Legal and Institutional Barriers to Community-Owned Water Supply Schemes

Report to the
WATER RESEARCH COMMISSION

by

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EXECUTIVE SUMMARY

Introduction

A significant development in the way in which communities will be able to take control of their own water futures occurred in January 2021 with the interim order of the High Court (North West Division) on an urgent application by the residents of the Kgetlengrivier Local Municipality (KLM) against municipal entities regarding the failure of the Municipality to provide adequate water and to prevent the Municipality from polluting two rivers with untreated sewage. Residents of the KLM raised concerns about the purity of the supplied water and the spillage of sewage into the Koster and Elands rivers. They accused the municipality of not being able to supply purified and portable water. In December, a group called Kgetlengriver Concerned Citizens and Mr Carel Van Heerden made an urgent court application in terms of rule 6(12) of the Uniform rules of court. On the 18th of December 2018, the court heard this matter and ruled in favour of the applicants.

On 12 January 2021 the court ordered again that an implementing agent must be appointed to run the water and sewage works. In terms of this agreement Magalies Water has been appointed for the operation and maintenance of water and wastewater treatment plants for a period of three years. While this case has made news headlines, the Kgetlengrivier community is not, and has not been the only community facing the dire straits of not having essential basic services delivered, such as water.

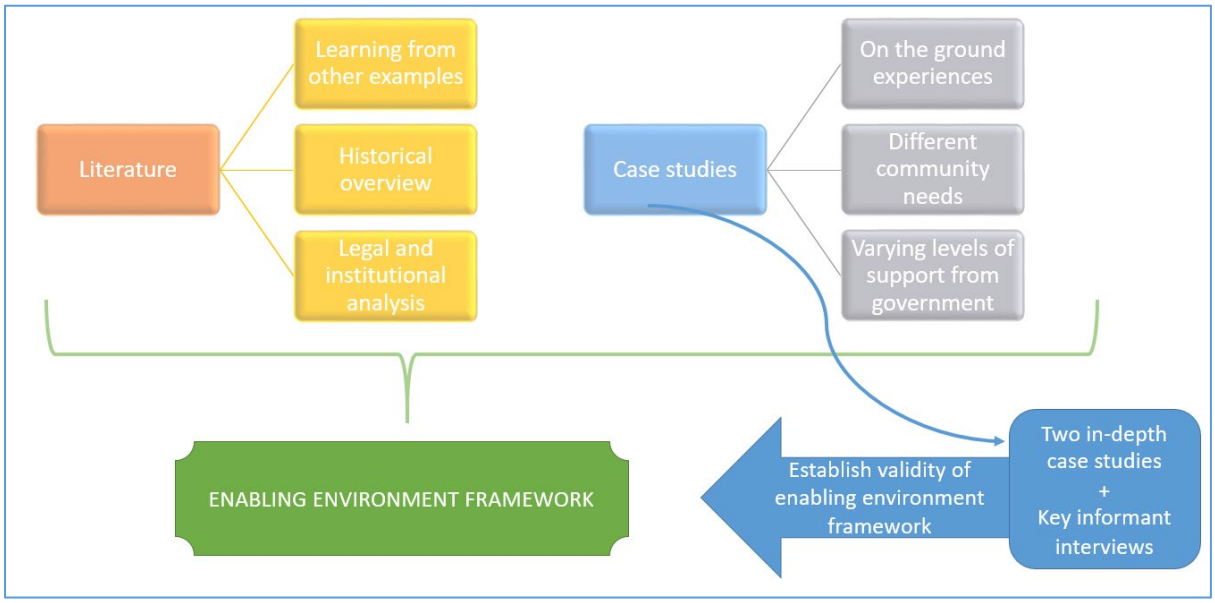
In the wake of this landmark ruling, this project has come to fruition. The Water Research Commission (WRC) appointed the Council for Scientific and Industrial Research (CSIR) to conduct research with regards to the legal implications and institutional hurdles that community-owned water supply schemes experience while trying to provide a service to its customers. This research project had four broad aims; they were:

- To understand the challenges community-owned water supply schemes face
- To evaluate the legal barriers imposed on community-owned water supply schemes
- To evaluate institutional barriers imposed on community-owned water supply schemes
- To produce a framework for a community-managed water supply scheme.

