BUILDING PEOPLE'S POWER FOR WATER SOVEREIGNTY

AN ACTIVIST GUIDE

COPAC
CO-OPERATIVE AND POLICY ALTERNATIVE CENTRE

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An Activist Guide

Our Water. Our Power. Our Future.

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COPAC
CO-OPERATIVE AND POLICY ALTERNATIVE CENTER

Building Human Solidarity to Sustain Life

FRIEDRICH EBERT STIFTUNG

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Glossary

Climate justice - recognises climate change is caused by the capitalist system and its addiction to gas, coal and oil. It focuses on the challenges faced by people and communities who are most vulnerable to the impacts of climate change and who have contributed the least to the causes of the climate crisis. Climate justice also proposes systemic changes, through a deep just transition, that ensures a safe, healthy and clean environment for all life on earth.

Deep just transition - represents a transition from a carbon-based society to a low or zero carbon society but in a manner that limits the negative impacts on workers and communities. It seeks to transform energy, food, transport and all major social systems to ensure we sustain life. The key issue is that industry must bear the burden of the transition not workers and communities.

Desalination - is the process of removing salt from the sea water to make it suitable for human consumption. Technical solutions like desalination are expensive and is a false solution as it puts pressure on our energy supplies, damages ocean eco-systems and all in all will be a wasteful practice and will not solve the problem.

Ecological justice - goes one step further than environmental justice (which looks at justice for people). Ecological justice includes justice for all living animals, plants, humans and the ecological systems within which they exist.

Ecosystem - includes all the living things – humans, animals and plants – in a particular area and how they relate with each other and to the non-living environment such as the earth, sun, soil, climate, atmosphere.

False solution - a solution that does not go to the root of the problem but merely reproduces the existing power structure.

Food sovereignty - is the right of people to healthy and culturally appropriate food produced through sustainable methods. It is also about people's right to control their own food and agricultural systems.

Fossil fuels - a fuel (such as coal, oil, or natural gas) that is formed in the earth from dead plants or animals[1] over hundreds of thousands of years.

Greenhouse gases – are gases in the atmosphere that trap the heat from the sun. The main greenhouse gases are carbon dioxide, methane, and nitrous oxide.

People's science - is the participation of the public in scientific research to better understand the environment in which they are located. This can be done in collaboration with professional scientists and can be a means to empower people and democratise science.

Water footprint - is all the water used from the beginning to the end of producing a product such as water for crops, ingredients used, cleaning etc.

Water justice - refers to the human right of access to clean water for survival, eating, drinking, fishing and recreation. It is a part of water sovereignty.

Water sovereignty - is about people preserving the water cycle and controlling water storage, use, access, and supply in a manner that realises people's rights to water while meeting the needs of nature and defining the path towards a sustainable water commons.

Module 1: Introduction

The Co-operative and Policy Alternative Centre (COPAC) was established to build grassroots capacities through popular education and activist training. One of our key aims is to support the development of systemic alternatives to ensure ecological justice and which meets the needs of workers, the poor, women, youth and nature in general.

COPAC has been working in alliance with the South African Food Sovereignty Campaign (SAFSC) on food sovereignty and has been active in championing a Peoples Food Sovereignty Act, developing community seed bank resources, promoting agro-ecology, supporting worker cooperative development and networking cooperatives as part of the solidarity economy to counter the capitalist control over our food. The ongoing drought has affected small scale farmers and impacted harshly on many of the communities that we are working with. South Africa is a country that is drought prone and climate change is going to make the frequency and severity of droughts even worse. There is the real threat of millions more going hungry in our country – as more and more food crops fail we can expect food prices to go through the roof. The poor and more vulnerable will be the least able to withstand these impacts.

In contrast, many of the commercial farmers have their own dams on their properties and thus have been able to better withstand the impacts of the drought. This continued inequality with our water resources is harmful to food sovereignty as it leaves the production of our food in the hands of big agricultural companies. This forces the majority into an untenable cycle of hunger and thirst. It is clear to us that in order to achieve food sovereignty, we need water sovereignty. The two go hand-in-hand.

In COPAC's drive towards food sovereignty and to better understand South Africa's worst drought, it was necessary to trace our water path. This meant trying to understand everything about water from its source, to the flow, its storage, and

use. In exploring these aspects, we delved into the pot of policies that are set up to manage and care for our water. In unpacking all the aspects of water, it has become increasingly clear that dealing with water challenges is not just an environmental issue, it is a political and economic one too. More importantly, it is an issue about power. In fact, everything to do with water – from the choice of infrastructure; to where and how water flows; to the design of policies, are all shaped by vested interests, power relations and motivations.[2] Poorer areas are ignored, not because of a lack of water but rather because of local government seeing them as a burden in terms of cost.

It is clear to us that the issues of water are systemic and are linked to the power and control over our water resources. There is thus a need for greater social power from below to manage our water commons and to create an equitable water relationship.

COPAC's alliance with SAFSC has seen great progress, but this is not enough to achieve food and water sovereignty. It is this realisation that has led us to consider creative and alternative pathways such as food and water sovereignty, people's science, indigenous knowledge and a deep just transition from a system that is failing.

The aim of this guide is to empower ourselves to challenge the system and to encourage grassroots activists and movements to engage on issues of water justice and people's science. It is our hope that this water activist guide can be used to democratise knowledge and information on water so that people will be empowered to become water justice activists who can work in their communities to develop a People's Water Charter.

The guide provides a brief understanding of climate change and the impacts on our water resources. We look at water in terms of science, governance, and justice. It concludes with developing a pathway towards a People's Water Charter – that can reclaim the state and the space for a just transition. This is what we mean by water sovereignty from below!

Module 2: How to Use the Guide

Purpose of the Guide

This guide is a popular education tool for communities and grassroots activists. It serves to:

- empower people to understand the water crisis and the power relations involved in controlling water;
- equip people with the basic knowledge and understanding of our water resources;
- empower communities to organise and respond to policies on water;
- provide user friendly and practical techniques to save water;
- protect, value and celebrate local and indigenous knowledge on water science;
- empower communities to strive towards systemic change through food and water sovereignty and a deep just transition.

Key Principles for Process Facilitation

Learning is a continuous process, an everyday activity and an integral part of what it means to be a human being. Learning is about using knowledge to change and become different from the way we were before. It is about developing a critical literacy for action and thus making our knowledge our power.

For real learning and capacitation to take place, a facilitator using this guide cannot behave like a school teacher or lecturer. People cannot be empowered just by being lectured to. The learning process is about opening and awakening critical consciousness so that fear to live as a full human being, in association with others, is overcome. When using this guide as a learning and training tool, the following principles in a collective learning process should be kept in mind:

- It is people-centred: it encourages participation, celebrates diversity, and puts people first. It recognises people's skills and experiences as key

resources and it focuses on hearing what people are saying, not just listening to them;

- It is active: it involves participating in exercises and activities;
- It is enquiry based: it continually tries to uncover why something is the way it is and explores what is going on under the surface;
- It is critically reflective: self-awareness is an integral part of taking action and it is reflection aimed at gaining insights that will inform future actions;
- It builds on existing knowledge: it draws out relevant information from the participants about their needs and context and provides processes which encourage people to critically analyse and discuss from their own experience;
- It responds and adapts to people's needs: it is flexible enough, open enough and sensitive enough to recognise people's needs and to change to meet them;
- It recognises the importance of feelings: human transformation is as much about what happens to how you feel as it is about how you think;
- It is holistic: it looks at linkages between the past, present and future, between the individual, the group, society and the environment as well as between local, regional and global levels.

Being a Water Justice Facilitator

This guide is aimed at being a daily tool for use by those who want to have access to clean water as a basic human right. It is also designed to be used in a workshop setting to empower people scientists (individually and collectively) to engage in water science and politics, thus being able to contribute and participate in policy decisions on distribution and protection of water resources. Such a workshop requires that someone (or even more than one person) facilitates the workshop. Women are especially encouraged to be facilitators. In facilitation, the facilitator has a variety of roles such as trainer, skill-sharer, enabler, listener, sharer of real

experiences, and theorist. While there are multiple roles to play, ultimately each facilitator will find her/his own style.

It is important for the water justice facilitator not to see themselves as ‘only’ a facilitator but as a learner as well. In order to give the training a grounding and relevance, we need real problem-solving leadership experience to confront the hardships and struggles that we have experienced. Thus, the facilitator must share her/his skills and experiences freely. Working closely and generously with other facilitators, whether more or less experienced, builds their capacity and one's own. It allows one to grow and to form genuine teams in every situation. It also protects against the disease of self-inflation (thinking that being a facilitator makes one an expert and therefore unable to learn from others).

It is important to remember that through the process of experiential learning the facilitator learns from the group she/he is working with. In other words, it is important to remember the facilitator may not always have 'all the answers'. It is through this process that active learning takes place. The facilitator must capacitate people to take action, and then reflect on and evaluate the situation in order to draw the right lessons from the action taken. In this way learning becomes a never-ending process.

Some tips for facilitators:

- Encourage engagement by asking people questions and by asking people for their opinions (some people won’t speak up unless asked).
- Encourage a free space to share experiences: this can be done by sharing your own experiences first.
- Get people to work in groups to discuss topics if you see it is not working well in a larger group.
- Preparation is key: familiarise yourself with the guide intensively, plan in activities, probing questions and group discussions. Have an idea of how

long each module/activity will take, but also leave room for flexibility. The more prepared you are, the more flexible you will be able to be.

Workshop Guidelines

This activist guide uses a workshop method to ensure two-way learning and to encourage bottom-up movement building. In this approach, the facilitator has to put into practice the principles of training mentioned above. The workshop-based learning approach is meant to gather participants into small groups in which they are able to learn together and from each other.

The training content is made up of modules which follow a sequence of building block learning. This means it is important to exhaust and work with the ordering of the training modules. However, this does not mean that the time spent on each module has to be as suggested. Facilitators might find it is necessary to spend several hours on one module before moving on to the next one. Facilitators must remember that this learning process requires patience. The theory content of the modules should be presented by the facilitators. Complimenting this is the **small group and individual exercises** in which the participants in the workshop discuss and problem-solve. This ensures a more horizontal and bottom-up process of learning.

The actual location of the training workshop should be guided by the circumstances faced. This requires creativity and adaptability. For example, training might take place in a waste recycling plant, a community hall, on a piece of farming land, under a tree and so on. Workshop-based training is a tool that can be used in various places and settings.

Facilitation tools (e.g. chart paper, pens, slides, audio-visual materials) compliment training, but are not essential. A lack of facilitation tools should not prevent the training workshop from taking place. In many of our cultures and societies learning has also happened orally – by talking to each other and using whatever is available in the immediate environment like drawing with sticks in the sand or using words,

symbols and objects to represent the people, events or ideas. We encourage trainers to adapt the content in this guide to what is appropriate and necessary in the circumstances.

Exercise 1

Let's start our learning with a 'getting to know you exercise'.

Participants must form groups of two and discuss the following questions:

- **Why am I attending this workshop?**
- **Why is it important to me?**
- **What do I hope to learn from the workshop?**
- **What do I hope to share with the group?**

Each group must write the key points, and share it with the whole group. Add all contributions to a wall or chart for future reflection.

NOTE: Time allocation can be decided by the size of the group and the length of the workshop.

Module 3: The Threat of Climate Change

Climate change is life or death. It is the new global battlefield.
Nobel Peace Prize winner and environmentalist - Wangari Maathai[3]

Climate change is one of the biggest challenges facing the world. It is going to affect our food, our water and basically all life on earth. Climate change has differentiated impacts on the rich and the poor. It is thus important for everyone to understand what exactly climate change is and how it is going to affect us. Some key questions we will answer in this module are:

- What is climate change?
- What is causing climate change?
- How will this change the world?
- What will happen in South Africa?
- What can we do about it?

Question 1: What is Climate Change?

Very often when we speak of climate change people start talking about the weather. So, before we continue, let's make sure we understand the two concepts quite well.

Weather is what we see and experience every day. It could be warm during the day but we can have a storm in the afternoon. That is the weather. Over time, we get to understand the weather patterns and we can then make general statements like, Johannesburg gets cold in the winter, Cape Town rains during the winter months and the Northern Cape gets very hot in summer and very cold in winter.

