Some, for all, forever...

The South African Constitution and Bill of Rights guarantee all South Africans access to ‘sufficient water’. What does this mean for people living in the Sand River Catchment, and how can we work towards claiming our rights and fulfilling our responsibilities?

Water and the law

Some water, for all, forever

Water and the law is the slogan of the Ministry of Water Affairs and Forestry. It addresses the issue of how much water is available and how it should be managed.

But what does this really mean for me?

Some...

South Africa is a generally dry country, and the Sand River Catchment is a dry part of our dry country. Unit 2, Catchment Capital, gives you more information about the South African and our catchments’ climate.

Water is a limited resource: there is only so much and we cannot make more. Nearly all life on earth depends on water. Because of this, water needs to be carefully managed, and this is especially true for places where water is in short supply, like the Sand River Catchment. People are not necessarily entitled to as much water as they want where there is not enough to provide large quantities for all. Our constitution and water legislation demand that access to water is equal and fair. Because of this, the slogan says that we are all entitled to some water. How much that is depends on how much is available, our infrastructure, what we intend to use water for, and how we intend to use it. Over and above the Reserve, it also depends on if we can pay for the water we want to use. As a minimum, the water that we are entitled to is:

- 25 litres of free water per person per day available at a reasonable distance from our homes to meet basic human needs such as washing, cooking and drinking; and
- enough water in the rivers in our catchment to keep the ecosystems we depend on

Water: our right, our responsibility

Chapter 2 of the South African Constitution, the Bill of Rights, states very clearly that “Everyone has the right to have access to... sufficient food and water” and that “The State must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of these rights.” The Bill of Rights also states that everyone has the right “to an environment that is not harmful to their health or wellbeing”, and to “have the environment protected, for the benefit of present and future generations” These rights shape our approach to water and water management in South Africa and the Sand River Catchment.

An important ministry involved in working towards fulfilling these rights is the Department of Water Affairs and Forestry. One of the first things it did after the 1994 democratic elections was to set in motion processes of reviewing and transforming water policy and legislation. The three main principles upon which they based the new laws were Equity, Sustainability and Efficiency.

These principles and our constitutional rights are captured well in the slogan of the Ministry of Water Affairs and Forestry: “Some, for all, forever”

The two main legislative documents that govern water management and supply are:

- the National Water Act (NWA 1998);
- and the Water Services Act (WSA 1997).

These acts provide the framework within which water in South Africa must be managed. Two important aspects of these acts are that they approach water management through the unit of the catchment; and that they set a Reserve for the environment and for basic human needs.

For ALL...

This emphasises fairness and equity. Every person in South Africa must have access to water and the benefit of using water. Decisions to allocate water must reflect this.

Our new legislation recognises that our water resources belong to all South Africans. All are entitled to benefit from using them. The old laws, pre-1998, gave land owners the right to surface and groundwater and on and under their land. As land ownership was discriminatory, this disadvantaged the majority of people living in our country. New legislation seeks to correct these past injustices.

The Constitution of our country also guarantees fairness and equal treatment for all. All people in South Africa have equal rights to access to water, and equal rights and responsibilities to participate in its management. The National Water Act requires that there is enough water allocated from dams, rivers and groundwater to supply people with the water they need for drinking, cooking, and washing, and to sustain ecosystems and the animals and plants that live in them. The Water Services Act specifies the ways that people can gain access to water. These legislative documents apply to everyone - no single person or group will get special consideration above others.

At present, access to water is still not equitable. The Constitution, which establishes our right to sufficient water, also states that the government will work progressively towards realising this right. This means that the government needs to focus especially on securing access to water for those who do not have it. Those who participate in local level water resource management also have a responsibility to focus on ensuring equitable access to water and its benefits.

Forever

This part of the slogan reminds us that water resources must be used wisely so that they are not damaged for the future. We need to use water to promote social and economic development, but, at the same time, we must protect the environment because the environment is where our water comes from. This part of the slogan addresses the issue of sustainability. Ensuring that our limited water resources are not wasted, and that they are used to our best possible advantage at as much water as they want where there is not enough to provide large quantities for all. Our constitution and water legislation demand that access to water is equal and fair. Because of this, the slogan says that we are all entitled to some water. How much that is depends on how much is available, our infrastructure, what we intend to use water for, and how we intend to use it. Over and above the Reserve, it also depends on if we can pay for the water we want to use. As a minimum, the water that we are entitled to is:

- 25 litres of free water per person per day available at a reasonable distance from our homes to meet basic human needs such as washing, cooking and drinking; and
- enough water in the rivers in our catchment to keep the ecosystems we depend on...
An ecosystems approach to water management

It’s not only people that depend on water - most life depends on this precious liquid. And people cannot manufacture water. They depend on a healthy ecosystem to supply and clean their water. Healthy ecosystems also supply many other natural resources.