The first three of these four board aims essentially provide context and sketches a picture in terms of communities in South Africa and their rights to water, but also the impediments they encounter in the process of fulfilling those rights. It should be noted that while the emphasis of this particular project is on Community-Based Water Management Schemes (CBWMS) many of the issues discussed go beyond these parameters. The fourth goal, namely to produce a framework for a community-managed water supply scheme, builds on the previous four. Taking the learning from the previous three, the team presents an Enabling Environment Framework. This Enabling Environmental Framework, suggests that one cannot separate the success of a CBWMS from the larger governance context within which it resides and tries to operate. Moreover, the success of a CBWMS cannot only be a success for the community alone, this success can and must be a success also of the governance structures that underpin and support the CBWMS.

Research design

The research design for this study comprised of three main methods. Firstly, the team used literature as a way of developing the context for this study, as well as to understand the way in which community management of water in other areas has manifested and have been handled by authorities. The context gained from the literature was also used to populate the historical overview section, as well as the legal and institutional analysis section. The second method the team used to obtain data was through case study analysis. The goal of this particular part of the project was to obtain specific, and more in-depth information by utilising a case study approach.



A graphic representation of the research design of the project.

From the ten case studies identified, two were selected to test against the Enabling Environment Framework in order to establish its validity. The two in-depth case studies were examined through the lens of the framework in order to highlight the findings from our study and the applicability of the framework. The team also used key informant interviews in the two in-depth case studies in order to broaden the scope of the information gained for the case study.

The data analysis followed a fairly uncomplicated qualitative analysis procedure that incorporates themed coding of the relevant data followed by discourse analysis. In order to do this, the team used an open-source software program called WEFT QDA which is a tool that can assist in the analysis of textual data such as interview transcripts, written texts and field notes. Once all the data was gathered it was downloaded into the program. The program then facilitated the coding of the data according to themes as identified beforehand, as well as any themes that emerged from the data.

Community-based water management schemes – a world-wide phenomenon

There are a number of terms that emerge from the literature when researching the prevalence and significance of "community-based water supply schemes". For example, the terms 'participatory water management strategy' and 'community-based management' (CBM) are two terms that gain traction. While neither of these terms are exactly the same as 'community-based water supply schemes' – both offer insights in different ways with regards to the management of water by communities (either in part or wholly) and water supply schemes towards improved water supply. A summary of literature and examples provide ample evidence that there are many instances across the world where this type of management of water occurs. It is important to note that the assumption here is not that it is only communities in poor or developing countries that assume responsibility for their own resources. In fact, there are many examples (Lockwood and Le Gouais, 2015) where communities from developed countries such as the United States of America (USA), take responsibility for their own water services. As such we seeked to capture learning from both those who are better off and those who are worse off than South Africa.

It seems that most sources are in agreement that there are many positives to communities getting involved in water management, however the research shows that this 'involvement' brings with it a number of challenges. These challenges are not only of the community's making but are often entrenched in socio-political and governance systems. In particular, in South Africa we see that more and more communities are exerting agency and taking control of their own water futures. For example, the *Umdoni Action Group, from Scottburgh*, who are refusing to pay rates and taxes for services not rendered; the *Msunduzi Association of Residents, Ratepayers and Civics*: In Pietermaritzburg the Msunduzi Association of Residents, Ratepayers and Civics are considering their options, which includes taking the municipality to court due to the degraded state of service delivery in the area (Ramsden, 2021); the *Centre for Good Governance and Social Justice* who are seeking to hold the Mamusa Local Municipality to account for consistent failures and degradation of municipal infrastructure and systems; and, the *SAHRC* have recently released a 100-page document that details the guilt of the Emfuleni Local Municipality in violating multiple human rights by failing to prevent raw sewage from entering into the Vaal River and -dam, thus causing contamination.