These general weather patterns are then referred to as the climate in that area. So, climate is the usual weather of a place, region or country. The earth's climate is then combining all the climates around the world to give a picture of what is happening. For example, the winters in the northern hemisphere have snow, the

summer in Asia has heavy monsoon rains. So, **climate** is a long-term view of the weather in that place.

Very simply, weather can change in a few hours, while the climate can take hundreds to thousands of years to change.[4] Climate change is making it difficult to predict our climate as it is changing faster than normal.

So, what is climate change? Climate change is a change to the usual weather. This could mean a change in when the rain comes, or when it snows, or snowing in areas that did not experience snow. The seasons are no longer predictable. A change in the usual timing of rains or temperatures can affect when plants bloom and set fruit, when insects hatch or when streams are their fullest. This can affect pollination of crops, food for migrating birds, spawning of fish, water supplies for drinking and irrigation and thus affecting all life on earth.

Climate change is sometimes also known as global warming as it is due to an increase in the average global temperatures. This rise in the global temperature is primarily caused by the increased concentration of gases known as greenhouse gases (GHGs) in the atmosphere that are emitted by human activities such as large-scale agriculture and the burning of fossil fuels.[5]

Historically, developed countries such as the USA, Japan, and European countries have been responsible for at least 79% of the GHG emissions, while sub-Saharan Africa responsible for only about 1%.[6] While it is the rich industrialised countries, fossil fuel corporations and the elites in each country that have caused and continue to contribute to climate change, it is the poor and vulnerable communities and countries that are the hardest hit by the impacts of climate change. As such, we need to demand that developed countries take responsibility for their emissions and do more to assist developing countries to adapt and deal with the impacts. The term used to describe a response to the inequality is ‘Climate Justice’, which ensures those who are the hardest hit by climate change are given sufficient support and resources to manage and adapt to climate change by those who are

largely responsible for it. Climate justice also proposes systemic changes that ensure a safe, healthy and clean environment for all life on earth.

Unfortunately, there is a lack of political will and a crisis of leadership at the top to ensure that there is a real reduction in our GHG emissions and that the most vulnerable can withstand the impacts of climate change. If we want to achieve a deep just transition, then it must come from below by a people-led push for alternatives.

What are greenhouse gases?

Gases in the atmosphere that trap the heat from the sun. The main greenhouse gases are carbon dioxide, methane, nitrous oxide.

Why do we use the word 'greenhouse'? Discuss in groups

Question 2: What is Causing Climate Change?

Humans who use, extract, produce and emit greenhouse gases are the main cause of climate change. Human activities and behaviour that feed a capitalist consuming world, have become a dominant force, and are responsible for most of the warming observed over the past 50 years. Activities such as**:**

- Industrial Agriculture - the practice of growing large single crops (also known as monoculture) uses large amounts of chemical fertilisers and pesticides, and fossil fuel energy which are harmful to the soil, water and the climate.
- Deforestation - the second leading cause of climate change. The burning or logging of forests, increases the amount of carbon dioxide and other greenhouse gases.
- Transportation - produces CO_2 emissions from the use and burning of fossil fuels like petrol, oil and diesel.

- Burning and extracting fossil fuels – The burning of fossil fuels such as oil, coal and gas for energy and transport is the key driver of climate change.

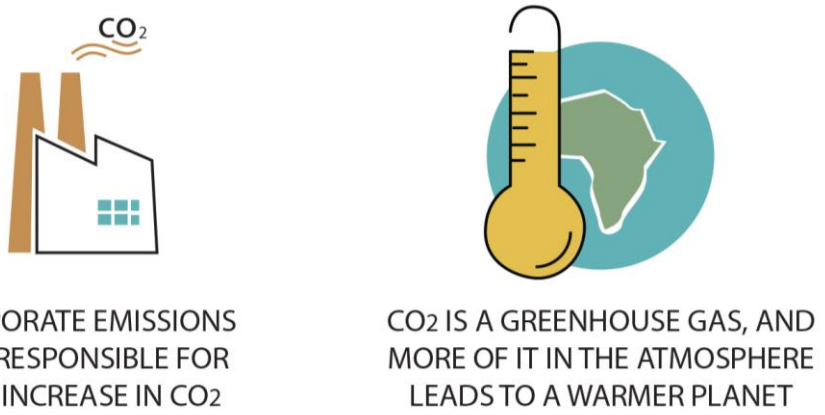


Figure 1: *Adapted from source http://static.berkeleyearth.org/pdf/skeptics-guide-to-climate-change.pdf*

Exercise 2.[1]

Can you match the companies on the left with the correct word that best is connected to them on the right? Compare and discuss your results with the group

1. Sappi	**a. Coal**
2. Syngenta	**b. Deforestation**
3. Sasol	**c. Big water user**
4. Eskom	**d. Oil**
5. Coca Cola	**e. Industrial agriculture**

[1] Answers: 1 (b), 2 (e), 3 (d), 4 (a), 5 (c)

Question 3: How Will This Change the World?

The impacts of climate change vary across the world and range from the melting of glaciers to sea level rise, ocean acidification, changes in rainfall and snowfall patterns and extreme weather events such as tornadoes, hurricanes and cyclones. There are additional concerns of an increase in incidences of water-borne diseases, migration and resource wars.[7]

This could place many of us in a dangerous situation. As floods and increase in sea levels wash away homes and infrastructure, more frequent droughts could see food prices increase beyond the reach of the poor thus exacerbating hunger and countries becoming unstable as they fight over land, air and water. As places become unliveable people will be forced to leave their homes and migrate to safer environments thus becoming climate refugees.

Question 4: What Will the Impacts be in South Africa?

In South Africa, we can expect extreme weather-related disasters such as heavy rains, more frequent floods and droughts, stronger storms, and extreme heat and cold. These changes will be experienced differently across the country. For example, the western part of the country is predicted to get drier while the eastern part is predicted to get wetter, all of which we are already experiencing across the country. Eight out of the nine provinces were declared disaster areas in 2016 due to the ongoing drought.[8] South Africa is naturally drought prone and goes through cycles of drought that occur over many years. However, climate change will make this worse as it will increase the frequency and severity of droughts. We can expect a serious lack of water resources, desertification, and food insecurity that will affect all life on earth – both human and non-human. The corporate controlled food system will increasingly fail us as the cost of basic foods such as maize and wheat will become unaffordable to the poor majority of South Africa. For example, in 2016 a 25kg bag of maize cost R179.14 and in 2017 the same bag cost R244.32. This is a 36% increase in just one year. A list of food products are compared by the

Pietermaritzburg Agency for Community Social Action (PACSA) as can be viewed in Appendix B.

Question 5: What Can We Do About It?

Fortunately, **it is not too late**. We can do many things to help solve the climate crisis. As individuals or groups, we can do our bit to add to combating climate change such as:

- Recycling/Reducing/Reusing
- Composting
- Using alternative energy
- Becoming energy efficient
- Using public transportation
- Planting Trees
- Buying products made locally, such as food

BUT: this is NOT enough? Our actions could become meaningless if the main culprits causing climate change are allowed to continue with business as usual. These culprits include big polluters like China and the USA, or big companies like Anglo-American, Sasol and Eskom. To fight climate change, we need to fight capitalism which is the main cause of climate change. The need to constantly grow, to have more to get more – with ever more fossil fuels being used creating more greenhouse gases – must come to an end.

Climate change is thus a systemic issue involving the political, economic, social, cultural and environmental spheres. In order to combat climate change, we therefore need to have a complete system change. We need to create pressure on those polluting the most and build awareness to organise across the country on key issues of food, water and energy. More importantly we need to connect the dots between water scarcity, ongoing drought, hunger, food prices and climate change.

We also need to take back the commons and protect it from more harm by big industries and mining companies.

South Africa's climate change pathway

South Africa has a moral and political obligation to reduce its GHG emissions and to advance the deep just transition. It is the 12th highest emitter of greenhouse gases in the world and is largely dependent on coal for its energy supply.[9]

South Africa has produced many policies and strategies to fight climate change such as:

- The National Climate Change Response Strategy for South Africa
- The White Paper on Renewable Energy
- The National Development Plan
- The Long-Term Mitigation Strategy
- The Integrated Resource Plan
- The Intended Nationally Determined Contributions (INDC)

The South African government has produced good policies but the implementation is very poor. South Africa commits to reducing its emissions at an international arena but then also commits to building more coal power at a national level.[10] Furthermore, the country has been criticised for poor implementation of its various policies and legislation. We have just experienced one of the worst droughts in the history of South Africa, linked to climate change, and more droughts are expected. The most recent Integrated Resource Plan released in November 2016 has South Africa on a fossil fuel path that is still driven by coal. Coal fired power stations are huge water users, for example, the Kusile power station will use about 2.9 million litres per hour.[11]

What do you think? On a scale of 1-10, how would you rate the South African government in terms of combating climate change? Discuss your choice in small groups.

Exercise 3*:*

Story-telling

In groups of 3-4 people, describe the climate when you were young. Has it changed? How? Share songs and poems that are about the environment, the earth, water, air, etc. that you remember from your childhood.

Module 4: Understanding Water Science

The science of water is not a new science. It can be traced to indigenous knowledge and a people's science that is rooted in traditional practices and experiences that are centuries old. The early history of science has shown that contributions were made by ordinary people who were critical of their environments and wanted to find alternatives. With the onset of industrialisation in the 1900s, science was corporatised and the gap between science and citizens developed.[12]

Science has thus become a field for professional expertise and knowledge. It has been used to leverage power and 'lock' people out of basic information about their worlds. In the environmental sphere, people at the frontline of pollution and environmental damage have found it difficult to challenge polluting industries as science has been used to counter their arguments and refute their claims. Science has thus been used to sustain the injustice and perpetuate power. This was not always the case. This water guide is thus aimed at democratising knowledge and information on water so that we are empowered to become water justice activists.

The importance of water to life has been recognised throughout history and time. Humans and other species cannot survive without water. It has influenced where people live and how people live. The earliest towns and cities were located near rivers and seas; traditional and indigenous healers have long identified the spiritual and physical health associated with water. However, understanding the science of water was left to a select few with very specialised 'skills'.

It is time for us to develop our own understanding of the world that incorporates all our experiences and traditional knowledge. Education and awareness for all activists on water can foster a better responsibility, care and use of water resources. Furthermore, building a basic understanding of water, will not only empower communities to challenge government and polluting industries, but also to give them the confidence to be active participants in finding solutions to our water challenges.

Some fun facts about water:

Did you know?

- Our bodies are 75% water. This is why water is so important to our health and well-being. Without water, we would die.
- Your brain is 85% water
- Your blood is 90% water
- Your bones are 22% water

This module will start with the basic science of water by defining some common terms used and then describe where our water comes from and where it goes. This is important as it shows that we are all linked together in a chain. If we break one link or damage one part, the whole chain breaks.

Explanation of Key Terms Used to Describe the Water Cycle[13]

Evaporation:
The change of a liquid into a gas (or vapour).

Condensation:
The change of a gas to a liquid – the opposite of evaporation.

Precipitation:
A form of water, such as rain, snow, or sleet that condenses from the atmosphere, becomes too heavy to remain suspended, and falls to the Earth's surface. Different atmospheric conditions are responsible for the different forms of precipitation.

Transpiration:
The process of giving off vapour containing water and waste products, especially through the stomata on leaves or the pores of the skin.

Sublimation:
The process of changing from a solid to a gas without passing through an intermediate liquid phase. A good example is 'dry ice' (the ice used by ice cream sellers).

Infiltration:
Infiltration is the process by which water on the ground surface enters the soil.

Surface Runoff:
Surface runoff is water, from rain, snowmelt, or other sources, that flows over the land surface, and is a major component of the water cycle.