An ecosystems approach

Natural systems, like rivers, wetlands, lakes, forests, grasslands, soils and air provide people with a range of ‘goods and services’. Rivers provide water and food, forests provide important natural products such as medicines and building materials, and wetlands play a vital role in purifying water. These natural systems are linked or interconnected. For example, a river is linked to the surrounding land, such as a forest. Ultimately, what happens to that forest will affect the quality and quantity of water in the river. If deforestation occurs erosion might follow, and soil that gets washed into the water will affect water quality. Valuable topsoil will be lost, and so will the ability of the river to provide for animals, trees and the people who depend on it. An ecosystems approach recognises these links and tries to look at things in a more holistic way to work towards sustainability. If we apply this approach to catchment management, we recognise that the catchment is made up of ecosystems that are linked to each other, and that people are a very important part of these ecosystems. The health of ecosystems and the health of the people who live in them are tied to each other, and we cannot have healthy people without healthy ecosystems, or healthy ecosystems without healthy people. If we want to manage things using an ecosystems approach, we need to work towards integration. Managing water to meet our needs and maintain our environment in a healthy state can be called an ecosystems approach.

What is ‘development’?

We often think of development in terms of large agricultural schemes, factories or mines. This kind of development is very important for our national economy, but equally important to our nation and probably more important for rural people is the idea of developing secure livelihoods in rural areas. How can we secure access to food, water, income and a healthy environment for residents of the Sand River Catchment? Many of the activities that can contribute to secure and sustainable livelihoods depend on having access to water. Better access to water can create opportunities for many small businesses and for food production. It is important that we look at this level of development as well as at big schemes. Local level development of sustainable livelihoods can often create a more secure and sustainable future for rural residents than short term commercial activities.

What is ‘sustainability’?

Sustainability, sustainable development, sustainable living, sustainable livelihoods... ‘sustainable’ is a word we hear a lot these days, but what does it actually mean? There are many different definitions, and many approaches that can be taken towards working for sustainability. The phrase generally means that a focus on sustainability means working towards meeting peoples’ present needs without damaging the environment so much that future needs - both for people now and for future generations - cannot be met.

Economic growth is needed to contribute to a better life for all, particularly poor people, but it is important to decide how this growth happens. It should not damage our potential to support ourselves in the future.

The catchment is the basic unit for water management

A catchment is the area or basin from which water flows into a river (see Unit 2). Catchments are separated from each other by areas of high ground, and water will not naturally cross into other catchments. It can be brought into or exported from one catchment to another, but this is usually a costly and technically complicated process. So it makes sense to manage our water in the units that catchments provide. The environment, people and other living things within a catchment depend on the water that that catchment supplies. We need to manage the water within our catchment to provide enough water for the environment, our people and the other living things we share our land with and depend on. A healthy catchment environment is better able to supply us with water and other natural resources.
In the past, people living in South Africa did not have equal access to water. Under the new laws, South Africans are working towards ensuring that all people have access to adequate water supplies. This is not always easy, as many of the old patterns remain and water is limited.

The way things were...
Before our new legislation came into effect, water in South Africa was managed according to a water act that was passed in 1956. This act, like much of the legislation from that time, discriminated unfairly in favour of a privileged few, and against the majority of South Africans. The old law linked people’s rights to use water to land ownership. Owning land gave you the right to use water flowing through or next to your land, and the groundwater underneath your land. Land ownership was reserved for a privileged minority, who could thus claim and use much of South Africa’s water. Access to water was insecure for the majority of South Africa’s people.

A new way of working
The new National Water Act recognises that water belongs to the whole nation, and works towards administering it for the good of all of South Africa’s people. It protects the right of all South Africans to have enough water to meet their basic needs (the Basic Human Needs Reserve); reserves the water required to keep the ecosystems we live in and depend on functioning effectively (the Ecological Reserve); and the water required for strategic purposes. After these needs are met, water must be allocated in an equitable way for social and economic development, poverty alleviation and job creation.

