they are structured, their specific way of making a living, and the different factors that contribute to how they do this.

*'A household is a social unit where people are linked by some or all of the following: blood, family, marriage, staying together, supporting each other, culture, shared resources, and everything they have, do or own.'*

(SWELL workshop participants)

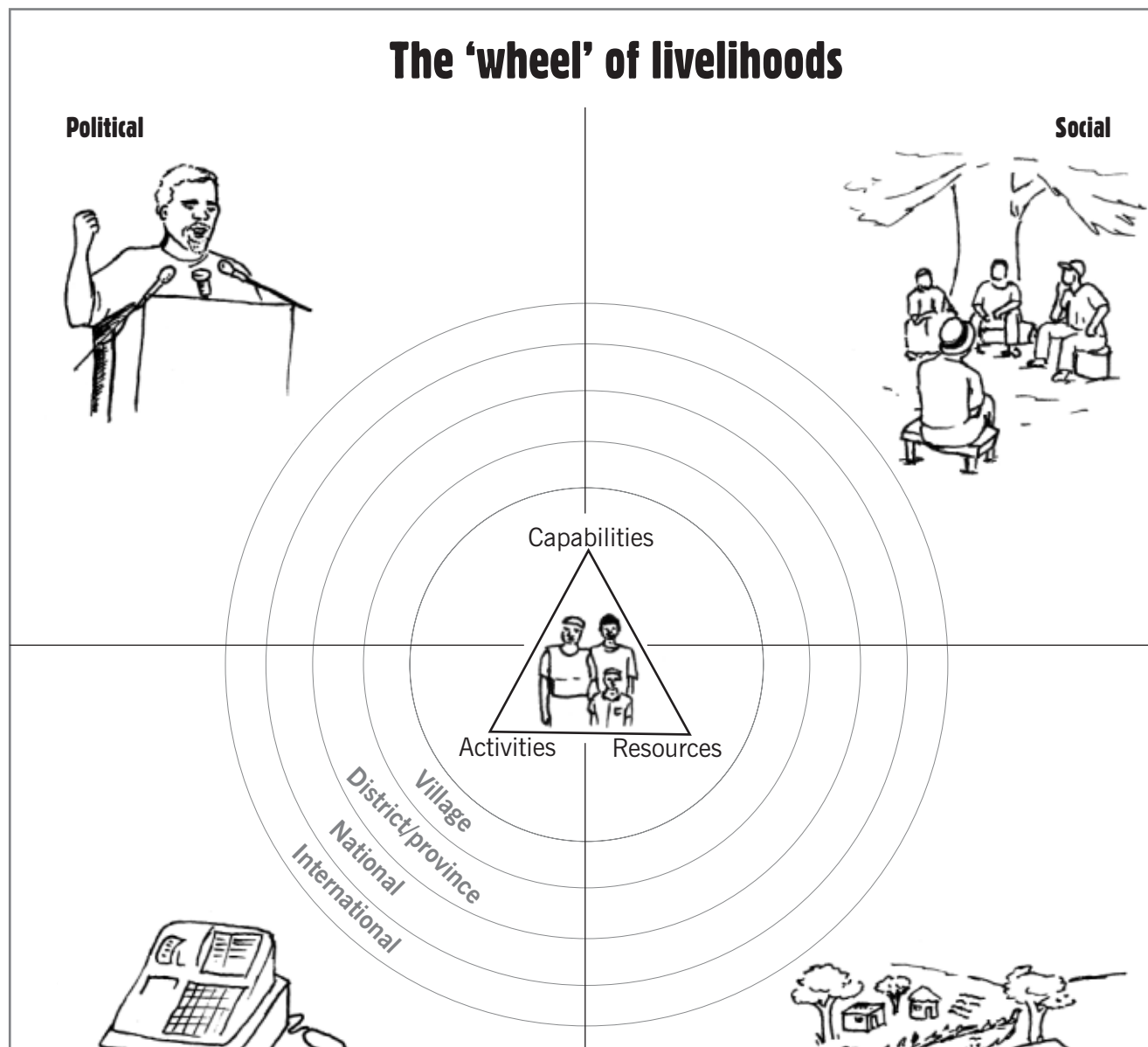
# Looking at LIVELIHOODS

## Essential points of the livelihoods approach

The livelihoods approach recognises that the *economic, political, social and environmental* spheres in the environment have an influence on people's livelihoods. These spheres can either help or hinder a household's ability to create a livelihood.

There are four essential features of the livelihoods approach:

- 1 The livelihoods approach focuses on the household's *capabilities, activities and resources* (CARs). Capabilities enable a household to use its resources to create livelihood activities. The livelihoods approach seeks to build on the strengths of households, individuals and communities.
- 2 The levels of *village, ward, district, province, country and wider world* have an impact on household livelihoods. An analysis of the linkages between these levels is needed to show which levels offer opportunities or have blockages.
- 3 The livelihoods approach recognises that the *economic, political, social and environmental* spheres have an influence on the production of livelihoods. These spheres, or dimensions, can either help or hinder a household's ability to create a livelihood.
- 4 Poor people's livelihoods have to adapt to a dynamic, or changing, environment. Therefore, it is important to understand the influence of the *vulnerability context* in which people and households find themselves. The *vulnerability context* refers to the stresses and shocks



that affect people's resources and therefore their livelihoods. The key aspect of these events is that local people usually have little control over them.



**Economic**



**Environmental**

## Why do we work with a livelihoods approach?

A livelihoods approach recognises that most people undertake many activities to secure income, food, water and everything else that they require to live. It also acknowledges that people have clear strategies to achieve their goals. These activities to secure our livelihoods require various kinds of resources.