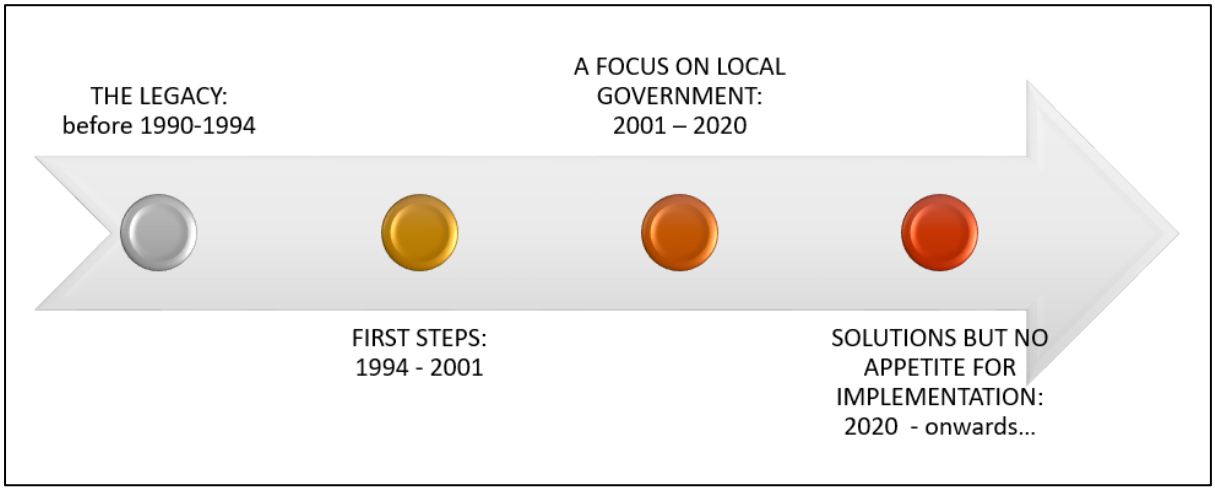
Literature and studies have also shown that there are a number of important principles that have to be considered and implemented (in the least) if communities are to play a role in their own water management. Amongst these are:

1) Communities have to be given a voice in making decisions regarding their own water;
2) Mobilisation of innovation from communities should happen from the very start of the endeavour and not only in the use phase;
3) Recognising (on both community- and authority side) that communities has co- or complete ownership of scheme and the responsibility that goes along with it;
4) Different stakeholder input and support is required through the different phases of the intervention and through its life cycle;
5) Co- or complete ownership requires commitment on the community's side to take up their portion of responsibility in terms of operations and management of the scheme and its infrastructure;

6) Researchers and implementers of such schemes have to learn from the past, and build on the past to create greater odds for success; and,
7) In order for communities to be able to operate within the boundaries of the law to ensure accountability and transparency, a review of key governance processes, structures, policy and legislation is needed in South Africa.

South African history and context

We identify four significant timeframes through which one can understand the history and practice of community-based water management in South Africa. We start in the 1990s and see how the legacy of South Africa's Apartheid policies played a significant role specifically with regards to the state of water provision in the rural areas of South Africa. We then move on to the second time frame (1994-2001) that illustrates how efforts were influenced by our country's first tentative steps to democracy. The next timeframe (2001-2020) examines the introduction of local government structures such as municipalities and their envisaged roles and responsibilities in terms of water provision. The last timeframe, 2020 onwards, looks to the future and how this may pan out given current trajectories.



Timeline that illustrates four timeframes through which one can understand the history and practice of community-based water management in South Africa.

During the last timeframe as outlined, the weaknesses in the current institutional arrangements for water services have become increasingly obvious as supply reliability decreases. The potential for community-based management to help to address these issues had already been raised much earlier by, amongst others, the National Planning Commission (NPC) which noted that

> "Many small and rural municipalities lack the financial and technical capacity to manage water services adequately. Some flexibility in approach is recommended, which could include the use of regional utilities and community management of franchise arrangements, provided municipalities retain their role as the political authority responsible for service oversight." (NPC, 2012)

This position was restated at the 2017 workshop organised by National Treasury with the participation of many stakeholders from national and local governments where it was

concluded that “Community-based management is way under-supported and there needs to be a new drive to engage with communities.” (National Treasury, 2017).