Finding the balance...
In many parts of our catchment, access to water and the benefits it provides are not shared fairly. For example, research shows that in some areas irrigation schemes use a lot of water, while in other areas, people survive on far less than the World Health Organisation’s recommended emergency minimum of 8 litres per person per day. Even at a village level, access to water is often inequitable, and our infrastructure often increases inequities. People living in the lower catchment are at the mercy of upstream water users.

We need to find a way to make access to water equitable. In terms of the water law, nobody is more important than anybody else. All have a right to enough water for their basic needs (the Basic Human Needs Reserve); reserves the water required to keep the ecosystems we live in and depend on functioning effectively (the Ecological Reserve); and the water required for strategic purposes. After these needs are met, water must be allocated in an equitable way for social and economic development, poverty alleviation and job creation.

Stealing our share?
In many villages people who are impatient with official water delivery, or who wish to use more than their fair share of the water available have established illegal connections. These may solve problems in one place, but they mean that further down the pipe, less or no water is available.

Illegal connections also damage infrastructure, which in our area is already inadequate. Illegal connections benefit a few at the expense of many. They work against equitable access to water, and may infringe on people’s human rights to enough water for drinking, cooking and washing.

Do rural people pay more?
People who do not have secure access to enough water often have no option but to buy their water from informal water providers. The prices charged are usually far, far higher than those people pay for water supplied by municipalities in urban areas. Evidence from Bushbuckridge suggests that prices paid by rural households can be much higher than in areas where proper cost-recovery mechanisms are in place. Our work has shown that on average people pay between 1 and 2 cents per litre for water in rural villages, depending on where they get it. However, people can pay as much as 10c a litre if they hire a bakkie from a water vendor to fetch water. In contrast, much less is paid for water in declared townships with a reticulated (piped) supply. In Dwarsloop and Mkuhlu water costs about 0.05c per litre, and in Hazyview people pay about 0.14c per litre.

Some examples of what our research has shown that people pay, on average, for 10l of water:
- Violetbank F: 12c
- Township: 15c
- Hazyview: 1.4c
- Dwarsloop: 0.5c
- Mkuhlu: 0.5c

The goals of water management
South Africa is not rich in water, and it will need to manage its water carefully to achieve a better water future. The Ministry of Water Affairs and Forestry has set 7 goals for water management:

1. Making sure there is enough water for basic human needs
2. Making sure that the natural environment is protected
3. Making sure that everyone has equal access to water
4. Making sure that water is not wasted and that it is used efficiently
5. Making sure there is enough water for the future, for a healthy economy and a prosperous society
6. Making sure that everyone pays their fair share for the cost of water that they use, in other words there is equity in payment for water
7. Honouring our obligations to our neighbours, Lesotho, Swaziland, Mozambique, Zimbabwe, Botswana and Namibia
How much water do we need in a catchment and what do we need it for? There are some requirements for water that are not negotiable: people need water for washing and drinking, the environment needs a certain amount of water to keep healthy, and South Africa needs to meet its strategic needs and international obligations. After these needs are met, we need to negotiate, decide on and manage the use of any remaining water.

Non-negotiable water requirements
It is important that all people participate in managing their water resources, but South Africa’s commitment to the two important principles of equity and sustainability mean that some water needs must always be met. For example, we cannot use all of the water in a catchment for one or two large irrigation schemes, leaving people in other parts of the catchment without access to water for drinking, washing and economic activities. It is also important to keep the ecosystems on which we depend functioning properly, so that they can continue to provide us and future generations with water and other natural resources. The law of our land has established a Reserve to work towards equity and sustainability. The Reserve is divided into two: the Ecological Reserve and the Basic Human Needs Reserve. There are two other categories of non-negotiable water allocations. All of these (1-4 below) are set by and the responsibility of the National Ministry of Water Affairs and Forestry.

1 Water for people:
The law of South Africa states clearly that we must keep aside and work towards providing a minimum of 25 litres of water per person per day for the basic needs of drinking, cooking and washing. This is the Basic Human Needs Reserve (BHNR).

2 Water for our ecosystems
Another obligation and right is enough water to maintain our aquatic ecosystems. This is the Ecological Reserve.