The focus on resources is closely linked to the understanding of poverty as a multi-dimensional situation. This means that there are various aspects to poverty. For example, a poor villager is poor not just because she has no money, but because she has limited access to resources such as education, natural resources or political representation.

A livelihoods approach reminds us that we can better support people's livelihoods security if we understand the strategies they use to meet their desired livelihood outcomes. These outcomes may include raising cash, providing food and meeting educational and health needs.

## How can we apply the sustainable livelihoods approach?

We apply a sustainable livelihoods approach by undertaking village and household livelihood security assessments as part of our developmental work. These assessments are carried out with the active participation of community members. By understanding the village history, its problems and its resources and by profiling households, we can build

a picture of how people live and relate to each other. The assessment gives a broad understanding of the *capabilities, activities and resources* (CARs) of households, the context in which the households are located and what makes them vulnerable.

### Households

When using the livelihoods approach it is important to agree on the definition of a household. There are different ideas about what constitutes a household, and it may not always be obvious who the members are.

The following characteristics of households should be considered when looking at households:

- Households are composed and defined in different ways.
- They are specific to a community.
- They can change when circumstances change.
- They come in different shapes and sizes.
- They may be different at different times in the year.
- They frequently include people who often do not live in them.

### Vulnerability

Vulnerability has to do with the likelihood of being exposed to risk and stresses, the degree of resiliency to shocks, and the degree of sensitivity to livelihood shocks. Vulnerability is thus linked to a household's ability to recover from shocks and stresses and the overall impact of these events on the household's livelihoods.

*'Vulnerable people are people living in extreme poverty and who do not have the resources required to cope with and survive from shocks and stresses.'*

(SWELL stakeholder workshop, Hluvukani, 2005)

### Institutions

Organisations, programmes and policies are part of the context affecting villages, households and households' livelihood strategies. These organisations, programmes and policies can be local initiatives (at the village level). They can also be the initiatives of national and even international institutions. The village assessment considers the resources these initiatives and institutions offer, as well as the constraints and vulnerabilities they may create.

### Planning and action

The next step is to decide what to do. Where is the greatest opportunity for making the biggest difference, and how can we do our work so that it is effective in addressing poverty?

Many development practitioners only think about their work within the framework of their particular sector, for example, water, agriculture, health or local economic development. A key strength of the livelihoods approach is that it encourages broad thinking across different sectors. It is based on a comprehensive framework that simplifies – but avoids oversimplifying – the realities of the world in which people live. This approach helps us to make linkages with other sectors and with other aspects of people's lives.

# Looking at LIVELIHOODS



## example

### Examples from Bushbuckridge

Participants in a SWELL workshop in Bushbuckridge identified the following household types in the area (but said that other household types could be found in other contexts):

- granny-headed households (single grandmother),
- households headed by grandparents (both the grandmother and the grandfather living with their grandchildren and other relations),
- child-headed households,
- female-headed households,
- male-headed households,
- nuclear families,
- extended families,
- single person households, and
- households with members working far away and only coming home once or twice a year.

## Two examples of household profiles from Bushbuckridge

### The Mazibuko household

The Mazibuko household consists of eight members, Mr and Mrs Mazibuko (both pensioners), their son and his wife and four grandchildren. The Mazibuko family have a house, a spaza shop, eight cattle and a donkey cart. They also have a ploughing field in the communal area not far from their house. Their cattle graze on the communal lands, and there is an earth dam that provides drinking water for their livestock. They employ a person to look after their livestock. Mr Mazibuko

Junior runs the spaza shop, while his wife does the cooking, cleaning, washing and collecting of water and firewood. Their children assist with collecting water and firewood. The family get their food from the spaza shop. They also grow some vegetables and maize in the garden at the back of their house. Last year the family was not able to get anything from the garden because there were water problems in the village and people were sanctioned if they were caught watering their gardens.

### The Dlamini household

Ms Dlamini lives with her two daughters, aged 15 and 21, and the three-year-old son of her elder daughter. The family live in two rondavels. Ms Dlamini makes money through piece jobs she gets cleaning people's houses and collecting water for them, but she does not get this work every month. The elder daughter sometimes gets short-term work on public works projects. The family also receive a child grant for the grandson and they use this money to buy mealie meal. Ms Dlamini was a member of a community garden some years back. However, she is no longer a member since she cannot afford the quarterly membership fee of R50. A neighbour offered the family the use of his ploughing field, but

they have no means to plough it. They used to have five chickens and two goats. Three of their chickens died and they slaughtered and sold the other two. When one of the daughters became very sick, a goat was slaughtered and sold to pay for her to be transported to a traditional healer. One of the families which Ms Dlamini works for gave her an electric sewing machine, but she has no electricity. The elder daughter wants to sell traditional beer, but her mother will not allow it because she thinks it is not right and does not want people fighting in her yard. The family are on the list to receive food parcels, but are still waiting for their turn. In the mean time, the family's diet mostly consists of pap, mopani worms and wild vegetables from the veld.



# Q Questions for reflection and discussion

Now that you have read the profiles of the Mazibuko and Dlamini households, complete the activities listed below and discuss the questions.

## 1 List the CARs for each household, using the following matrix:

Members of household	Capabilities	Activities	Resources

When you fill in the columns of the matrix, consider the following:

- *Capabilities:* Think about the knowledge, skills and capacities the household members apply in their livelihoods.
- *Activities:* Activities should include:
  - productive activities, such as growing crops for consumption, for sale or for income-generation activities, and
  - other domestic activities, such as cleaning, taking care of the family, and collecting water and firewood.
- *Resources:* You should list all the resources a household uses, even if the household does not own them. The following resource types should be considered:
  - livestock,

- physical infrastructure,
- transport,
- tools,
- natural resources, such as water, land and trees, and
- financial resources.