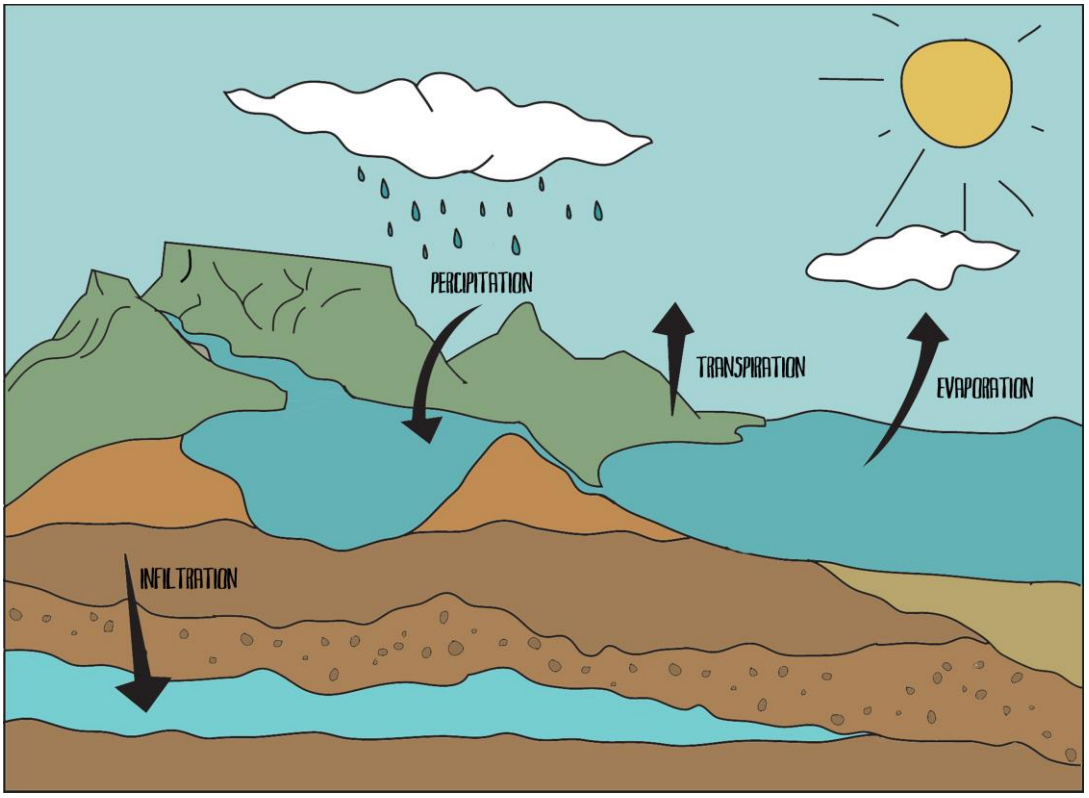
Explaining the Water Cycle

Have you ever wondered what happens to the rain once it reaches the ground? Or maybe, how do clouds form? Why does it rain?

Well, the answers to these questions are quite simple.

Water circulates on Earth through a system called the water cycle. The heat from the sun and the force of gravity causes water to move from the ground and plants into the atmosphere which then returns to the land and oceans as rain. [14]

Most of the earth's water can be found in the oceans. Each year, approximately 434 000 cubic kilometres of water evaporates from the oceans. It is also estimated that 60 000 cubic kilometres of water evaporates from the surface of lakes, streams and rivers.[15] To get an idea of just how much water this amounts to – Lake Kariba, the largest man-made lake in the world is a volume of 185 cubic kilometres. The Gariep Dam, South Africa's largest dam, is a mere 5,5 cubic kilometres. The evaporation from the oceans thus is equivalent to more than 2 500 Lake Karibas and 89 000 Gariep dams.



1: A simple explanation of the water cycle starts with the water being heated by the sun, the liquid is changed into a gas and then rises into the atmosphere. This is known as evaporation. Evaporation will occur faster with higher temperatures and greater wind speeds.

2: As the vapour rises it cools and condenses - the drops of water attach itself to dust particles. These droplets collide and combine to form clouds. As clouds grow, the droplets get bigger and gravity causes them to fall to the ground as rain.

3: When the rain reaches the ground, it flows into lakes, rivers and streams. Some water seeps into the soil and ground. From here, it is absorbed by plants or flows underground as groundwater. Groundwater can feed into streams and rivers or flow directly into the oceans.[16]

4: Plants play an important role as they absorb water through their roots. The water travels through the plant to the leaves and the moisture is released into the atmosphere through transpiration.

Each part of the water cycle is as important as the next. Any impact on one aspect will have an impact on the whole cycle. For example, if we cut down all the trees then there will be less water vapour in the atmosphere to form clouds and cause rain. If we pollute a river at one point, this will then affect the water, plants and life along the river's path.

It is the responsibility of the National government as the custodian of our water to ensure that our rivers, lakes, streams and groundwater are protected. Towns and cities can receive water from any of these sources. The National Government allocates water to local municipalities, who in turn sell the water to people and industries.

Some Geography: Rivers, Dams and Groundwater

The country has very few natural lakes and its rivers are seasonal and highly variable (see Figure 2 below) so there is a need for storage. South Africa has about 569 large public dams, each with a capacity of more than one million cubic metres. Interestingly, in a country where water belongs to all the people, there are at least 5 122 privately owned dams registered with the department.[17] While the water may belong to all of us, there are laws that protects a person's private property thus rendering the dams inaccessible to ordinary people.

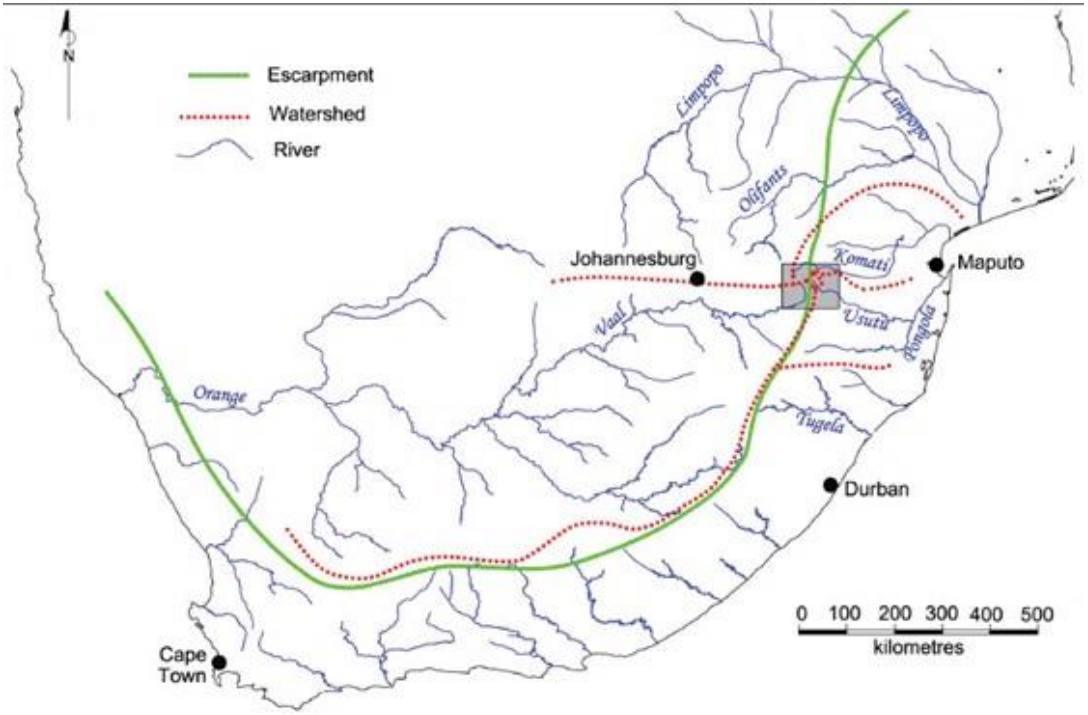


***Figure 2**: a map showing the river basins in South Africa. [Source: www.scielo.org.za]*

One of the under-utilised sources of water is groundwater. Until 1998, groundwater was privately owned and linked to the property rights. This was changed with the National Water Act, where groundwater became a public resource and viewed as part of the water cycle. Interestingly, groundwater makes up 13.5% of potable water used and is the key source of water for about 300 towns in South Africa. One of the objections to fracking in the Karoo is the potential harmful effects this will have on the groundwater, the main source of water for many towns in the Northern Cape.

Our river ecosystems are not in a healthy state. Of the 223 river ecosystem types, 60% are threatened with 25% of these critically endangered by a changing climate

and human activities. Many of the human activities include waste run-off from residential, industrial, agricultural and mining areas. Less than 15% of river ecosystems are located within protected areas, many of which are threatened and degraded by upstream human activities. Sixty-five percent of the wetland ecosystems have been identified as threatened and 48% critically endangered due to urbanisation, pollution and neglect.

As such there is a move to try and protect our key Strategic Water Source Areas (SWSAs) before they too become unusable. The SWSAs are areas that supply water to important geographic areas. For example, the Maloti Drakensberg in Lesotho supplies Gauteng. In Figure 3, it is clear that there are not many SWSAs but they are very important to the survival of key areas. The Centre for Environmental Rights will be submitting a proposal to National Government to declare these areas a protected area restricting industries, forestry, agriculture and mining in close proximity to a SWSA.

Figure 3: *Strategic Water Source Areas in SA [Adapted from: WWF, Defining SA WSA, page 20]*

We don't have to be professional scientists to know that our water needs to be better protected. There is a failure in the political system to adequately monitor and protect our precious resource. As people scientists, we need to build a movement of water justice activists to better watch over our rivers, dams, lakes, SWSAs and push back capitalism in all its manifestations.

What is a dam?

A typical dam is a wall of solid material (like concrete, earth and rocks) built across a river to block the flow of the river. In times of excess flow water is stored behind the dam wall in what is known as a reservoir. [18]

The Rainfall Picture for South Africa

The rainfall picture for South Africa should be treated as a major concern. According to UN Food and Agricultural Organisation data, the country is ranked as the 39th driest out of 182 countries.[19,20] Naturally, the country's water situation is characterised by low levels of rainfall, with an average annual rainfall of 490 mm that falls well below the world average of 860 mm a year.

South Africa does not receive the same amount of rain in each part of the country. The rainfall across South Africa varies considerably as shown in Figure 4 below. The western part of the country - Northern Cape, Western Cape, and parts of the Free State and North West provinces exhibits a lower amount of rainfall as compared to the eastern part, thus indicating greater amounts of rainfall in the Eastern Cape, Gauteng, Mpumalanga, Limpopo, KZN and parts of Free State and North West provinces. Another concern is that even our water rich areas are compromised by pollution from mining and industry namely, Mpumalanga, Gauteng and Limpopo.

Climate change scenarios predicts a change in the runoff across the country as the overall rainfall patterns change. It is expected that there will be a 60% increase in rainfall in the eastern part of the country with a decrease in the western part, as we are seeing right now in the Western and Northern Cape.[21]

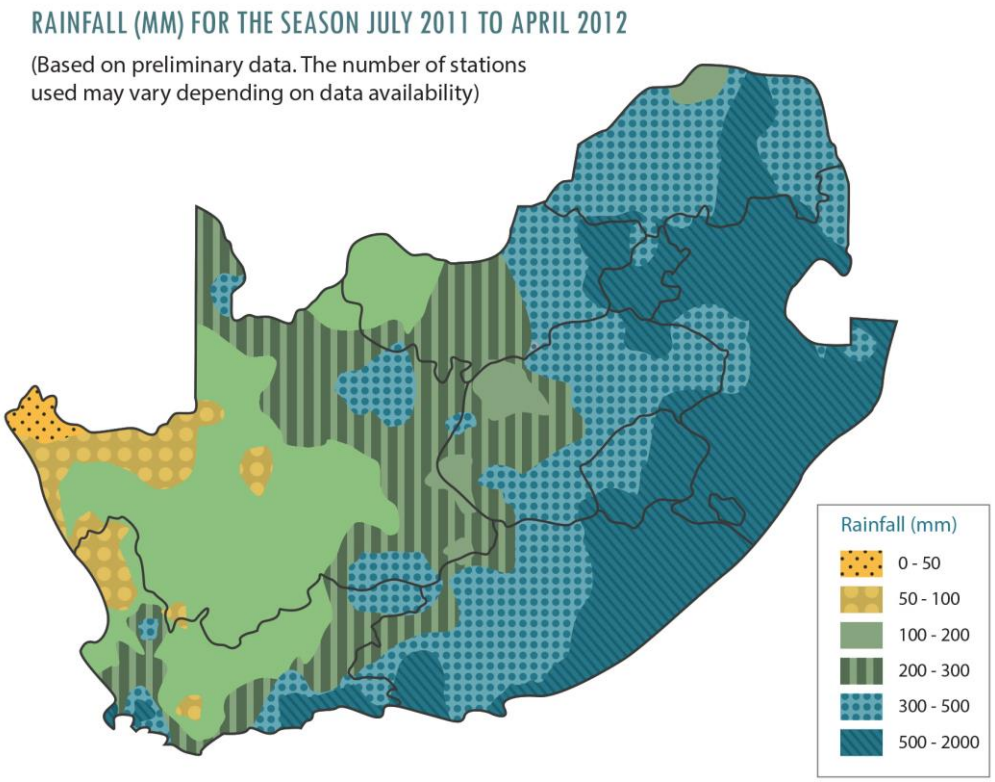


Figure 4: *a map showing the rainfall variation across the country.*

How is our Water Being Allocated?