3 Water for strategic and future needs
Strategic needs include water for power generation and other long term development needs.

4 Water to meet our international obligations
The rivers that run through our area do not end at the South African border. They cross into Mozambique before reaching the sea. People and ecosystems in Mozambique depend on these rivers for the same things that we do, and Mozambique thus also has rights to the water within our rivers. We cannot use or abuse our waters without thought for our downstream neighbours. The South African government has signed an agreement with the government of Mozambique. This agreement stipulates that we need to ensure that a certain percentage of the water in our catchments reaches our downstream neighbours.

Once we have met these needs within our catchment, we can negotiate:

Water for Schedule 1 uses
Schedule 1 uses include water above the BHNR that is used for small scale productive uses within households. If this is used directly from a water source (river, borehole, fountain) no licence is required. Schedule 1 does not include water supplied through reticulation (pipes and taps).

Water for licensed use
Any water use above the obligations discussed above will need to be negotiated with and licensed by a Catchment Management Agency. This includes water for irrigated agriculture, industry or mining.
Our entitlement to enough water...

In order to meet its constitutional obligations, the government has currently set 25 litres of water per person per day, available within 200 m of where a person lives. The amount of water needed to fulfil this right must be allocated from water available in a catchment before other uses can be considered.

But how much is enough?

25 litres of water a day is enough only to meet our demands for water for drinking, cooking and washing ourselves, our clothes and our dishes. It is not the only water that we need. In order to alleviate poverty in our catchment, people will need to access more water than this to grow vegetables and fruit, to water their livestock, and to support other productive activities (such as brickmaking, beer making, bread baking, hairdressing).

The law refers to these kinds of water uses as Schedule 1 uses. How much water do we need to support these activities? And how are we going to access it?

The importance of infrastructure

Inefficient infrastructure or the lack of infrastructure to access water is a major challenge in our catchment area when it comes to water for both domestic and Schedule 1 uses. Even where there is infrastructure, it is often inadequate to meet our needs, of inefficient in its delivery of water. In some areas infrastructure has been damaged by illegal connections, or has been the target of vandalism or crime.

In order to obtain the water we are entitled to for domestic uses and water for productive uses, we need to think of creative and effective ways of improving and maintaining our infrastructure. We also need to carefully examine other ways of obtaining water.

Rainwater harvesting, recycling water, and wise use of water directly from river, fountain or borehole sources can all help to increase our water security (see page 10).

The Basic Human Needs Reserve for the Sand River Catchment

The BHNR concept is still evolving. However, it currently works around the Reconstruction and Development Programmes (RDP) absolute minimum of 25 litres per person per day. At its most basic, this amounts to the population of our catchment multiplied by 25 litres per person per day. This led to two estimates, current and projected (see the table below). These figures are being examined in a current research project. Some important points to consider are:

- Where is water in our catchment? The area in our catchment where most of our people live is not the area where most water is available. In other words, the BHNR may all be needed in one part of the catchment because that's where people live but the water may have to be found elsewhere.
- How much water do we need at our sources to ensure that the end user gets enough? Even under optimum engineering conditions, having a quantity of water available somewhere in a catchment (either in a dam, or in an assured flow) is not the same as ensuring that people will receive that allocation at the tap. At the very least a realistic safety margin to cover conveyance and storage losses must be included. This is an issue of stock. We need a lot more stock (available water) than simply our population number multiplied by 25 litres of water per person per day to ensure that 25 litres of water a day is available to people through our infrastructure and other sources.

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<th>YEAR</th>
<th>Population</th>
<th>Level of service</th>
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<td>1998</td>
<td>litres per person per day</td>
<td>millions of cubic litres per year</td>
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<td>2010</td>
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Estimates of the Reserve (water required to meet basic human needs) based on two levels of service— the RDP minimum and RDP medium-term figures.
What is the Ecological Reserve?

The Reserve is intended to protect our water resources so that basic human needs can be met and ecological functions can continue. Technically speaking, the Reserve is defined in terms of the quality and the quantity of water needed to protect the Basic Human Needs Reserve and the structure and function of ecosystems to ensure sustainable development and use.

Simply put, the Ecological Reserve is the amount and quality of water that must remain in an aquatic ecosystem to ensure its health, now and in the future. Through the law, we recognize aquatic ecosystems as:
- rivers
- wetlands, and
- estuaries.