However, the barriers to this approach lie at many levels with limited capacity at community level to initiate such approaches and many vested interests, particularly at local government level likely to oppose them.

Access to water, entitlements and rights – legislation and policy analysis

According to the Human Rights Commission of South Africa (SAHRC, 2018) there are three significant pieces of legislation that clearly identify the responsibility of the South African government towards the supply of sufficient water to the South African population. These are: (i) The Constitution; (ii) the Local Government Municipal Systems Act; and (iii) the Water Services Act. In addition, South Africa recognises water as a common asset whose trusteeship lies with the State (DWA, 2010). The Department of Water and Sanitation is mandated by the National Water Act (Act No 36, 1998) to ensure that all water resources are well managed and protected, developed and conserved “for the benefit of all persons” and in accordance with the Constitution.

Within the current legislative framework of South Africa there are a number of opportunities for CBWMs in terms of self-supply of water. For households, Schedule 1 Water Use as provided for by the National Water Act (No. 36 of 1998) creates a number of opportunities for self-supply, however it is severely limited. Schedule 1 makes specific reference to the following in terms of water use that is significant for CBWMS:

- Water use is specified for a single household use only – thus own use only.
- Serves to support the use of water for subsistence farmers – thus not for commercial farming.
- Makes provision for the water of animals that are kept for household use – thus not for commercial use such as feedlots – and has to be within grazing capacity of the land.
- Stipulates ‘lawful’ use of the resource – thus one has to lawfully have access to the resource in order for you to make use of the water.

Possible intervention for expanding Schedule 1 water use are to (i) create an opportunity within Schedule 1 water use for groups of households to pool resources in order to provide water to more than one household; and (ii) to elevate Schedule 1 water use – specifically where other laws’ limitations and prohibitions deny households and communities their own efforts to secure access to water. Also – declare an ‘emergency situation’ in those communities where households are struggling with lawful access to water.

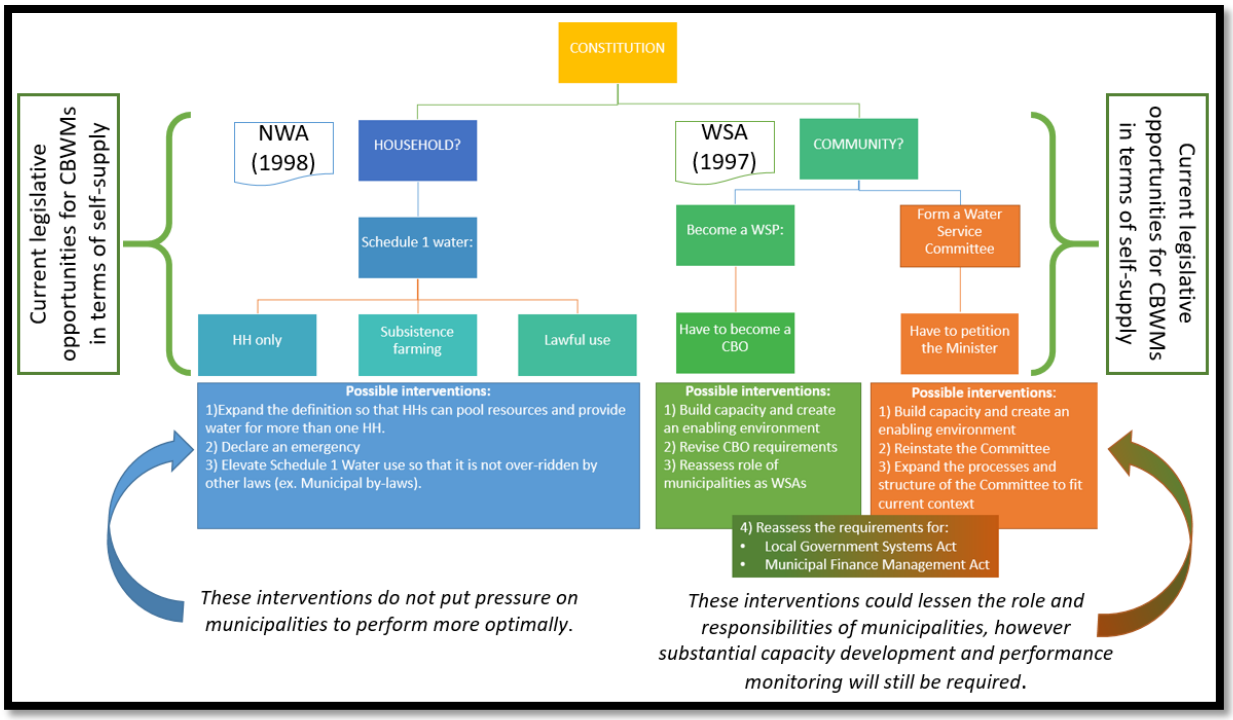
The Water Services Act (No. 108 of 1997) provides a number of opportunities for communities towards self-supply. However, in this case we find that bureaucratic processes are particularly hindering and cumbersome, especially for communities if they seek to operate within the bounds of the law. Under this Act, communities have two opportunities in terms of self-supply, they can either become a Water Services Provider (WSP) or act as a Water Services Committee. These two options bring with them a host of obstacles, in the least currently if a community wants to operate as a WSP they have to register as a Community-Based