We are definitely a water scarce country, but this is not just due to the low rainfall. Other aspects such as evaporation, the amount of water that reaches and flows through rivers (also called runoff), and the amount of water that is taken from rivers and other water bodies must also be considered.

Another way of looking at our water resources is by looking at the level of water stress. Water stress simply refers to the level of competition for available water resources within the country. It is an estimate of the demand that is placed on the

country's water supply. In this regard, we were placed 65th of 180 countries in 2013. Figure 5 is an indication of the extent of our water stress as almost 98% of our water is already allocated, which means that we only have 2% available for any emergencies or future allocations. Remembering that climate change could make water availability much worse in a country that is prone to drought and water scarcity already. If anything, this should be one of the key reasons that the government opts for renewable energy rather than water-guzzling coal fired power stations.

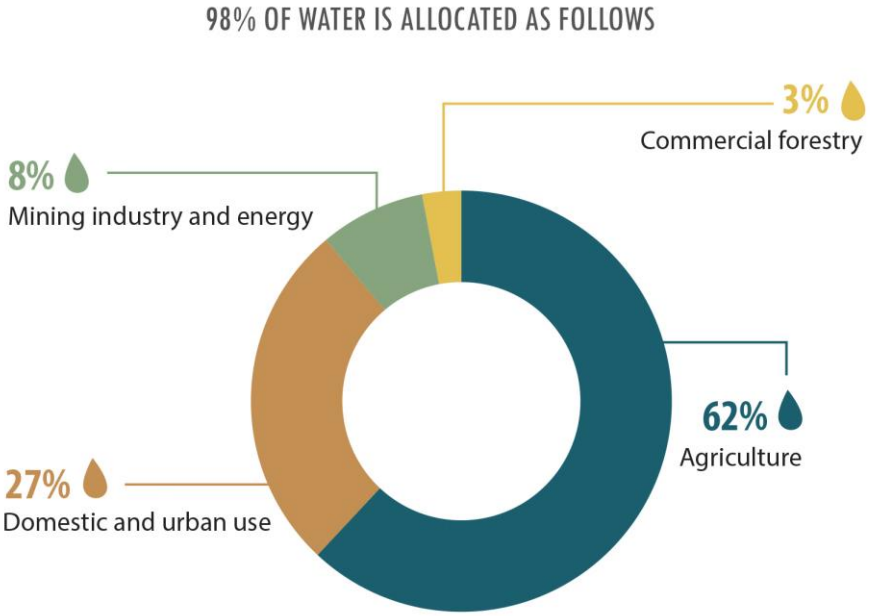


Figure 5: *a breakdown of how our water is allocated*[22]

Why is the Science of Water Important to Understand?

- Education and awareness can foster a better understanding of water as a resource and what can be done to protect it.

- It can also be useful in campaigns that need to challenge local government policies in terms of access.
- It assists with identifying solutions that are specific to the issues being faced.
- It builds our knowledge as a means of attaining power.

Exercise 4:

First start on your own and then share your information in plenary. Discuss the similarities and differences experienced by each person.

Where do you get your water from? Can you trace the path of your water from tap/stream to the ocean using the water cycle? Has this changed from when you were a child?

Module 5: Crisis - Health of Water

Scarcity

Water scarcity is fast becoming one of the most serious concerns facing the planet. It is estimated that more than one-third of the world's population lives in water-stressed regions, 663 million people face a daily struggle to access clean and safe water. Over 315 000 children die every year from diarrhoeal diseases caused by unsafe water and poor sanitation. This is predicted to get worse with climate change as the world will only have 60% of the water it needs by 2030.[23]

South Africa is a naturally dry or arid country with limited water resources. The country's climate is normally marked by periods or cycles of drought. This means that as a country we have repeating moments of drought. Climate change is going to make droughts more frequent and more severe and will make water scarcity even worse.[24] Eight out of the nine provinces were declared disaster areas in 2016 due to the ongoing drought. The more vulnerable and poor are going to be hardest hit as they are the least able to protect themselves against the impacts of climate change.[25] As mentioned in Module 3, the corporate controlled food system will increasingly fail us as the cost of basic foods such as maize and wheat will become unaffordable to the poor majority of South Africa. PACSA has shown how the basic food basket (See Appendix B) has increased in one year from 2016 to 2017 by 16.47%.

What determines that there is a weather-related drought?

If a specific area in South Africa receives less than 70% of its normal rainfall over a prolonged period and creates a water shortage, then it is considered to be experiencing a weather-related drought.[26]

Pollution

Water pollution is caused by mining and industries, industrial agriculture, coal fired power stations and residential (linked to wastewater treatment failures) problems.[27]

- Mining and industries - Pollution from mines and industries can result in an increase in heavy metals and minerals in the water that can affect animal and human health. It can also change the acidity of the water such as acid mine drainage – which can then affect people, animals and infrastructure.
- Industrial Agriculture - Increases soil erosion due to ploughing, overgrazing, logging and road building. The clearing of land for agriculture, use of fertilisers and pesticides leads to water pollution.
- Energy production - our energy reliance on coal adds to our water woes. The majority of our energy in South Africa comes from the burning of coal at power stations and results in greatly increased emissions of sulphur and nitrogen oxides into the atmosphere. These gases are the main cause of acid rain, which has a negative impact on the natural environment and human health. In addition, the release of carbon dioxide from the burning of coal, contributes to global warming. Millions of litres of water are used to wash the coal which then becomes polluted.
- Residential - As more and more people move into cities and towns, there is a disturbance of the land, an increase in the sewage collection and treatment, badly managed litter and refuse removal. All of this threatens water resources.

It is estimated that 37% of South Africa's clean, potable water is being lost and wasted through poor infrastructure such as leaking pipes.[28] As the responsibility for supplying water lies with the local municipalities, there is a clear problem with regards to the management of water at a local level.

Some of the country's key river systems, such as the Vaal, Olifants and Crocodile are severely affected by salinity (salt and other polluting metals in the water), which have been mainly attributed to mining activity.[29] Gauteng province is the poster child for the impacts of mining on our water resources. Gauteng, the economic hub and the smallest of the country's provinces, is experiencing ongoing acid mine drainage within the West and East Rand of Johannesburg as well as serious pollution of the Hartebeespoort Dam and the Vaal River Barrage through sewerage and multiple other pollutants. In addition, to the west of Johannesburg there have been cases of contamination of water by radioactive pollutants attributed to uranium by-products from gold mining.[30]

What is Eutrophication? (pronounce as you-tro-fi-kay-shin)

Large industrial agriculture uses huge amounts of fertilisers and pesticides to grow more food. This results in an increase in nutrients (nitrates and phosphates) in the water, which causes enhanced plant growth (algal blooms). When this plant material dies and decays the bacteria uses the oxygen in the water. This lowering of oxygen levels results in the death of other water life that needs oxygen to survive, eg. fish, etc. This process is called eutrophication.

Another cause of eutrophication is poor waste water treatment that results in sewage spilling into lakes, dams and rivers.

Figure 6: *Eutrophication in Haartebeespoort Dam in April 2013 [Photograph taken by Professor Christopher Curtis]*

Exercise 5*:*

In small groups of 3-5 discuss why access to clean drinking water is a basic human right?

Module 6: Water Politics

The destruction of the environment is the human rights challenge of our time.
- Archbishop Emeritus Desmond Tutu

In recognising the challenges we face with regards to the world's water resources, governments have used a three-pronged approach to deal with these challenges - developing policy, encouraging public participation and promoting privatisation of water resources.

In South Africa, the state holds the environment and our water resources in public trust for the people, which means that the water belongs to all the people of South Africa. This means that government is working on our behalf with regards to our water. In this module, we will discuss water governance. So, who has access to water, who makes what decisions, what are the key policies governing water in SA, and privatisation as a response to government's failings.

Access to Water

South Africa is one of the few countries in the world that protects the basic right to sufficient water in its Constitution, stating that 'Everyone has the right to have access to (...) sufficient food and water'. However, much remains to be done to fulfil that right.

There is no surprise then by the growing anger and frustration of communities that have no or limited access to water. There has been an increase in violent protests over poor or privatised service delivery (water, sanitation and electricity in particular), social marginalisation, and unequal access to water.[31]

As shown in Figure 7 below, in 2014 less than half of all households in SA obtained their water from a tap inside their home. A further 27% had a tap on their property and 12% walked less than 200m to get water. Approximately 6% of the population accessed piped water at a distance greater than 200m, the target for basic services. Around 9% of the population did not have access to piped water and rely on springs,

rivers and wetlands.[32]While government interventions have been important, they have not managed to reduce the challenges people face with regards to water. The policies that have been developed are good on paper but need to be studied much more by ordinary people to analyse the real intentions and power dynamics within these polices.

Globally, capitalist favoured governments are ignoring the plight of their people and the result is a growing push back from people on the ground. Movements and communities are no longer remaining silent. They are working through food sovereignty campaigns, water justice, and climate justice initiatives to ensure that the links between food, water and livelihoods are made much stronger to that of poverty and development. It is only through organising from below that people's power can be achieved in all facets of our lives.