Although we have no estuaries in the Sand River Catchment, our rivers and wetlands require a certain amount of water to maintain their health.

The National Water Act outlines a series of Resource Directed Measures (RDM) that work towards protecting our water resources.

Managing our rivers for the way we choose them to be

An important part of participating in managing our catchment is deciding what class of health we want our rivers to be in. Different classes of rivers offer different benefits. Choosing what class of health we want involves looking at trade-offs. Managing our river for a natural state increases the health of our ecosystem, but limits how much water we can take from it. It may enhance tourism potential, but lower potential for industrial growth. Future work with the Save the Sand Project will examine these issues in more detail.

DWAF currently has 6 classes for river health, from class A to F. In broad terms, however, we can classify our rivers as natural, good, fair, or poor.

An Ecological Reserve for the Sand River Catchment

Scientists and biologists are responsible for determining how much water an aquatic ecosystem needs to stay healthy. They do this using many specialised techniques and calculations. However, a final figure cannot be settled upon until people living in a river catchment have chosen the class (see Unit 8 for more detail).

Managing our rivers

Purposes for the way we choose them to be

- water for homes, farming and industry
- water for diluting, processing and transporting wastes
- water for ecotourism and nature conservation
- water for recreation and beauty.

However, they cannot provide all of these things at the same place and at the same time. If too much water is taken from a river for irrigation or industry, or too much waste is pumped into a river, a river will become overloaded, and it, and the environment it runs through will become less healthy and less able to provide for us. In order to maintain our river and the environment in the class that will benefit us most, we need first to see what state of health our river is in, and then to choose how healthy we want our ecosystem to be and what goods and services we need our river to provide. Depending on what class of river we want, we will plan developments, and manage our water.

A natural river is not used very much by people, and provides good services in protecting biodiversity, recreation and tourism, places for spiritual renewal and religious ceremonies. People have not had much effect on the water resource, and it is still close to natural conditions. Some mountain streams in our catchment may fall into the natural management class.

A good river is a water resource that has been slightly modified by human impacts. A good river provides a limited amount of water and waste disposal services, as well as nature conservation, opportunities for ecotourism, and beauty. Natural resources such as reeds, fish and medicinal plants will usually be available.

A fair river has been considerably affected by human impacts, and is far from its natural state. A fair river can usually offer a fairly high supply of water and waste disposal, but water usually requires expensive purification. A fair river will not provide many of the other natural resources usually associated with rivers.

In rivers classified as poor, too much water is already being taken out. People will need to work towards healing the river through removing less water and rehabilitating damage.
Once the Ecological and Basic Human Needs Reserve has been allocated, and we have met our international obligations, we must negotiate how best to share the water that is left. Schedule 1 or domestic water users already have permission to continue their use of water, but these uses must be negotiated at a village level to ensure access is equitable. Other users will need to apply for licenses.

Negotiable water allocations include...

**Water for Schedule 1 uses**
Schedule 1 uses include water above the BHNR that is used for small scale productive uses within households. If this is used directly from a water source (river, borehole, fountain, rainwater tanks) and not from reticulation (pipes and taps) no licence is required. People using water from these sources and in this way already have permission or authorisation to use this water. Such productive uses could include vegetable and fruit tree growing, water for livestock, beer making, brick making, hair dressing, jam making, baking, and many more. These kind of activities are important if people who live in rural areas are to secure a sustainable livelihood for themselves and improve their standard of living. The Department of Water Affairs and Forestry recognises the importance of water in poverty alleviation, but there are many challenges involved in managing Schedule 1 uses. It is important that the principles of equity, sustainability and efficiency are taken into account when planning for, using and managing this water.

**Water for licensed use**
Larger scale commercial use of water will need to be licensed by a Catchment Management Agency. This includes water for irrigated agriculture, industry or mining and bulk supply. The Catchment Management Agency for the Inkomati Catchment must ensure that any such licensed use of water will not disadvantage or harm other catchment residents, and that it fits within the framework of the Catchment Management Strategy. Because we have limited water supplies, careful choices will need to be made about this form of allocation. How is water being used in our catchment? Water users will need to register their uses. But registration does not necessarily mean a water licence will be granted. What water uses will benefit our catchment and its residents the most? This is the most important question we face in allocating water through the licensing system.