Organisation (CBO) while if they want to act as a Water Services Committee they need to petition the Minister to reinstate the mechanism.

We have identified a number of possible interventions for both of these options:

WSP – as CBO	Water Services Committee
1) Build capacity and create an enabling environment 2) Revise CBO requirements 3) Reassess role of municipalities as WSAs 4) Reassess the requirements for the Local Government Systems Act, and the Municipal Finance Management Act	1) Build capacity and create an enabling environment 2) Reinstate the Committee 3) Expand the processes and structure of the Committee to fit current context 4) Reassess the requirements for the Local Government Systems Act, and the Municipal Finance Management Act

The figure below provides a summary illustrating the current legislative opportunities for residents and communities in terms of self-supply, as well as possible interventions.



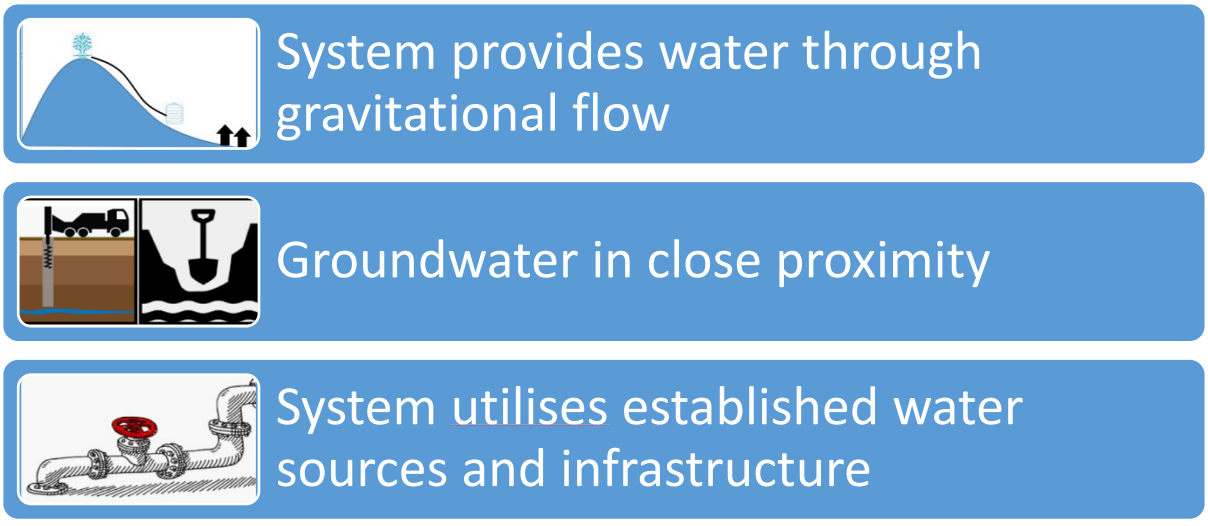
Summary graphic illustrating the current legislative opportunities for residents and communities in terms of self-supply, as well as possible interventions.