- 2 Identify the factors that currently threaten the Mazibuko household and the Dlamini household. What shocks and stresses are they vulnerable to?
- 3 How would these shocks and stresses be different for the different household members?
- 4 What factors could potentially improve these households' livelihoods?
- 5 How does understanding these factors affect the way you might carry out your work in the communities the two families live?

# The role of WATER in people's LIVELIHOODS

Water plays an important part in people's livelihood strategies and affects their well-being in many ways. It affects their health, nutrition, income, leisure and how they manage their time. A livelihoods approach to water allows us to consider the many ways in which water affects people's ability to pursue a sustainable livelihood.

## Multiple uses of water

In rural areas people use water for many different kinds of activities. We call this *multiple uses of water*. These uses are often grouped into:

- domestic uses, such as using water for drinking, bathing, cooking and cleaning, and
- productive activities, such as using water for growing food, providing water for livestock and using water for small businesses.

## Multiple sources of water

People may get their water from more than one source, meaning that they have access to several different (multiple) sources of water. Water may come from a borehole or be



pipled from a dam. In some places people get water from fountains and springs. In other places they get water directly from rivers. People can collect rainwater. Sometimes, people construct earth dams to provide water for livestock. Water that has been used for washing can be used to water gardens.



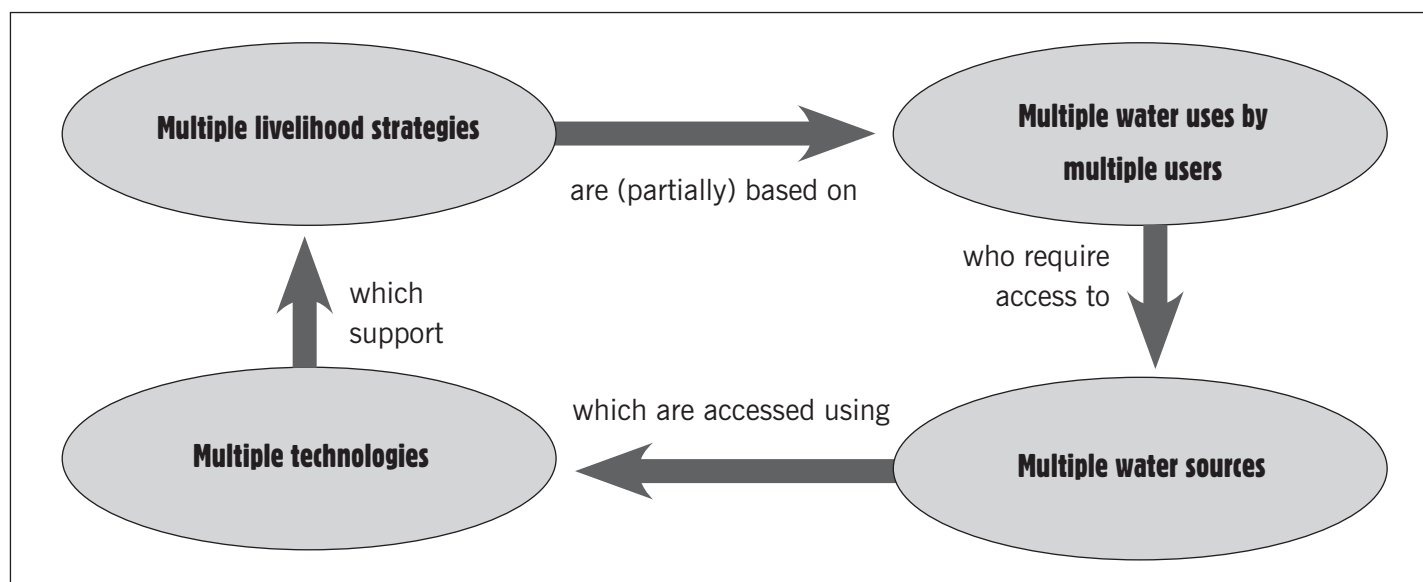
## Multiple technologies for water

In order to make water accessible, different kinds of infrastructure or technology may be used. A borehole pump is needed to extract groundwater. Such a pump may be powered by electricity or diesel, or a hand pump could be used. A reticulation system, used for irrigation or water supply, requires pipes and taps. Containers are needed to collect and store rainwater and gutters or trenches are required to carry the rainwater to the containers.

## Multiple users of water

Each person needs water, and different people need water for different activities. Not all people have the same needs, and people do not have equal power or wealth. The differences between people, for example, gender, age, health, wealth, background, education, expectations and needs, lead to differences in livelihood strategies. These differences can be in conflict, especially when water is in short supply. For instance, some people meeting their water needs can lead to others not getting enough water.

## A multiple use approach to water services



The multiple use water services approach (known as MUS) takes people's multiple water needs as the starting point for planning and providing integrated services to enhance the livelihoods of especially the poor. A MUS approach seeks an appropriate match between use, users, sources and technology.

The diagram (left) shows the connection between the multiple elements related to water and to livelihoods.

# The role of WATER in people's LIVELIHOODS

## Linking water and livelihoods

People depend on water as a natural resource, but many other things need to be in place if people are to have reliable access to water for domestic and productive uses. These are:

- social resources, for example, community organisations and links with local government,
- human resources, for example, knowledge to access water, skills to use water, manpower to collect water and skills to manage water services,
- physical resources, for example, water infrastructure, water containers and means for transporting water such as wheel barrows or donkey carts, and
- financial resources, for example, money to pay for the operation and maintenance of water infrastructure and services.