A water license is a legal document. It entitles a person to use water within the conditions of the license. These conditions must be reviewed at least every five years. Licenses can be withdrawn if users do not meet the conditions. In order to obtain a license, people will need to show that they plan to use water in a way that is efficient and not wasteful, and that their use of water will take both the environment and the principle of equity into account. Where there is not enough water for all users, a catchment management agency can call for compulsory licensing. This means that all existing and potential users (except for the Reserve and Schedule 1 users) will have to apply for licences. Compulsory licensing offers the opportunity to withdraw permission for certain water uses and reallocate the water to another sector.

**Authorisation (permission) to use water**
A person can only use water if they have been authorised to do so in terms of the National Water Act. This is only after water has been set aside for the Reserve, for international obligations, and for strategic uses such as water for power generation and for inter-basin transfers. Schedule 1 users already have authorisation to use water, provided they are taking it directly from the source (such as a river or a borehole) and not from piped supplies. Local government has a license for this and for water for domestic uses. Schedule 1 uses from piped supplies, and domestic uses above the basic minimum set by the government (currently 25l of water per person per day) might, in future, incur charges. Authorised users have the right to use water, but also the responsibility to use it wisely, and efficiently, and to protect the environment and consider the needs and rights of other water users.
Issues of allocation

Allocating water is not a simple process. Many challenges lie ahead if we are to meet our goals of equity, sustainability, and efficiency. Water use will need to be carefully managed and monitored to ensure a fair and sustainable future for all.

How does a river measure up?
The amount of water in a catchment

The amount or volume of water in a catchment varies depending on the rainfall and where you are in a catchment. Normally as a river moves downhill water is added from the sides and so the quantity of water increases. When we talk of catchment water, it is usually the amount of water that is leaving the catchment. In the case of the Sand River, we would measure this at the point where it joins the Sabie River. However, there are different ways of measuring this amount of water.

The Mean Annual Flow can be given as a total volume of water (Million m³) or as an average discharge (m³ per second). This gives an indication of the size of a catchment and the ‘type’ of river. If you look at the Instream Flow Requirement (IFR) figures (see page 6), you will notice that the river flow or discharge changes every month. This is represented as m³ per second. In other words, if you read 2 m³ per second (or 2 m³/s), this means that standing at a point on the river bank you would measure 2 cubic meters of water going past you every second.

In South Africa we normally talk about the mean annual runoff or MAR for the whole catchment. It is useful for obtaining gross estimates for the whole catchment. The MAR represents the difference between rainfall and evaporation. The MAR for the Sand River Catchment is 158 Mm m³/yr but this has been reduced to 145 Mm m³/yr by commercial forestry. This river contributes about 23% of the Sabie River flow.

It is important to note that these MAR figures do not mean all the water is available for use. Some water for example, arrives as a flood and cannot be used. Normally at least 30% cannot be used but this is a very rough figure. The amount available for use depends on the time of year and the amount of rain received in the catchment.

Poverty alleviation and water...
Access to water can play an important role in alleviating poverty and helping people to secure an income. Many of the household activities that people engage in to secure food or make money are dependent on water. In some villages surveyed in the Sand River Catchment, these activities included farming with livestock, vegetable gardening, fruit tree cultivation, beer brewing, brick making, hair dressing, making ice blocks for sale, grass mat weaving, brick making and building, baking, car washing, raising chickens and ducks, making medicines, and religious uses. These uses, if carried out on a small scale and at a subsistence or household level, would all be regarded as Schedule 1 uses, and would not require licensing. However, they would need to be negotiated at a village level to ensure that access to water was fair to all. Water should not be monopolised by the richest or more powerful people, nor by those who live closest to taps or other water sources.

Without access to adequate water, many of these activities cannot be carried out.

Water for productive domestic uses
People need access to more water than the 25 litres per person per day allowed for by the Basic Human Needs Reserve if they are to engage in productive household activities, and it is very important that this is planned for. It is important to note that the Reserve is not intended to include water required for additional household or productive needs, subsistence crops or small-scale productive use (for example, garden vegetables, livestock production or micro enterprises). This is an important component of peoples livelihoods that has been ignored until recently. Like any other sector, the productive demands of rural users need to form part of allocation plans and must be allocated from available water by the Catchment Management Agency, or by DWAF in the absence of a CMA.