Case Studies

For our case studies the following themes were examined in the qualitative survey instrument:

Communities	Municipalities
• Nature of the scheme • History of the scheme • Governance of the scheme • Perceptions with regards to who is responsible for the upkeep and maintenance of such a scheme • Perceptions with regards to payment for water • Support for communities who utilise a water scheme • Community preferences with regards to water provision.	• Municipal enablers to help communities with self-supply • Legal and institutional barriers preventing municipalities from supporting/helping communities with self-supply • Communication channels • Scope to co-operate with communities • When unable to supply municipal water – what are the alternative plans?

From the ten case studies, we were able to analyse the data and characterise three types of caste studies, namely (i) those systems that provide water through gravitational flow, (ii) those systems where groundwater is in close proximity, and (iii) those systems that utilises established water sources and infrastructure.



Learning from our case studies with communities:

1) Need overshadows agency – communities might not have enough agency to engage governance processes, the need to find and supply water will drive them to be innovative.
2) Despite the fact that communities may not have all the skills and technical knowledge, they innovate to create systems and schemes. They however readily acknowledge that they require the help and support.
3) Women often bear the brunt of collecting water for the household. Even in villages where there is some sort of system in place where water is collected through a gravitational flow, water still needs to collected. This burden falls mostly to women, adding to their triple burden.

4) Many community members provide their own money and other resources for the development of water schemes. Sustainable funding for infrastructure is a major stumbling block for communities.

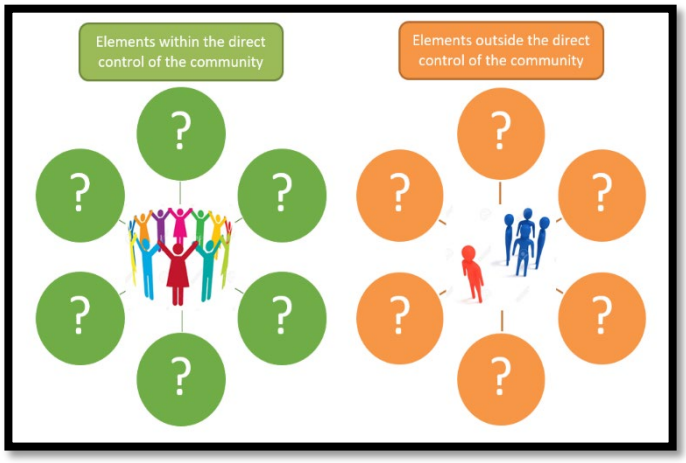
Learning from our case studies with municipalities is that we need to:

1) Remedy MIG funding instrument implementation.
2) Eliminate the space that has been created for political motivations and agendas to influence funding.
3) Support municipal officials to navigate governance processes.
4) Support municipalities with crafting suitable bylaws where needed.
5) Enable municipalities to fulfill their mandate.

Development of a framework for an enabling environment

Given the history, the legal system, the dismal municipal support currently, as well as the developmental context within which CBWMS are operating in, it is clear that more needs to be done to help them. In fact, plainly said, more needs to be done by municipalities to make good on the rights of communities that are enshrined in the Constitution, to have access to good and reliable water in a sustainable way. We argue that the legislation is there, yet within the ambit of progressive realisation of rights, as well as the dire financial and institutional challenges faced by many municipalities in South Africa, and particularly those in rural areas where many communities are struggling with water, legislation alone is not, and has not been, enough to push municipalities into action.

In the face of such a breakdown in not only services, but also trust and agency, it might be difficult to even know where to begin to rebuild. The enabling environmental framework we have developed provides different elements that may act as the building blocks to rectifying the situation. These elements can support and facilitate the successful delivery of water to people as well as ensure the uptake of responsibility by those institutions whose, in essence, mandate it is to provide water to the people. Therefore, the enabling environmental framework provides a model, consisting of different of elements that have to be in place in order for CBWMS to be successful. Some of these elements are located specifically within the control of the municipality, while others are located outside the control of the municipality. During the project this distinction became clear, as both municipalities and communities have a role to play. The factors that were identified as making up the enabling environment are presented below.