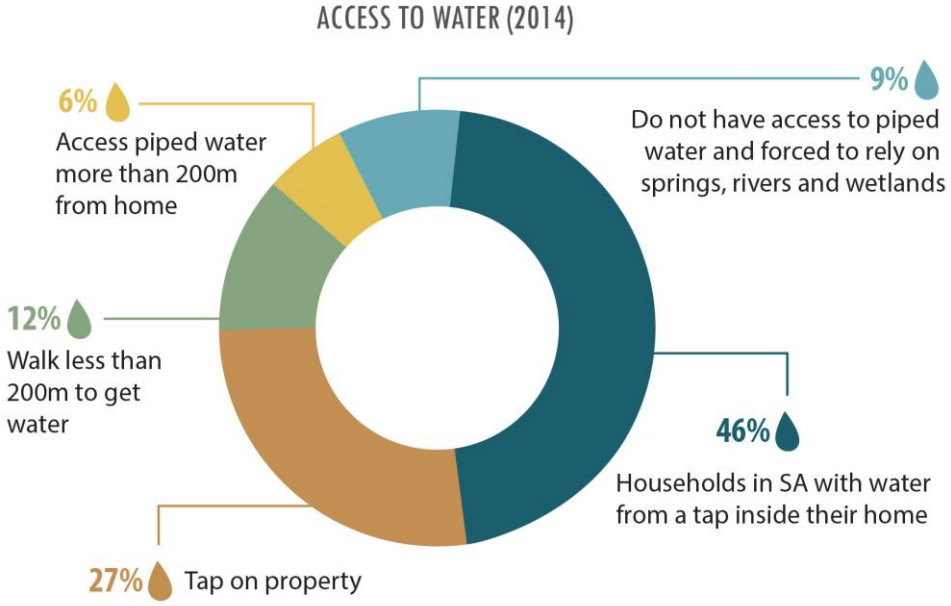
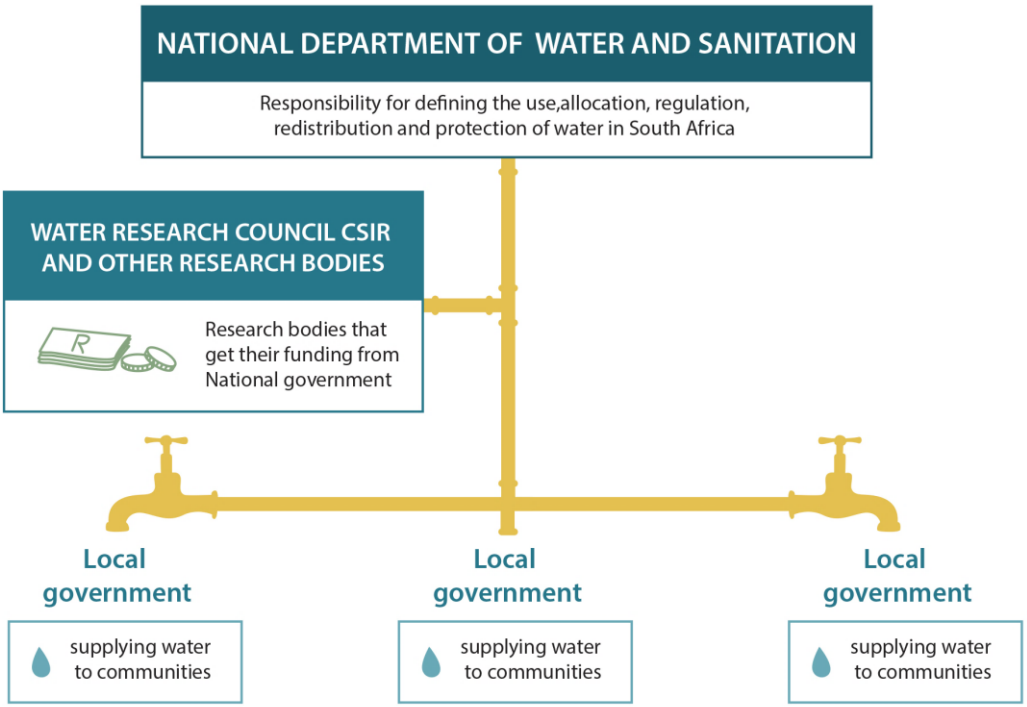


Figure 7: *depicting the many ways people get their water*

Who Makes the Decisions on Water?

The basic structure and function of each level of government is as follows:



At a national level, government is responsible for the regulation and allocation of water, while at a local government level, they are responsible for supplying water. The national Department of Water Affairs has the overall responsibility for defining the use, allocation, redistribution and protection of water in SA.

The country's 231 municipalities are in charge of water distribution and sanitation either directly or through municipally owned enterprises or private companies. Water boards like the Rand Water for example oversee operating bulk water supply infrastructure and some wastewater systems.

Rand Water sells water to local authorities, and some mines and factories, in an area of **18 000 square kilometres**. The local authorities then supply **12 million people** in homes, schools, and businesses in Gauteng and parts of Mpumalanga, North West, Free State and Limpopo Provinces with clean water they buy from Rand Water. This accounts for 45% of the South African population and 60% of the economy.

It was recently reported that local government owes at least R7 billion in debt to the Water and Sanitation Department.[33] The debt, which is owed by water boards and municipalities, is a reflection of the failing system and growing corruption. This debt could justify government's move to more privatisation of delivering of bulk water infrastructure, which will be disastrous.

The Key Policies Governing our Water in SA

South Africa has four core pieces of water legislation and policy that governs water resources in the country - The National Water Policy (1997), the National Water Act (1998), the Water Services Act (1998) and the National Water Resource Strategy – that are founded on Government's vision to redress past inequalities and build a sustainable water future.[34]

The National Water Act and the Water Services Act together provide for the establishment of institutions for management and distribution of water. The National Water Policy rests on the concept of Integrated Water Resource Management (IWRM) on a catchment basis and the National Water Resource Strategy 2 is centred around a recognition of water as a basic human need, and a recognition of its critical role to ensure equitable socio-economic development. One significant element is the incorporation of a free basic water allowance of 25 litres per person per day.

Government Changing the Good Policies?

In 2001, South Africa introduced a policy of free basic services, including water, electricity and solid waste collection. As part of that policy, every household should receive the first 6 000 litres of water per month for free, based on a calculation of a minimum of 25 litres per person per day for a household of eight.

However, municipalities can decide if free basic water is made available only to the poor, and how the poor will be defined and identified. Out of 169 Water Service Providers (municipalities), 29 provide free basic water to all their residents, 136 provide it to some residents and four very small municipalities provide it to none of their residents.[35]

Unfortunately, government released its draft NWRS 3 in August 2017 that proposes to remove the free allocation of water. This must be contested.

Legislation or policy	Key points
Constitution of South Africa	The Constitution enshrines the basic right to sufficient water to everyone - "Everyone has the right to have access to (...) sufficient food and water ..." - Section 27(1) (b).
The National Water Policy (1997)	This policy was aimed to change the apartheid laws on water. It sets out new integrated *policy* positions for protection, use, development, conservation, management and control of *South Africa's water* resources.
The National Water Act, Act 36 (1998)	The National Water Act provides a framework to protect water resources against over-exploitation and to ensure that there is water for social and economic development and water for the future. It also recognises that water belongs to the whole nation for the benefit of all people.

South Africa's Water Services Act, Act 108 (1997)	This Act contains a section on the right of access to basic water and sanitation. It states that: Everyone has a right of access to basic water supply and basic sanitation; Every water services institution must take reasonable measures to realise these rights; and Every water services authority must, in its water services development plan, provide for measures to realise these rights …
The National Water Resource Strategy	National Water Resource Strategy 2 is centred around a recognition of water as a basic human need, and a recognition of its critical role to ensure equitable socio-economic development. As part of that policy, every household should receive the first 6 000 litres of water per month for free, based on a calculation of a minimum of 25 litres per person per day for a household of eight. The latest NWRS 3 has been released and points to removing the allocation of free basic water to people.

There is a gap between policy and its implementation. While the policies were an attempt to redress historical inequalities of the past, constraints determined by racial, economic, and social structures retain and reproduce dominant power relations.

Managing the gap between policy and implementation can be an enormous task. The trend in some countries, is to privatise the country's water either by selling resources to an investor or by developing a public-private partnership. There is a view that privatisation can result in improvements in the efficiency and quality of

service, for example in Philippines, Ecuador, Colombia. However, privatisation is incompatible with ensuring a human right to water as discussed above. The bottom line is that privatisation benefits the private sector. It ignores issues of access by poor communities and increased costs make it unaffordable for the majority. Privatisation has not worked in Bolivia and Tanzania where the plans were aborted and there are many examples over last decade in particular of the re-municipalisation/returning to the public, of water services and delivery.[36]

Privatisation

In South Africa, privatisation has taken many forms and has been met with varying responses. As early as 1996, municipalities involved the private sector in water and sanitation service provision, mostly through public-private partnerships. One privately owned contract is the 30-year contract that was awarded to Siza Water Company for providing water and sanitation services to the Dolphin Coast along the KwaZulu Natal coastline.[37]

There is creeping privatisation in all aspects of local government functions. There is a belief that with privatisation comes a better improved service. This could not be further from the truth. Privatisation will widen the gap between those who have and those who do not. The poorer communities will not be a priority for private companies. The cost of water could increase beyond their reach and access would be denied, which is already being experienced. A lack of water can lead to inadequate hygiene and decent sanitation that will not only give rise to diseases but will also be a direct assault on people's dignity.

Furthermore, not only will we find that the services to provide water in our homes are being privatised but we could also see a trend of water being privatised and sold through bottling companies like Coca Cola (this is already happening at a large scale). This will remove all government responsibility to protect and guard our water resources. Who will protect our water from pollution, plastic waste and abuse? Have we not learnt our lesson? If we look at acid mine drainage from mining,

the private mining companies benefitted but it is the tax payer's money that will be used to fix the problem.

All the manifestations of privatisation of our water resources must be resisted as strongly as possible. The private sector is not concerned with water as a human right but instead views it as a means to make more profit. We must take back our water commons before any more is given away to the private sector. Our water resources are not for sale.

Cases of water privatisation

Dolphin Coast (iLembe)

In January 1999, the Siza Water Company (SWC), then part of the French SAUR Group, became the first private company to manage a water and wastewater utility in South Africa. Under a 30-year concession contract, SWC assumed responsibility for providing water and sanitation services to what was then known as the Borough of Dolphin Coast, a locality in the iLembe District Municipality with a permanent population estimated at 34 000 located about 50 kilometers north of Durban.

Nelspruit (Mbombela)

In 1999 the municipality of Nelspruit in Mpumalanga (ex-East Transvaal) signed a 30-year concession with the Greater Nelspruit Utility Company (GNUC), a subsidiary of Cascal, itself part of the British firm Biwater. The concession serves 350 000 people in Nelspruit and neighbouring townships. GNUC subsequently changed its name to Silulumanzi. In July 2010 it was sold to Sembcorp of Singapore.

Johannesburg

In January 2001, the city of Johannesburg established the municipal company Johannesburg Water and subsequently signed a management contract with Water and Sanitation Services South Africa (WSSA), a joint venture between

Suez (ex-Lyonnaise des Eaux), its subsidiary Northumbrian Water Group and the South African company Group 5. The contract was not extended when it expired in 2006.

The response to privatisation: The Anti-Privatisation Forum (APF)
[Extract from an article by Dale McKinley in the Citizen Newspaper])[38]

The **Anti-Privatisation Forum (APF)** was established in Johannesburg in July 2000 in response to the privatisation of basic services. The movement challenged companies like Suez Lyonnaise that were at the forefront of the water 'wars'. The struggle against privatisation was met with force and aggression on the side of the government.

Throughout the ten years of the APF's existence, they used various methods such as mobilisation, education and awareness and "legal initiatives have been combined with regular mass struggle and have been aimed at empowering ordinary South Africans to reclaim their human and constitutional right to water as a public good". A good example was Operation Vulamanzi ('water for all') - a campaign in Johannesburg that saw communities taking control over the systems that were forced upon them (such as trickler systems, re-routed water piping and pre-paid meters) to gain access to water supplies.

Coca-Cola' water footprint putting a strain on India's water resources[39]

Activists in the drought-hit Tamil-Nadu region in India, are campaigning against Coca Cola's unjust and unsustainable use of water. Coca Cola is also the number one buyer of sugarcane in India. This has shifted the agricultural focus from food for the people to growing sugarcane – which is not a key crop in India.

The company uses at least 4 litres of water to make one litre of a fizzy drink, but when you add the demand of water for sugarcane crops then this figure becomes 400 litres of water for just one litre of fizzy drink.

The campaign has grown with more than a million shop owners boycotting fizzy drinks made by Coca Cola as a response to the exploitation of the country's water resources.

40

Source: *https://www.theguardian.com › World › India* - Mar 1, 2017

Did you know?

It takes roughly 75 litres of water to make a pint of beer, as much as 500 litres of water to make a 2-liter bottle of soda, and almost 2000 litres, including water used to grow, dye and process the cotton, to make a pair of Levi's stonewashed jeans.[41]

Exercise 6:

Role-playing exercise

Divide into three groups. One group will represent a community living next to a coal mine/power plant, one group will represent government and one will be 'Eishkom' – the power utility. You will argue the case for the group you represent on the following case study:

In the province of Mpumalanga, government wants to allow 10 more coal mines in a key water source area that will affect the environment, the water and the communities living in the area. The coal will be used for the power company 'Eishkom'. Coal mining and coal fired power stations are large water users. The communities that live close to mines are affected by mining activities such as blasting, high levels of traffic and pollution. The area is also water scarce and experiencing a devastating drought. Service delivery is poor with a lack of access to electricity and water for the poorer areas. As such, community members have embarked on a protest that has stopped all activity. 30 people have been arrested.