To understand the uses of water in people's livelihoods, we look at what type of water service people need so that they can continue with their current livelihood activities. We also look at what new activities would be possible if people had access to extra water services. In addition, we identify all those factors, excluding water, that support or limit people's water-related activities.

In SWELL, we thus bring the elements of livelihoods and water together. One way of doing this is to conduct *water and livelihoods assessments* in wards, villages and households. Specifically, this means that the following issues are analysed:

- the role and importance of water in people's livelihoods,
- the role of water in the vulnerability of people's strategies, and
- the resources, including capacities, that people have (or need) to draw upon for potential water-related livelihood strategies.

In assessing these factors, we pay specific attention to the heterogeneity of livelihoods, meaning we look at the differences in different people's livelihoods. We look especially at livelihoods arranged according to gender and vulnerability factors.

The value of adopting a livelihoods approach to water services is that it allows us to identify the many and complex ways in which water affects people's ability to maintain a sustainable livelihood. It also helps us to identify how people can better cope with shocks and stresses. A livelihoods approach enables us to understand people's current usage of water, the reasons for this, and how it impacts on them. This helps us to find the best match between use, users, sources and technology. By adopting a livelihoods approach, we are better equipped to take up actions that respond to and are driven by people's needs. Such actions are more likely to achieve real impacts on poverty.

If a good match of uses, users and sources is to be made, the issue of prioritisation will arise. This is because there is often not enough water available to meet *all* the needs of *all* users in a sustainable way. The slogan adopted by the Department of Water Affairs '*Some, for all, forever*' provides a useful guide in achieving a good match between water use, users and sources.

## Exercise

### Exercise

### Users



Photocopy and enlarge the Exercise page at the back of the book that looks like this one. Cut out the uses and users circles. This exercise is best done in small groups, who then compare their results.

## Step 1: Show what a good match is of uses to sources. Explain why this is a good match.

Consider water quality, reliability, quantity, cost, energy, time, knowledge.

## Step 2: Now consider: 'Who are the usual users of each use?'




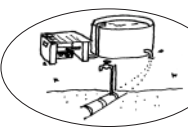






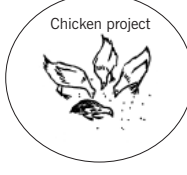






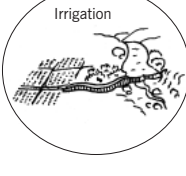




- Is their gender likely to be linked to their use?
- Is their age likely to be linked to their use?
- Is their level of poverty likely to be linked to their use?
- Does their poverty level, or their gender, or their age matter with regard to water? When does it matter and when not?

## Step 3: Discuss the following.

How does water contribute to poor people's livelihoods?

What are some impacts of water problems on people's livelihoods?



Uses			Sources	
				Borehole to pipe and tap
				River
				Spring
				Rainwater
				Recycle after washing dishes
				Pipe linked to big dam
				Earth dam

# The role of **WATER** in people's **LIVELIHOODS**



**example**

## The Mnisi household

Mrs Mnisi is a widow, and she has three children. This is what the Mnisi household water and livelihoods assessment shows.

### Person responsible for collecting water



Mrs Mnisi

### Potential or future uses of water

If there was more water, Mrs Mnisi would have a bigger garden. If she could irrigate, she would grow enough vegetables to sell.

### Uses of water



Cooking and drinking



Bathing



Washing



Irrigating backyard garden



2 x 25 litres for cooking and drinking per day



1 x 25 litres for bathing per day



3 x 25 litres for washing once a week

Garden irrigated twice a week, from tap water and sometimes dam water

## Access, problems and coping mechanisms

The borehole pump regularly breaks down, at least once or twice a month. It can take one to two weeks to get fixed.

The Mnisi family have bought many water storage drums, so even when there is no water in the village they do not run out.

Mrs Mnisi can hire a car to go to the next village if the household does run out of water.

Mrs Mnisi can also collect water from the dam. The distance to the dam is a 45-minute walk.

## Water sources

- Tap water from communal tap reticulation from a borehole (not far from own yard).
- Water from another village in times of a system breakdown (hire a car).
- Livestock (earth) dam (water sometimes used for irrigating garden).
- Rainwater collected off the roof (used for cooking, drinking, bathing and irrigating backyard garden).

## Questions for reflection and discussion

1. In your area, is there a good match between uses, users and sources? If not, why not?
2. In your area, are all the interests of the different users met? Is there equitable sharing between different users? If not, why not?
3. What are some of the impacts of water insecurity on people's livelihoods?
4. In your area, are all the interests of the different users met? Is there equitable or fair sharing between different users? If not, why not?

# Looking at WATER SECURITY

We need to have a good idea of what water security means to fully understand the role of water resources in the lives and livelihoods of poor people. Some key issues in understanding water security include access to water resources, the right to water (entitlement), and the fact that conflicts may arise around access to water.

## What is water security?

Being *water secure* means always having access to enough water for your basic human needs. This means that people and communities should:

- have access to reliable water of the right quality to meet their basic needs, which for poor rural people would include water for domestic and small-scale productive uses,
- be able to take advantage of the opportunities that water resources offer,
- be protected from water-related hazards, and
- have access to services or people who will help to settle disputes over water in a fair manner.

An important aspect of water security is that the *needs of all users* and the *value and potential of all uses* and of *all water resources* are recognised and catered for.

## Sufficient quantity

People need enough water to meet their domestic needs. They also need water for small-scale productive uses such as gardening, water for their livestock and other food production and income-

## Reliability and sustainability

People need to know that water will be available when they need it. They need to be able to rely on being able to get water, and that the water will be available over time. Water sources and water services need to be wisely managed to make them sustainable.