There are many challenges in this area, and many questions that still need to be answered. Some of the most pressing are:
- How much is enough? How much water do we need to provide us with opportunities to engage in productive activities that contribute to food and income security?
- How can we assure that this water is available and accessible?
- How do we draw a line between productive household uses (which do not require a water license) and commercial activities (which do)?
Institutions that support sharing

How will water in a catchment be managed and whose responsibility is it? Some of the allocations are determined by and the responsibility of national government, other allocations are made by the Catchment Management Agency. South African citizens have a right and a duty to participate in decisions taken at all levels.

Who is responsible for what?

Our new water legislation provides for people to manage their own water resources. The national government is responsible for ensuring that the Ecological and Basic Human Needs Reserve is met, and that water to meet our international obligations and strategic needs is allocated. Allocation of remaining water is to be decided at a catchment level through public participation managed by a catchment management agency.

Catchment management agencies will work to support development within a catchment and to serve the interests of equity, redress and wise and efficient use of water.

Where catchment management agencies are not yet in place, the Minister of Water Affairs and Forestry acts in its place. We are currently in the process of establishing a catchment management agency for the Inkomati catchment. Catchment management committees may be formed for sub-catchments such as the Sand River Catchment. They will advise the catchment management agency.

Unit 8 of the Saving the Sand Series will provide more information about institutions designed to support our new water legislation.

What is a Catchment Management Agency?

Our legislation states that the main functions of a catchment management agency are:

1. to investigate and advise on the protection, use, development, conservation, management and control of water resources in its water management area
2. to develop a catchment management strategy
3. to co-ordinate the related activities of water management institutions within its water management area.

According to the law, a catchment management agency can:

- manage and monitor permitted water use within its water management area
- conserve and protect the water resources and resource quality within its water management area
- do anything necessary to implement catchment management strategies within its water management area

Public participation in water management

It is the responsibility of all South Africans, those working in government, those working in water management institutions, and all water users, to participate in the management of their water. Many mechanisms and institutions are being established to make this possible:

Input at policy level

Any new policy or legislation on water and water management, from provincial or national government, goes through a process that allows for and encourages public comment.

Working through Catchment Management Agencies

Each of South Africa’s 19 water management areas will eventually have its own catchment management agency. The Sand River Catchment will fall into the larger Inkomati Catchment. Subcatchments, such as the Sand River Catchment, may have their own catchment management committees, which will feed into and inform the work of the larger catchment management agency. Catchment Management Fora, which will allow for broader public input, will also be established.

Working at local government level

Many water management responsibilities fall to local government. Planning for water use and management also form an important part of the Integrated Development Planning (IDP) process. There are many structures that allow for public participation at local government level, including working through Community Development Fora (CDFs), village committees and ward councillors.

Working at village level

We all need to participate in managing our water resources. At village level, water committees have an important role to play. Even at household level, wise and efficient use of water is an important contribution all can make to better water management in South Africa.
Multiple sources for water security in rural areas

We cannot simply sit back and wait for the government to solve our water problems. There are many ways that we can work towards making our access to water more secure in rural areas. The more different sources we use, the more secure we are likely to be: if one source dries up, others may still provide us with water.

Secure access to enough water is important for all aspects of life and development. Unfortunately, for many people living in our catchment area access to water is often not secure or reliable. Even in areas with pipes and taps, there are often water shortages. Sometimes we think access to water means only one thing - having functioning and efficient infrastructure. However, there are many other options for watersupply. While some of these may provide only small amounts of water, added together, they can contribute in important ways to water security for a village or a family. They can be added to water supplied by the municipality to provide water for people's basic needs and for small scale productive use. How many sources of water are available in the place where you live?

The sources we have access to, and the amount of water they provide will differ from village to village, and will be different in different seasons of the year.

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Using water efficiently and appropriately...

With access to water comes responsibility for managing it, and for using it in wise ways. How often have you seen a tap left running? Water is a limited resource, and if it is wasted, there is less available for all. Water use should be planned, and, especially in our dry catchment area, carefully examined to make sure we are benefiting from the ways in which we use water.