Government – has ended the renewable energy power producers programme and is now focused on more coal fired power stations and new nuclear power

stations. They argue that the country needs more electricity. It has also declared that coal users are given special preference for water use.

'Eishkom' – the leadership of Eishkom is corrupt and is known to be enriching a few politically connected people. They are focused on building more coal fired power plants no matter what the cost is to the country and the environment. They say that they have a mandate from government to keep the lights on and this is the only way.

Community – representatives of the community and civil society organisations are concerned that mining and building a water-intensive power plant in a region that is already suffering from a climate change-induced drought will add to their burdens. It is difficult for communities to access information on the environmental and health issues. Public consultations have been inadequate.

Activity: each group must prepare the following:

- a presentation/speech to the independent civic council
- a plan of action on how to move beyond this impasse
- a plan to protect the water source areas

Module 7: People's Science for Water Justice

The enormous pressure on the global water resources have reached unprecedented levels. The challenges facing communities with regards to water cannot be solved by one sector alone. As activists, there are a few things that we can do – depending on the challenge that we are facing. This section will define a pathway to systemic alternatives in the water sector.

At the onset it must be said that there are hundreds if not thousands of proposed solutions to water challenges that include the use of high-level technical strategies, improving water use efficiency, development of new infrastructure, re-use and recycling, desalination, and the removal of water hungry alien invasive plants. While these solutions should not be disregarded, there are some concerns with focusing purely on a technical level. The first is that technology can only go so far. It removes all blame on the system and thus removes community action for change. Secondly, some of the technical solutions like desalination are expensive and are little more than false solutions. It will put pressure on our energy supplies, cost a lot, damage ocean eco-systems and all in all will be a wasteful practice and will not solve the problem. Desalination cannot work outside an integrated and sustainable water management system. Thirdly, these solutions are often not easily available for communities, who do not have the funds or knowledge to do this.

Many communities are finding their own new and innovative ways to manage water resources. These responses to community based water management can take many forms such as simple technology solutions, indigenous knowledge, water use efficiency and citizen science. In some cases, local strategies can offer cheaper alternatives, decentralised projects that are more effective than the large-scale, centralized approaches that have dominated in the past. Simple technology solutions range from rainwater harvesting in India; fog catching/cloud harvesting in Nepal; or wastewater treatment in Cambodia. (Asian Development Bank 2006)

Communities are using traditional knowledge to cope with water shortages and climate change in rural areas. Traditional knowledge has been gained over time and across generations. Communities that live close to natural resources often observe and understand the environment around them. They are able to easily identify any changes and adapt to these changes. In Ghana, for example, traditional farmers manage their risks such as drought, by growing many different crops and varieties with different susceptibility to drought and floods as well as using different locations for fields.

Community technology solutions

In Bangladesh, there is an extreme lack of safe drinking water. Rickshaw pullers are using a pedal-powered water filter that provides clean and safe water. In India, a group called the Bengaluru 'water warriors' challenge citizens in the city to be 'water kanjoos' using a WhatsApp group to promote water conservation.[42] One community in Peru has come up with innovative ways to find drinking water through fog catching. Fog hits a mesh and condenses water. Almost 200 litres of water can be trapped a day.[43]

These efforts are important but they do not change the inequity that exists with regards to water. Some have suggested that water conservation efforts should be primarily directed at the large industrial-type farmers, since crop irrigation accounts for 70% of the world's fresh water use.[44]

There is a growing global movement for water justice as people and communities are coming together to fight for water sovereignty that includes access to clean water, an end to pollution of water resources, an end to privatisation, increased efforts to manage scarcity and solutions to combat the impacts of climate change and a reclaiming of the water commons. For example, Tshintsha Amakhaya, a South African civil-society alliance, has embarked on a Water Justice Campaign in the

country. Furthermore, organisations like Centre for Environmental Rights, the Vaal Environmental Justice Alliance, groundwork, Environmental Monitoring Group, and the SA Water Caucus, are but a few of the structures and movements that are taking up the water justice fight.

Citizen science or people's science involves the participation of the general public in the generation of new scientific knowledge. A large variety of approaches exist, ranging from community-based data collection, to soliciting contributions, to carrying out various scientific tasks through the use of the internet.[45] Another very important type of people's science involves the empowering of communities and democratising science knowledge. This is the type of people's science that can be used to reclaim the water commons for a just transition and water sovereignty.

In short, people's science cuts across everything we are doing – from agroecology to understanding water source areas, from fighting privatisation to claiming our rights of the commons. All of this can and should be used as a pathway towards establishing a People's Water Charter.

In the context of water, a healthy relationship between scientific knowledge and traditional or indigenous knowledge is desirable, especially in developing countries where technology for prediction and modelling is least developed. Sharing and exchanging information and knowledge can foster better responsibility and care of water resources. Farmers for example can enhance their skills in soil and water management, while sharing their knowledge on the micro-climate.[46] A good practical example of this is agroecology.

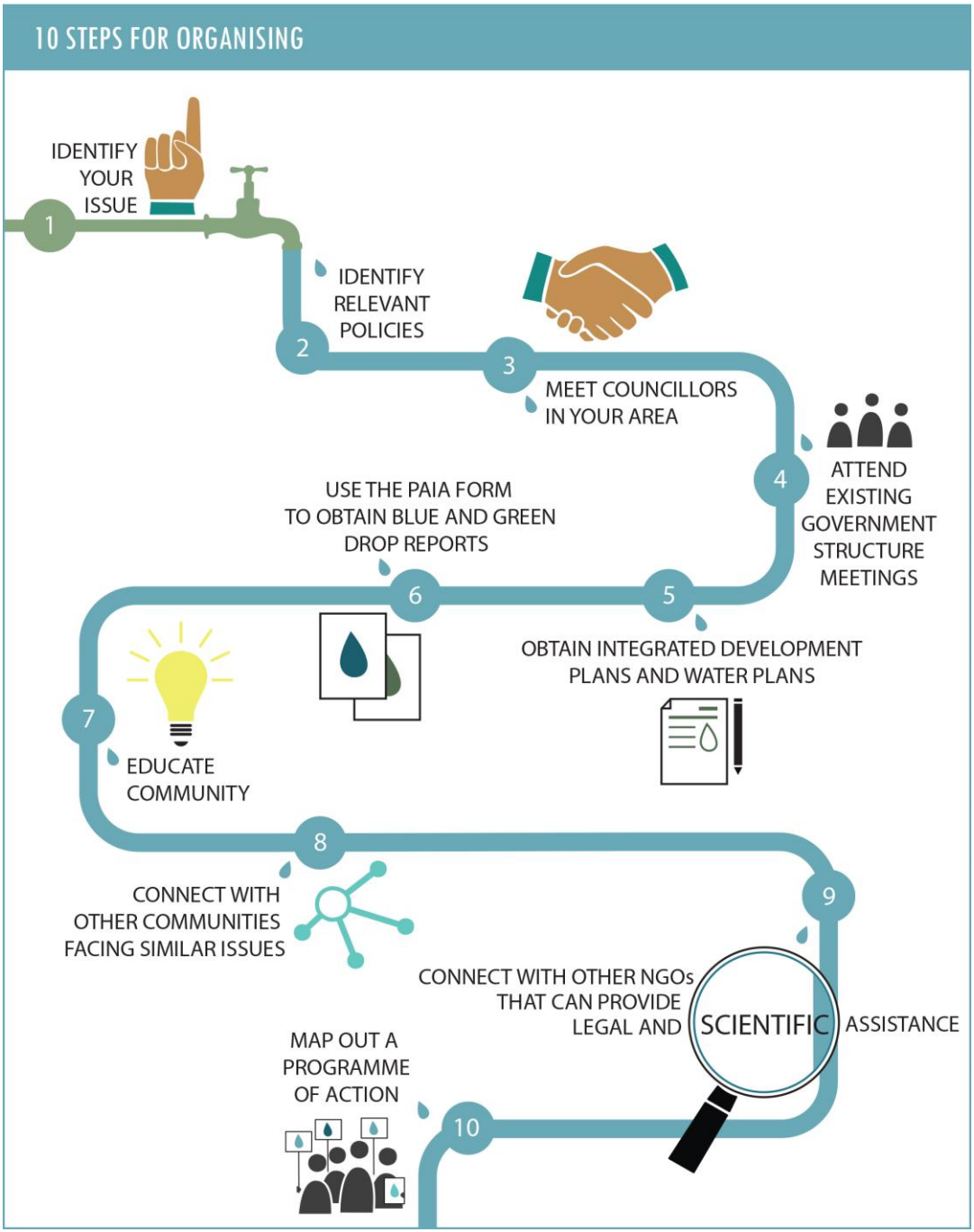
Agroecology is defined as an approach to agriculture that views agricultural areas as part of the ecosystem and thus encourages one to work with nature rather than against it. Agroecology is emerging as the sustainable farming method that not only enhances farmer's skills but also is building a movement around food sovereignty. Fundamentally, agroecology is about shifting the control of the land, seeds, markets and labour out of the hands of big business and back into the hands of small-scale farmers.[47] The South African Food Sovereignty Campaign (SAFSC) is championing

food sovereignty in the country as part of the deep just transition. On the continent, we have the African Food Sovereignty Alliance.

In Africa, it is the small-scale farmers that are responsible for feeding its people. They produce over 70% of the food consumed in Africa on less than 15% of the agricultural land available on the continent. It is not clear how much water is being used, but in general these farmers use small-scale irrigation, such as pumps and on farm ponds as well as agroecological methods. While it is reported that the rate of return from large scale farmers is about 7% and around 28% for small-scale farmers, the large industry is gradually pushing the small farmers out of the market. The challenge is to get the political will to favour the small farmers rather than the big industrial agriculture as is the case.

Getting Organised

It is important to become more active about water issues. Water is necessary for life and in a drought prone country, with deep inequality, water must be democratised by people's power. The right to water in the constitution can only be achieved if people are controlling water resources through water sovereignty. Let's prepare a local water campaign plan together. The illustration following shows the steps to follow, and thereafter each step is explained.


10 STEPS FOR ORGANISING
1
IDENTIFY YOUR ISSUE
2
IDENTIFY RELEVANT POLICIES
3
MEET COUNCILLORS IN YOUR AREA
4
ATTEND EXISTING GOVERNMENT STRUCTURE MEETINGS
5
OBTAIN INTEGRATED DEVELOPMENT PLANS AND WATER PLANS
6
USE THE PAIA FORM TO OBTAIN BLUE AND GREEN DROP REPORTS
7
EDUCATE COMMUNITY
8
CONNECT WITH OTHER COMMUNITIES FACING SIMILAR ISSUES
9
CONNECT WITH OTHER NGOs THAT CAN PROVIDE LEGAL AND SCIENTIFIC ASSISTANCE
10
MAP OUT A PROGRAMME OF ACTION

Below are 10 suggested activities for people and communities to undertake so that they can be better informed and empowered to build change from below:

1. Identify your issue – is it related to access, pollution, privatisation, availability, policy or infrastructure?
2. Identify relevant policies – from the four key policies mentioned and the constitution, is there anything in these frameworks that could link to and strengthen the solution to your issue?
3. Meet councillors in your area – if possible, are your councillors able to meet or explain what is going on with regards to your concern?
4. Attend existing government structure meetings – it is important to find out what local government meetings are being held that are relevant for example, any integrated development plan public meetings, consultations on the National Water Resource Strategy consultations, Community Catchment Forums that deal directly with water in the area that you live.
5. Obtain Integrated development plans and water plans – write to the local municipality and water boards to obtain these plans. All municipalities have such plans that are available for public viewing.
6. Use the Promotion of Access to Information Act (PAIA) (See Appendix A for PAIA form) to obtain blue and green drop reports – if the local government does not give you any information then you can submit a PAIA request. Refer to the Right2Know website for more information on this.
7. Educate community – create small groups in your community to discuss and educate about the water in your area.
8. Connect with other communities facing similar issues.
9. Connect with other NGOs that can provide legal and scientific assistance.
10. Map out a campaign programme of action with clear objectives, focus areas and action.