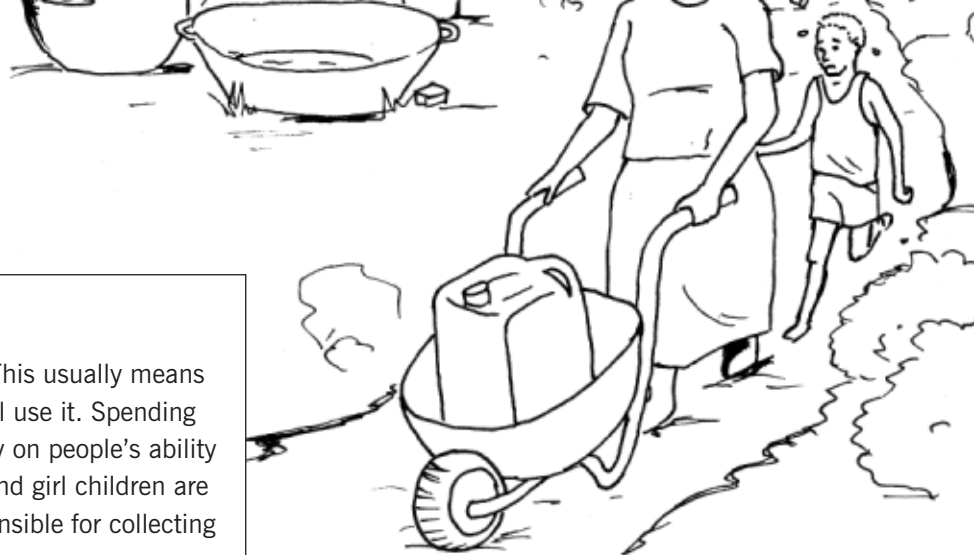




generating activities. If there are conflicts over the use of water in a community or a catchment area, it means that only some people in that area would have sufficient water for their needs while others would not.

### Distance and time spent on water collection

People need to be able to access water quickly. This usually means that the water must be close to where people will use it. Spending a lot of time fetching water can impact negatively on people's ability to engage in other livelihood activities. Women and girl children are the most affected because they are usually responsible for collecting water for household use.



### Quality

The water people use needs to be of acceptable quality. Water has to be clean and safe for drinking, cooking and washing. This is particularly important when caring for sick people and for the health of the entire household. Having clean water can prevent illnesses from spreading or becoming worse. However, different qualities of water can be used for different purposes. Dam water, grey water or rainwater can be used to water vegetables because this water does not have to be so clean.

## The RIDA framework

We need to consider several aspects of water and water use in order to achieve water security. The RIDA framework is a tool that helps us do this. RIDA stands for **r**esource, **i**nfrastructure, **d**emand and **a**ccess.

R	I	D	A
<b>Resource</b> Where is this natural resource available and how much of it is there?	<b>Infrastructure</b> Is there adequate infrastructure to deliver water where it is needed?	<b>Demand</b> Who is using water and what are they using it for? Who has what water need?	<b>Access</b> Can people actually get and use the water they demand? Are some users getting more access than others? Why is this?
Water resources include surface water (rivers, streams), groundwater, rainwater and waste water. These are looked at in terms of quantity, quality, variability over time (season and year), and location.	The water infrastructure consists of those elements used to extract and treat water and to convey and deliver it to users. Infrastructure may vary from boreholes with pumps, to large dams and piped water schemes, to gutters and rainwater tanks.	Demands reflect the different needs for water. Demands are often considered on a group basis (for example, the village or the irrigation farmers), but it is important to consider the variety of demands within groups. Not all demands are justified or legitimate. The environment is also a user with needs, which is important, if we are to have sustainable supplies of water.	Access is determined by a number of factors, including the resource and its management. The institutions involved in providing and managing water also play a role in access.

By looking at the linkages between the resource, infrastructure, demand and access, we can develop a deeper understanding of where the causes of problems related to water security lie, and identify possible solutions.

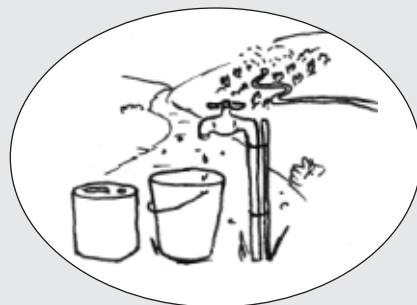
# Looking at WATER SECURITY

## Reasons for water insecurity

Problems that lead to water insecurity are often linked. It is important to understand this because it enables us to identify and deal with the underlying causes of the problems, not only the symptoms.

### Problems related to water resources

Sometimes not enough water is available. For example, boreholes can have very low yields, especially after long periods of drought, and rivers and springs can be low because of natural causes or overuse.



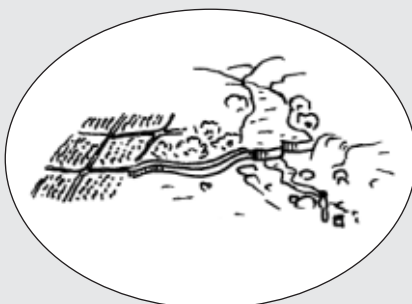
### Problems related to infrastructure

Even if there is enough water, people may not be able to access it if the infrastructure is inadequate. There may not be sufficient or correct infrastructure in place to bring water from the sources to the people. Pumps can break down, pipes and taps can break and leak, and dams can silt up.



### Problems related to demand, use and sharing of water

Water can be used inappropriately or unfairly. For example, water may be wasted in inefficient irrigation schemes while communities living nearby have very little water. Another example is when some people put in their own connection to the pipes and water their lawns while others do not even have drinking water.