How can we get the most out of the water we have available? In some instances we can use it twice. Water used for washing can keep our vegetables alive. Often there are ways of engaging in activities that are more water efficient than others. For example, a car washing business that washes cars using a hose will use far more water than one using buckets and cloths. More efficient use of water can make it possible to engage in more productive activities. A green lawn may look nice, but how does it contribute to our livelihoods? Is it worth the water it will use or are there more productive uses we could find for our precious water?
Access to water = access to opportunities

Access to sufficient and reliable water for productive uses in and around their homes provides people with opportunities to secure their sources of food and income. Improving access to water will not, on its own, alleviate poverty. Many other factors such as access to credit and markets, skills, and institutional frameworks also play a role. However, at its most basic level poverty can be defined as a lack of opportunity, and access to water can help to increase opportunities and options.

In our villages people are using water productively for...
- fruit trees
- backyard gardens
- brick making
- juice making
- beer making
- ice making
- small hair salons
- textile dyeing

Limited access to water means limited opportunities for engaging in productive activities

Improved access to water can help people to improve the security of their food and income

Access to water for productive use and a supportive environment can help people to overcome poverty and build secure livelihoods

How much is enough?

Everyone accepts that people need access to water enough for their basic human needs, but more than this is needed if people are to engage in productive activities for secure and sustainable lives. How much is enough to support people in our catchment? And how can we use water to alleviate poverty and build better ways of life?
Small scale productive uses of water have not been well recognised. As we take more control of our water resources, these need to be measured and planned for. They will be important in supporting the residents of our catchment in building a better life for themselves.

The invisible sector
One sector that was almost completely forgotten in water allocations until recently was water-based activities at a household level. These activities may include backyard gardens, brick making, juice making, or small hair salons. All of these activities need water and all of them have the ability to support household income. In many cases water for these activities is sourced through the domestic supplies. However when planning water resource allocations based on demand this water need was simply not recognised.

- Our research has shown that by providing people with an extra 40 litres per day they have the option to start using this water for small-scale businesses (in other words, productively).
- We also saw that when given the water, 70% (or 7 out of 10) households planted fruit trees and at least half the houses had backyard gardens.

Productive household activities have an important role to play in alleviating poverty, and increasing food security. How best can we plan for these activities? How can we ensure that there is sufficient water available to support them?

Deciding on water uses...
After we have met our non-negotiable statutory requirements we need to consider which other sectors require water. In principle, for example, agriculture could be practised nearly anywhere providing that there is sufficient water and nutrients. The same could be said about industry. But we need to ask some key questions before we make these types of decisions:

- Has the Reserve been met?
- Have we fulfilled our other obligations?
- How much water is there in the catchment?
- Who is using it currently and how?
- Is this the most efficient, equitable and sustainable use?

Thus for example, growing sugar cane may make a lot of money for some people but the costs may be high. It may deny water and hence livelihoods for others and may impact on downstream water availability and use. Moreover, it cannot feed that many people in the catchment- so, is it really providing food security for catchment residents? Additionally, sugar is a water hungry crop. So we have to ask questions that relate to our context. Is this form of land and water use actually threatening the overall water security for a catchment? On the other hand, it provides jobs and if it is a high-value crop it may generate much needed income. So, these issues need to be weighed up. An important question to consider when looking at large scale developments is whether they will impact negatively on people’s ability to access water for small scale productive uses.
Learning to Share...

Exploring ways of managing water for entitlements and productive uses in the Sand River Catchment.

New water legislation in South Africa stipulates a Reserve - enough water for the basic needs of all people within the catchment, and enough water to keep our ecosystems functioning effectively. Above and beyond this, we need to manage our water carefully to promote sustainable economic and social development.

What factors do we need to consider when it comes to making choices about water use in our catchment area?
Promoting water security and small-scale productive use of water

"Poor men and women have much to teach us, if we can only find the time and the humility to listen... poor people are saying that they need water not only for drinking, cooking and washing, but also for productive purposes. We must hear the desire of poor households to lift themselves up out of poverty, and the role that water can play in this process."

Ronnie Kasrils, Minister of Water Affairs and Forestry

In this unit...

- Some, for all, forever...
- An ecosystems approach to water management
- Equity: sharing limited water fairly
- Water to meet our obligations and fulfil our rights
- The Basic Human Needs Reserve
- The Ecological Reserve
- Schedule 1 and licensed water use
- Issues of allocation
- Institutions that support sharing
- Multiple sources for water security in rural areas
- How much is enough?
- Small scale productive uses of water