Module 8: A Just Transition Pathway to Water Sovereignty

Climate shocks and its impact on our water systems, food systems, energy systems and communities is upon us. We need to ensure the current systems are transformed to address the systemic causes of climate change while building a deep just transition pathway to sustain life. This means for the water struggle we have to transform the current water system into a water sovereign system that gives people power over water resources. Water Sovereignty means building people's power to preserve the water cycle and control water storage, use, access and supply in a manner that realises people's rights to water, meets the needs of nature and builds a sustainable water commons.

It is necessary to have a big picture of some of the responses to the water challenges in South Africa. The key focus of this activist guide is not on how individuals can reduce their water consumption so that industry can keep polluting and using most of the resources, but rather to inspire activism within communities that directs water resources away from industry and into the hands of the people, to promote struggles for water justice and the health of our water systems.

The dire state of our water resources has resulted in a myriad of solutions – from governments developing policies and programmes, to communities finding local solutions to businesses using expensive technologies. For example, desalination (the process of extracting salt from seawater) that is a false solution as it is too expensive for a developing country like SA. It also uses a large amount of electricity that the country needs to use wisely.[48] Many campaigns run by government such as the 'water wise' campaign targets residential users. Such campaigns do not deal with the large users such as agriculture and industry nor is it relevant to the millions of people who do not have access to piped water. It is a case of responding to the symptom and not the cause of such problems, namely, a marketed centred politics that favours profits and corporations over the needs of people and nature more generally. The technical solutions are useful and important but they need to be

implemented parallel to a systemic change. Only then will we be able to achieve a people's science for water sovereignty and in turn people's power.

This guide should be used as a tool to find out and collect information that people would want to add to a People's Water Charter. We have identified five key pathways to water justice – each one bringing us closer to water sovereignty:

1. Food Sovereignty:
    - Module 2 and 3 highlight that there are already campaigns that have been established on the ground like the South African Food Sovereignty Campaign.
    - The links to water and deep social justice lies in a food sovereignty movement that seeks to reduce the control of our food by industrial agriculture and to promote small local farmers.
    - These are important to ensuring our path to food sovereignty.
    - The key issues to reflect on include;
        - the allocation of water,
        - why government does not assist small farmers to obtain water during a drought, and
        - if water belongs to all how then can we have more than 5 000 private dams that benefits the elite farmers?
2. Indigenous knowledge:
    - Using the knowledge and information that has been practiced for centuries can build confidence and power.
    - New is not always better.
    - This knowledge should be used to critique quick technical fixes.
    - Identify what local knowledge can be used and that is relevant to our food and water.
3. People's Science:
    - In module 4, 5 and 6 we cover water science, health and politics.

- Science has been used to lock people out of basic information about our world.
- We need to build a movement that will lead to empowering communities to not only fight to be heard but to also become the guardians of our water resources.
- A people's science movement must be part of the food and water sovereignty campaign.
- People's science can be used to challenge big polluting companies and mines.

4. Taking back the Commons:
    - In Module 6, we are made aware of the failing infrastructure and the failing governance issues at national and local government.
    - We need to have a people focus.
    - It is important to claim our basic rights in terms of land and water. This will mean a need to defend our water commons and the rights of our commons.
5. People's Water Charter:
    - Through all of the above, it is important to work towards developing a People's Water Charter.
    - In using this guide, it is envisaged that water justice facilitators and activists will identify key issues being experienced on the ground and use these to build a People's Water Charter.
    - For example, hold a water charter assembly that can bring all water justice activists together to bring every issue on to the table, systemic solutions and thus build a water charter from below.

Exercise 7:

Building a People's Water Charter

In your organisations or community structures try to answer these questions:

1. What are the key concerns on water affecting our community?
2. What are the key concerns on water affecting the country?
3. What kind of information do we need to keep track of our water resources?
4. What policies allow for public involvement?
5. How can we democratise our water governance?
6. How can we hold local government accountable for wasting water and failing infrastructure?
7. How much of our water is privatised?
8. How can we stop the privatisation of our water?
9. How can we make commercial agriculture use less water?
10. What is the role of food sovereignty in ensuring water is protected and used more sparingly?
11. How can we protect our rivers and catchment areas from pollution?
12. How can we use our groundwater more sustainably?
13. How can we make sure that mines and industry are held accountable for pollution?
14. What do we need to build a People's Science Movement?
15. What local and indigenous knowledge can we use to protect our water resources?
16. How can we link to existing water struggles?

The responses can be used to build the People's Water Charter.

Additional Information

There are many organisations that are working on water struggles. These include:

- **Centre for Environmental Rights (CER)** - activist lawyers who help communities and civil society organisations in South Africa realise our Constitutional right to a healthy environment by advocating and litigating for environmental justice.
    - **Telephone:** +27 21 447 1647
    - **Email:** info@cer.org.za
    - **Website:** www.cer.org.za
- **Groundwork -** a non-profit environmental justice service and developmental organization working primarily in Southern Africa in the areas of Climate & Energy Justice, Coal, Environmental Health, Global Green and Healthy Hospitals, and Waste.
    - **Telephone**:+2733-3425662
    - **Email**: team@groundwork.org.za
    - **Website:** www.groundwork.org.za
- **SA Water caucus** - This network of about 20 organisations active in the water sector was formed shortly after the *2002 World Summit on Sustainable Development*. Since then the Water Caucus has met regularly, and is recognised by the Department of Water Affairs & Forestry as a critical voice to engage with in policy and implementation processes.
    - Coordinated by EMG – details below
- **Environmental Monitoring Group (EMG)**
    - **Telephone**: 021 448 2881
    - **Website**: www.emg.org.za
- **VEJA –** The Vaal Environmental Justice Alliance was established in 2004. It has 13 affiliate organisations from surrounding areas and focus is on monitoring corporate pollution.
    - **Telephone:** 016 933 9079
    - **Facebook:** Vaal-Environmental-Justice-Alliance

- **Benchmarks Foundation** - Bench Marks Foundation is a non-profit, faith-based organisation owned by the churches in South Africa. It is a unique organisation in the area of corporate social responsibility (CSR) and monitors corporate performance of mining companies
    - **Telephone:** 011 832-1743/2
    - **Website:** http://www.bench-marks.org.za/
- **AWARD** (Association for Water and Rural Development) - is an NGO with a mission to develop, test and inform new and appropriate ways of managing water and biodiversity so as to contribute to sustainable futures.
    - **Telephone**: 015 793 0145
    - **Email**: info@award.org.za
    - **Website**: www.award.org.za
- **COPAC (Co-operative and Policy Alternative Centre) –** COPAC has been engaged in grassroots community development work since 1999 in South Africa. It aims to build grassroots capacities for movement building in South Africa, promote popular education and activist training for democratic transformative politics and support the development of systemic alternatives to ensure ecological justice and which meets the needs of workers, the poor, women and youth.
    - **Telephone:** 011 447 1013
    - **Email:** copac@icon.co.za
    - **Website:** www.copac.org.za
- **The Right2Know Campaign –** R2K is a democratic, activist-driven campaign that strengthens and unites citizens to raise public awareness, mobilise communities and undertake research and targeted advocacy that aims to ensure the free flow of information necessary to meet people's social, economic, political and ecological needs and live free from want, in equality and in dignity.
    - **Telephone:** 021 447 1000
    - **Email:** admin@r2k.org.za
    - **Website:** www.r2k.org.za

Notes

[1] *https://www.merriam-webster.com/dictionary/fossil%20fuel*
[2] J Budds and A Loftus (2014), Water and Hydropolitics, The Companion to Development Studies, 3rd ed, Routledge,
[3] http://www.globalresearch.ca/climate-change-the-greatest-challenge-of-our-time/5360852
[4] https://www.nasa.gov/audience/forstudents/k-4/stories/nasa-knows/what-is-climate-change-k4.html
[5]National Climate Change Response White Paper (2010), Department of Environmental Affairs
[6] https://www.cgdev.org/media/who-caused-climate-change-historically
[7] https://unhabitat.org/urban-themes/climate-change/
[8] www.wwf.org
[9] https://www.edf.org/sites/default/files/South-Africa-Case-Study-March-2014.pdf
http://www.joburg.org.za/images/stories/2014/June/climate%20change%20adaptation%20plan_city%20of%20joburg.pdf
[10] https://mg.co.za/article/2015-03-20-00-responding-to-climate-change-in-south-africa
[11]
http://www.greenpeace.org/africa/global/africa/publications/coal/coalshiddenwatercost.pdf
[12] Allan Irwin (1995), Citizen Science: A study of People, Expertise and Sustainable Development
[13] Rand Water 2013, 3. http://www.waterwise.co.za/export/sites/water-wise/education/activities/Grade_10_Physical_Science/Downloads/The_Hydrosphere._Teacher_Project_Guide._Grade_10._Physical_Science._CAPS_2012.pdf
[14] Huffman, Samuel F. 2016, Hydrologic Cycle.Salem Press Encyclopedia of Science
[15] https://scied.ucar.edu/longcontent/water-cycle
[16] Huffman, Samuel F. 2016, Hydrologic Cycle.Salem Press Encyclopedia of Science
[17] https://mg.co.za/article/2015-09-09-mps-disturbed-by-water-ownership

[18] http://www.wrc.org.za/Knowledge%20Hub%20Documents/Educational%20Documents/Dams%20in%20SA.pdf

[19] https://africacheck.org/reports/is-south-africa-one-of-the-30-driest-countries-on-earth/

[20] http://www.fao.org/nr/water/aquastat/data/query/results.html

[21] https://www.sanbi.org/sites/default/files/documents/documents/ltas-factsheetclimate-change-and-water-sector2013.pdf (date visited: 27 June 2017)

[22] Figures from a presentation by Amanda Mkhonza from the Centre for Environmental Rights (CER) at a Vaal Environmental Justice Alliance workshop on 20 May 2017

[23] (DWA 2012; Stewart 2017)

[24] https://www.rockefellerfoundation.org/blog/future-water-calls-more-innovative/ (date visited: 26 April 2017)

[25] http://www.wrc.org.za/SiteCollectionDocuments/Background%20to%20current%20drought%20situation%20in%20South%20Africa%20(3).pdf (date visited: 03 September 2017)

[26] http://www.wrc.org.za/Lists/Knowledge%20Hub%20Items/Attachments/11496/WW_Nov15_DroughtResearch.pdf

[27] The Hydrosphere. Teacher Project Guide. Grade 10. Physical Science. P7

[28] http://www.news24.com/SouthAfrica/News/South-Africas-looming-water-disaster-20141103 (date visited: 17 April 2017)

[29] Department of Environmental Affairs, 2012

[30] http://www.unisa.ac.za/news/index.php/2014/04/south-africas-water-resources-under-immense-pressure/ (date visited: 16 April 2017)

[31] https://sustainablesecurity.org/2014/05/02/water-security-in-south-africa/ [date visited: 01/08/2016]

[32] Wwf.org.za

[33] Riante Naidoo (2015), Billions in debt threatens South Africa's bulk water supply, http://www.infrastructurene.ws/2017/05/15/billions-in-debt-threaten-sas-bulk-water-infrastructure/#

[34] CSIR 2010

[35] (Goldin 2010; CSIR 2010; DWA 2012)

[36] Public Citizen, 2004

[37] https://www.foodandwaterwatch.org/insight/water-privatization-facts-and-figures

[38] Dale McKinley (nd), Water is Life: The Anti-Privatisation Forum & the struggle against water privatisation
https://www.citizen.org/article/water-life-anti-privatisation-forum-struggle-against-water-privatisation

[39] *https://www.theguardian.com › World › India* - Mar 1, 2017

[40] https://www.indybay.org/newsitems/2009/04/21/18590638.php

[41] https://www.quora.com/I-have-read-that-it-takes-9-liters-of-water-to-produce-1-liter-of-Coca-Cola-Is-it-true

[42] http://indiatoday.intoday.in/story/bengaluru-water-shortage-challenge-kanjoos-summer/1/924530.html

[43] https://www.rockefellerfoundation.org/blog/future-water-calls-more-innovative/

[44] Asian Development Bank 2006

[45] (Buytaert et al. 2014)

[46] http://www.sciencedirect.com/science/article/pii/S037837741400211X

[47] http://www.globaljustice.org.uk/agroecology (date visited: 27 June 2017)

[48] http://www.capetalk.co.za/articles/239498/why-desalination-isn-t-a-solution-to-our-water-problems

[48] The Pietermaritzburg Agency for Community Social Action (PACSA)

Bibliography

Asian Development Bank, 2006. *Water Brief: water management by local communities*,

Buytaert, W. et al., 2014. Citizen science in hydrology and water resources: opportunities for knowledge generation, ecosystem service management, and sustainable development. *Frontiers in Earth Science*, 2(October), pp.1–21. Available at: http://journal.frontiersin.org/article/10.3389/feart.2014.00026/abstract.