### Problems related to planning and management

The problems described here are usually caused or worsened by poor planning and inadequate management of water resources.

Poor planning is often evident in the quality or the lack of infrastructure. For example, too few standpipes can be installed in a village as a result of bad planning. Another example is when an agricultural project that requires high levels of irrigation has been established without checking whether there is sufficient water both for the irrigation and for meeting the needs of the poor and historically disadvantaged.

Water, water infrastructure and water use all need to be managed. Good management requires skills and effective institutions. However, when there is a lack of appropriate skills or enough people, when organisations do not operate efficiently, it impacts on the provision of water.

Many organisations have a role to play in water provision and management. A lack of co-ordination and communication amongst these role players can lead to poor planning and problems with implementation. It can also lead to confusion about who is responsible for what, and so causing delays in responding to problems. Wise water resources management needs to ensure a secure water base.

### Problems related to practices of exclusion

In life, there are many different ways of behaving and doing things that we regard as acceptable and normal, but which may be at odds with the rules of our society (laws, policies, planning processes and programmes). These ways of behaving are known as social norms, and can include all kinds of exclusionary practices. These practices may be based on gender, culture, economic power or political power. Recognising these practices helps us to understand why things happen as they do, which is the starting point to changing them.

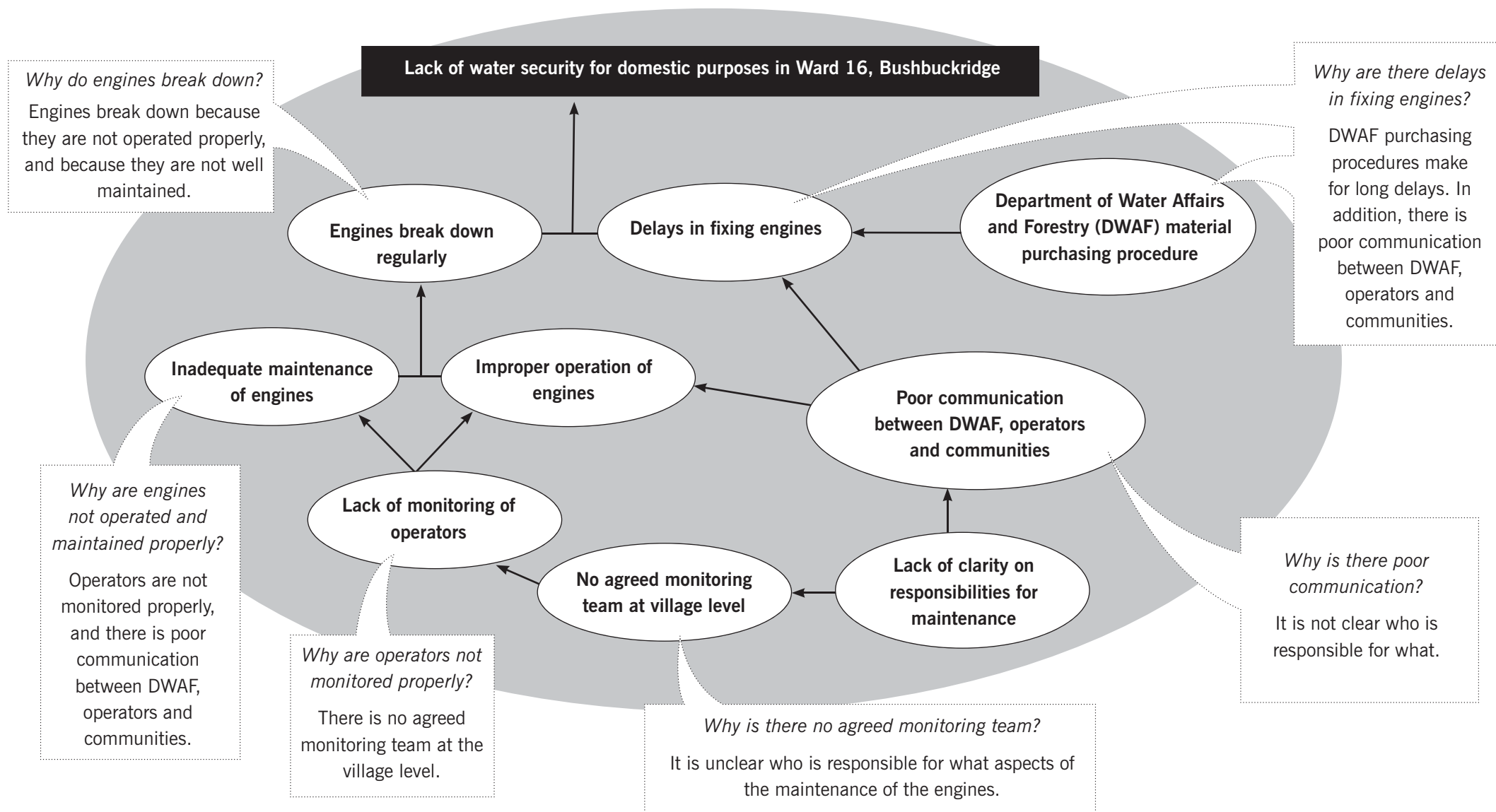




Participants in a SWELL workshop in Bushbuckridge identified the different causes of the lack of water security. These causes are shown in the form of a problem tree in the diagram below. A problem tree is useful to show the linkages between the causes of a problem, and to provide a holistic view of the problem.

## Problem tree (Part of a problem tree designed by SWELL participants)

The problem tree below shows how the supply of water for domestic use in Ward 16 in Bushbuckridge is caused by the fact that engines frequently break down and that there are long delays in fixing them. Let's take a closer look at the problem tree to see how it works. The arrows indicate the causes of the problems experienced by the community, thus building a picture of the underlying or root causes and showing how they are connected. Each arrow raises a different question and leads us to a different interlinked cause.



# Looking at WATER SECURITY

## Strategies for increasing water security

The problems that lead to water insecurity are often interlinked. It is important to first consider and understand the problems, and then to look at what should be done. Thereafter, we can consider what linkages need to be made between different strategies to achieve water security. Looking at underlying problems is critical and helps us avoid only fixing the symptoms.

### Appropriate plans and effective institutions

The best way to prevent and solve problems is to have good plans and effective institutions. The people who will use the water should participate in the planning process. This will ensure that the design of water systems takes people's needs and practices into account.

If the responsibilities of the different institutions and role players are clearly understood and good communication channels exist, unexpected problems can be dealt with promptly. Proper monitoring and management will prevent unnecessary breakdowns, and enable quicker responses. This may also lead to an improvement in accountability for quality of service.

### Understanding and capacity

Users and operators at village level often do not fully understand how their water



and a store of spare parts can help minimise water cut-offs.

Technical support provided timeously is important for serious technical problems. What can be done by whom at what level needs to be understood and agreed upon by all role players. Once this is clear, the required capacities can be built.

### Alternative sources

If the main water supply fails, where else can people access water? Is this water accessible and of adequate quality?

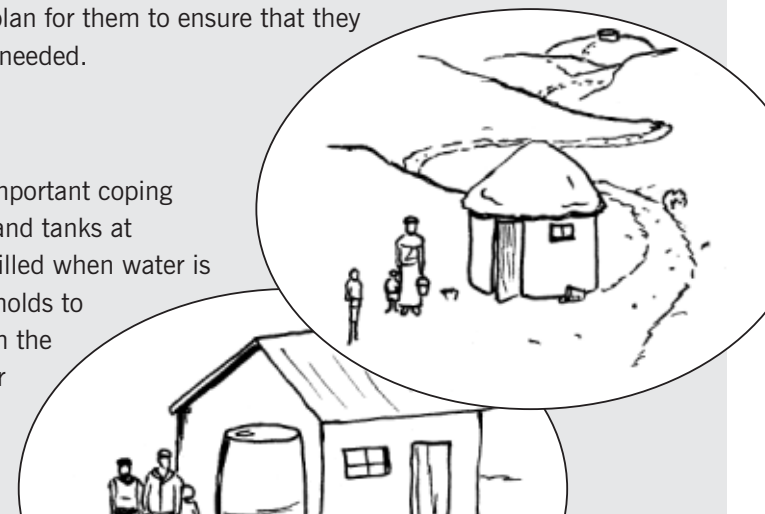
Rainwater stored in a tank can provide a useful alternative source.

If the water quality of alternative sources is poor, then purification of the water would be necessary. Purification methods include using chemicals or filters.

People need to know about these options and they should plan for them to ensure that they are available when they are needed.

### Water storage

The storage of water is an important coping mechanism. Having drums and tanks at homesteads, which can be filled when water is available, can enable households to meet their water needs when the water system fails. Very poor people often lack adequate storage.





system works. This means that they place demands upon the water system that can cause breakdowns or that can result in unequal or unfair access. For example, boreholes can get over-pumped, causing them to dry up. Also, users can install illegal connections, resulting in other water users not getting enough water for their needs. Understanding how a water system works and how people use it is the basis for effective local management.

### **Fix incorrect, poor or worn-out infrastructure**

An inventory, or list, of the infrastructure can be used to identify where problems exist and which infrastructure should be replaced or fixed to improve water security. By fixing basic infrastructure, for example, replacing the wrong size pump, the wrong size pipes or broken and inadequate taps, we can increase water security.

### **Backup mechanisms when main supply fails**

A community can plan for what happens when the main source of water fails. Infrastructure (borehole engines, taps) is not always reliable. Having a backup pump

### **Management**

Since the various problems associated with water insecurity are often interlinked, addressing the problems will require multiple strategies. So, for example, we can have an alternative source as a backup, but effective water management and wise use of water are also crucial. Multiple strategies will require co-ordination amongst stakeholders and between users and community-level institutions.



**We cannot achieve greater water security unless ‘we are in it together’.**

Integration across sectors and between levels to understand and solve problems is necessary to achieve water security.

## **Questions for reflection and discussion**

### **Problems**

- 1 Water insecurity can be experienced in a number of ways in your village or area. What kind of water insecurity do you experience?
- 2 What are the reasons for water insecurity?
- 3 How are the different reasons for water insecurity in your area linked? What are the underlying causes of problems? Make a problem tree to show this.
- 4 What are the accepted social norms that affect water security for men and women in your area? How influential are these?

### **Strategies**

- 1 What strategies are different people in your area using to cope with water insecurity now?
- 2 What problems do these strategies cause?
- 3 Go back to your problem tree. Work out what solutions are needed.
- 4 Which solutions would you prioritise? Why?
- 5 Who needs to be part of improving water security in your village or area?