Cock, J., 2006. Connecting the Red, Brown and Green: The Environmental Justice Movement in South Africa. *Voices of Protest: Social Movements in Post-Apartheid South Africa*, pp.179–201.

CSIR, 2010. *A CSIR perspective on water in South Africa*, Available at: http://www.csir.co.za/nre/docs/CSIR Perspective on Water_2010.PDF.

Dewan, C., Buisson, M.C. & Mukherji, A., 2014. The imposition of participation? The case of participatory water management in coastal Bangladesh. *Water Alternatives*, 7(2), pp.342–366.

DWA, 2012. *Proposed National Water Resource Strategy 2 - Summary*, South Africa.

Goldin, J.A., 2010. Water policy in South Africa: Trust and knowledge as obstacles to reform. *Review of Radical Political Economics*, 42(2), pp.195–212. Available at: http://0-www.scopus.com.wam.seals.ac.za/record/display.url?eid=2-s2.0-77952327891&origin=resultslist&sort=plf-f&src=s&st1=water+policy+in+south+africa%253a+trust+and+knowledge+as+obstacles+to+reform&sid=7F8D874CF1D8860A6B883417626AC9BB.CnvicAmOODVwpVrjSeq.

Munnik, V., 2007. Solidarity for environmental justice in Southern Africa. , (November), p.23. Available at:

http://www.groundwork.org.za/specialreports/Solidarity for EJ in SA.pdf.

Public Citizen, 2004. *Citizen ' s Guide to Water Privatization*,

Stewart, R., 2017. *Wild water: the state of the world's water*, Available at: www.wateraid.org.

WWF-SA, 2016. Water: Facts and Futures - Rethinking South Africa's Water Future.

List of Websites

- http://www.wrc.org.za/News/Pages/DroughttoolkitdevelopedformunicipalitiesinSouthAfrica.aspx
- http://www.news24.com/SouthAfrica/News/South-Africas-looming-water-disaster-20141103 (date visited: 17 April 2017)
- http://www.unisa.ac.za/news/index.php/2014/04/south-africas-water-resources-under-immense-pressure/ (date visited: 16 April 2017)
- http://www.southafrica.info/about/sustainable/water-251013.htm#.WEfgjrJ96po#ixzz4S96Z3Evo
- https://www.rockefellerfoundation.org/blog/future-water-calls-more-innovative/ (date visited: 26 April 2017)
- www.un.org/waterforlifedecade/human_right_to_water.shtml (date visited: 3 May 2017)
- https://wle.cgiar.org/thrive/2014/08/11/community-water-management-bangladesh-working (date visited: 23 April 2017)
- https://www.foodandwaterwatch.org/insight/water-privatization-facts-and-figures (date visited: 17 April 2017)
- https://sustainablesecurity.org/2014/05/02/water-security-in-south-africa/[date visited: 01/08/2016]
- www.WWF.org.za
- http://indiatoday.intoday.in/story/bengaluru-water-shortage-challenge-kanjoos-summer/1/924530.html

- https://www.engineeringforchange.org/ten-technologies-for-rural-water-supplies/
- http://www.fao.org/docrep/011/i0670e/i0670e14.htm
- http://www.sciencedirect.com/science/article/pii/S037837741400211X
- http://www.waterjustice.org
- http://ngm.nationalgeographic.com/2010/04/water-is-life/kingsolver-text/2 [visited: 10 July 2017]
- http://www.merriam-webster.com/dictionary/science
- www.waterjustice.org
- https://scied.ucar.edu/longcontent/water-cycle
- http://m.news24.com/news24/SouthAfrica/Local/Stanger-Weekly/calling-for-water-justice-in-south-africa-20160322
- https://www.rockefellerfoundation.org/blog/future-water-calls-more-innovative/ (date visited: 26 April 2017)
- https://www.sanbi.org/sites/default/files/documents/documents/ltas-factsheetclimate-change-and-water-sector2013.pdf (date visited: 27 June 2017)
- http://www.capetalk.co.za/articles/239498/why-desalination-isn-t-a-solution-to-our-water-problems
- http://indiatoday.intoday.in/story/bengaluru-water-shortage-challenge-kanjoos-summer/1/924530.html
- http://www.globaljustice.org.uk/agroecology (date visted: 27 June 2017)

Appendix A: PAIA Form

FORM A

REQUEST FOR ACCESS TO RECORD OF PUBLIC BODY

(Section 18 (1) of the Promotion of Access to Information Act, 2000

(Act No. 2 of 2000)

[Regulation 2]

FOR DEPARTMENTAL USE

Reference Number:_____

Request received by:_____

(state rank, name and surname of information officer/deputy information officer) on _____(date) at_____ (place). Request fee (if any): R……. Deposit fee (if any): R……. Access fee: R…….

_____

SIGNATURE OF INFORMATION OFFICER/DEPUTY INFORMATION OFFICER

A. Particulars of public body

B. Particulars of person requesting access to the record

(a) The particulars of the person who requests access to the record must be recorded below.

(b) Furnish an address and/or fax number in the Republic to which information must be sent

(c) Proof of the capacity in which the request is made, if applicable, must be attached.

Full names and surname:

Identity/Passport number:

Postal address**:**

Fax number:

Telephone number:

E-Mail Address:

C. Particulars of person on whose behalf request is made

This section must be completed ONLY if a request for information is made on behalf of another person.

Full names and surname:

Identity number:

D. Particulars of record

(a) Provide full particulars of the record to which access is requested, including the reference number if that is known to you, to enable the record to be located. *(b) If the provided space is inadequate please continue on a separate folio and attach it to this form.* ***The requester must sign all the additional folios****.*

1. Description of record or relevant part of the record:

If you are prevented by a disability to read, view or listen to the record in the form of access provided for in 1 to 4 hereunder, state your disability and indicate in which form the record is required.	
Disability: _____ _____	Form in which record is required: _____ _____

*Mark the appropriate box with an **"X".***

NOTES:

(a) Your indication as to the required form of access depends on the form in which the record is available.

(b) Access in the form requested may be refused in certain circumstances. In such a case you will be informed if access will be granted in another form.

(c) The fee payable for access to the record, if any, will be determined partly by the form in which access is requested.

1. If the record is in printed form:

	Copy of record*		Inspection of record

2. If record consists of visual images:

(this includes photographs, slides, video recordings, computer-generated images,sketches, etc).

	view the images		copy of the images*		transcription of the images*

3. If record consists of recorded words or information which can be reproduced in sound:

	Listen to the soundtrack (audio cassette)	transcription of soundtrack* (written or printed document)

4. If record is held on computer or in an electronic or machine – readable form:							
	Printed copy of record*		Printed copy derived from the record*		copy in computer readable form*(stiffy or compact disc)		
***** If you requested a copy or transcription of a record (above), do you wish the copy or transcription to be posted to you? **A postal fee is payable.**						YES	NO
Note that if the record is not available in the language you prefer, access may be granted in the language in which the record is available.							
In which language would you prefer the record?							

2. Reference number, if available:

3. Any further particulars of record:

E. Fees

(a) A request for access to a record, other than a record containing personal information about yourself, will be processed only after a request fee has been paid.

(b) You will be notified of the amount required to be paid as the request fee.

*(c) The **fee payable for access** to a record depends on the form in which access is required and the reasonable time required to search for and prepare a record.*

(d) *If you qualify for exemption of the payment of any fee, please state the reason for exemption.*

Reason for exemption from payment of fees:

F. **Form of access to record**

G. Notice of decision regarding request for access

You will be notified in writing whether your request has been approved/denied. If you wish to be informed thereof in another manner, please specify the manner and provide the necessary particulars to enable compliance with your request.

How would you prefer to be informed of the decision regarding your request for access to the record?

Signed at this day of

_____

SIGNATURE OF REQUESTER

Appendix B: PACSA Food Basket Showing Prices of 2016 Versus 2017

PACSA food basket showing prices over the last three months; year-on-year.

Food grouping	Foods tracked	Quantity tracked	Jan_2016 Price	Jan_2017 Price	y/y change (Rands)	y/y change (%)
Starchy foods	Maize meal	25kg	R 179.14	↑ R 244.32	R 65.18	36%
	Rice	10kg	R 76.99	↑ R 80.82	R 3.83	5%
	Cake Flour	10kg	R 80.15	↑ R 84.15	R 4.00	5%
	White bread	8 loaves	R 84.84	↑ R 91.21	R 6.37	8%
	Brown bread	4 loaves	R 38.57	↑ R 41.94	R 3.37	9%
	Samp	5kg	R 37.66	↑ R 48.32	R 10.67	28%
	Pasta	1kg	R 22.15	↑ R 23.99	R 1.83	8%
Sugar	White sugar	10kg	R 108.82	↑ R 143.65	R 34.83	32%
Dry beans, canned beans	Sugar beans	5kg	R 84.32	↑ R 117.82	R 33.50	40%
	Canned beans	3 cans	R 24.47	↑ R 27.88	R 3.41	14%
Fat, oil	Cooking oil	4L	R 87.14	↑ R 81.16	-R 5.99	-7%
	Margarine	1kg	R 31.65	↑ R 36.48	R 4.83	15%
Milk, maas	Fresh Milk	2L	R 23.65	↑ R 27.98	R 4.33	18%
	Maas	2L	R 25.15	↑ R 28.49	R 3.34	13%
Meat, eggs, fish	Eggs	30 eggs	R 38.99	↑ R 45.32	R 6.33	16%
	Canned fish	4 cans	R 59.29	↑ R 63.60	R 4.31	7%
	Chicken pieces	6kg	R 131.97	↑ R 176.47	R 44.50	34%
	Chicken feet	4kg	R 61.95	↑ R 85.93	R 23.98	39%
	Chicken necks	6kg	R 91.95	↑ R 162.85	R 70.90	77%
	Beef	1kg	R 58.33	↓ R 61.16	R 2.83	5%
	Polony	2.5kg	R 38.98	↓ R 42.82	R 3.85	10%
Vegetables	Carrots	2kg	R 16.97	↑ R 19.30	R 2.34	14%
	Spinach	4 bunches	R 40.00	↓ R 13.32	-R 26.68	-67%
	Apples	1.5kg	R 20.98	↑ R 19.82	-R 1.16	-6%
	Cabbage	2 heads	R 28.55	↑ R 20.97	-R 7.58	-27%
	Onions	10kg	R 45.33	↑ R 38.49	-R 6.84	-15%
	Tomatoes	3kg	R 31.32	↑ R 35.49	R 4.17	13%
	Potatoes	10kg	R 73.32	↑ R 55.49	-R 17.84	-24%
Miscellaneous	Salt	1kg	R 10.65	↑ R 12.15	R 1.51	14%
	Yeast	4 X 7g pkts	R 12.15	⇔ R 12.82	R 0.67	5%
	Beef stock	240g	R 15.82	↑ R 18.16	R 2.34	15%
	Soup	600g	R 22.54	↑ R 25.97	R 3.44	15%
	Curry powder	200g	R 23.32	↑ R 29.65	R 6.33	27%
	Rooibos tea bags	200g	R 16.64	↑ R 20.32	R 3.68	22%
	Coffee	100g	R 15.99	⇔ R 18.32	R 2.33	15%
	Cremora	1kg	R 37.31	↑ R 36.32	-R 0.99	-3%
Total cost of PACSA food basket			**R 1 797.04**	**R 2 092.95**	**R 295.91**	**16.47%**

COPAC

CO-OPERATIVE AND POLICY ALTERNATIVE CENTRE

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