## Acknowledgements

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Care South Africa – Lesotho

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IRC International Water and Sanitation Centre

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### **More detailed descriptions of SWELL can be found in:**

Maluleke, T., Thomas, V., Cousins, T., Smits, S. and P. Moriarty (2005). Securing Water to Enhance Local Livelihoods (SWELL): Community-based planning of multiple uses of water in partnership with service providers. Introduction to the methodology. MUS project working paper. [www.musproject.net](http://www.musproject.net)

Maluleke, T., Cousins, T. and S. Smits (2005). Securing Water to Enhance Local Livelihoods (SWELL): Community-based planning of multiple uses of water in partnership with service providers. A case study on its application in Bushbuckridge, South Africa. MUS project working paper. [www.musproject.net](http://www.musproject.net)



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# Exercise

## Users



Women



Girls



Boys



Men



All in household



Poorer households



Wealthier households

## Uses



Bathing



Cooking



Drinking



Washing



Household cleaning



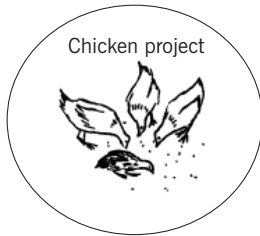
Traditional beer making



Backyard gardens



Cooking porridge to sell at market



Chicken project



Community garden



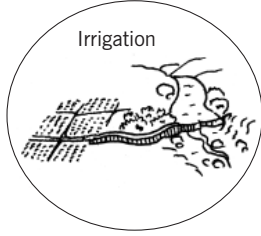
Traditional healers



Livestock drinking



Caring for the sick

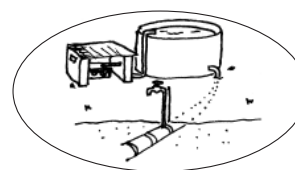


Irrigation



Brick making for building

## Sources



Borehole to pipe and tap



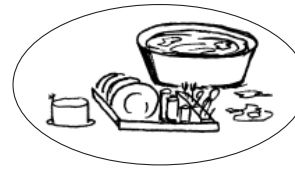
River



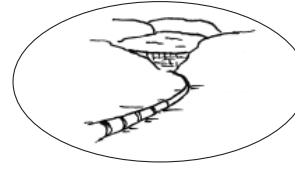
Spring



Rainwater



Recycle after washing dishes

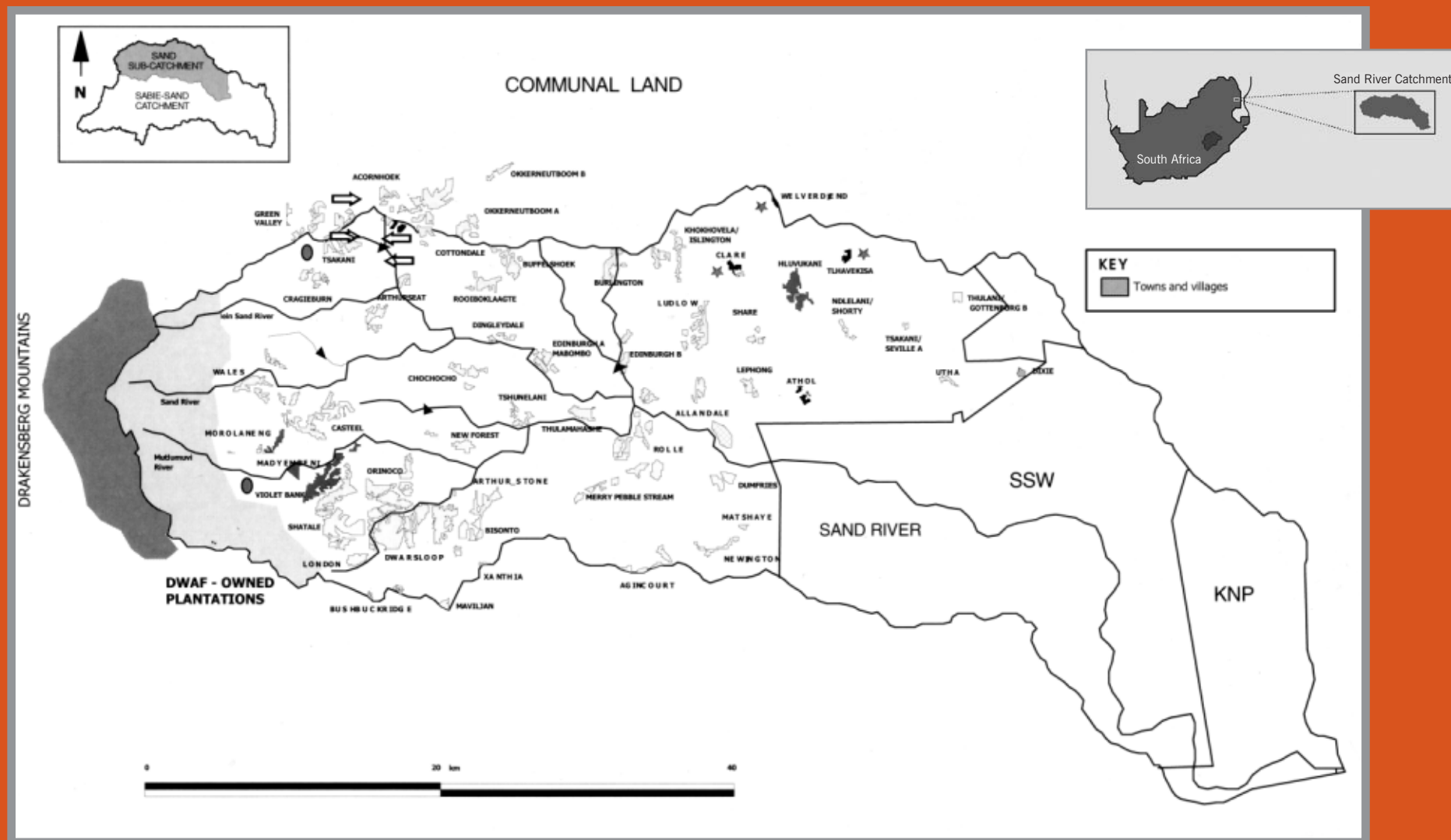


Pipe linked to big dam



Earth dam

# The Sand river catchment



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