Learning and recommendations from developing and testing our enabling environment framework are as follows:

1. Create support to access important information
   - What support is in place to help communities access important information relating to water?

- For example, in terms of logistics, technical knowledge, funding support, land-use planning, and water-use licenses.
- Is the current support realistic in its application (accessible, user-friendly, contextually relevant)?

2. Create mechanisms to ensure that issues and concerns from communities are fed-up the governance value chain
   - Is there any way that accountability can be ensured (on part of municipalities) to take-up the flow of information from communities?
3. Create targeted support for CBWMs
   - For example: Has DWS been able to foster any strong partnerships or networks with CBWMs?
4. Provide municipalities with targeted help to support communities
   - Especially those communities in deeply rural areas, and those without access to municipal water

Enabling Environment Framework for Sustainable Community-Based Water Management Scheme

Upon reflection of the research and information presented in this document, there is a clear correlation between the needs of communities, the inability of the municipality to fulfil those needs and the resultant actions taken by communities to fill those needs for themselves (or as much as they are able to). There should be no question that constitutionally water supply and sanitation services are the responsibility of municipalities as WSPs. However, given the state and decreased capacity of municipalities, as well as the actions by communities, it is equally clear that this constitutional responsibility is not being fulfilled.

Our research has shown that the problem is one that is larger than merely buying and supplying more infrastructure, or employing more capable people. Intangibles such as trust relationships, increasing and decreasing agency of communities and officials, and shifting power relationships points to a more holistic solution or approach that is required. The report by Goldman et al. (2013) has already pointed to this. Their suggestion of a community-based partnership provides an important basis upon which the Enabling Framework we have developed is built as it points to a relationship that is required in order to begin to solve these issues.

Our Enabling Framework in the first instance works from the assumption that there are policies and process already in place. And, we have seen that this is the case through our own assessment of the policies and legislation, the way in which officials speak about constraints, as well as our attempt at applying the Framework in two of our case studies. For example, as we have shown, frameworks and policy documents such as the Water Supply and Sanitation Policy White Paper of 1994, the 1998 White Paper on Local Government, and Municipal Service Partnerships White Paper of 2000 recognises CBOs as ideal organisations or units to provide options for the delivery of municipal services in rural communities. The Department of Water and Sanitation's guidelines of 2001 on CBOs as water services providers' also stipulate that WSAs can enter into a joint venture with a CBO to form a CBWSP. The Municipal Systems Act of 2000 also makes provision for CBOs to enter into an agreement with the municipality to provide municipal services, including water services.

Our Enabling Framework also takes cognisance of the evidence from our research that points to a high level of agency with communities themselves. We have seen that communities can and do take things into their own hands, however this does not mean that they are ignorant of the responsibility that still lies at the feet of the municipality. At the same time, however, one should not deny them the opportunity to engender high levels of agency, but still within the scope of the policies already in place.

An important aspect to bringing all of this together however, is that a sustainable solution requires collaboration, with different roles that should be taken up and fulfilled by both communities and officials. Our Enabling Framework makes explicit these roles and opportunities to support such a collaborative relationship. It does so by focussing on enabling actions on both sides, community and municipality in order to realise the intent of the policies that are already in place.

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Mr D Mtsweni	Department of Water and Sanitation
Dr V Munnik	University of the Witwatersrand
Dr B Van Koppen	International Water Management Institute

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List of Abbreviations

ANCYL	African National Congress Youth League
CBM	Community-based management'
CBO	Community-based organisation
CBPs	Community-Based Partners
CBWMS	Community-Based Water Management Schemes
CBWSP	Community-based water services provider
CMAs	Catchment Management Agencies
COGTA	Co-operative Governance and Traditional Affairs
CSIR	Council for Scientific and Industrial Research
DPLG	Department of Planning and Local Government
DWA	Department of Water Affairs
DWAF	Department of Water Affairs and Forestry
DWS	Department of Water and Sanitation
EU	European Union
GWP	Global Water Partnership
GWS	Government Water Schemes
HDIs	Historically Disadvantaged Individuals
HWH	Harrismith Water Heroes
IBs	Irrigation Boards
IWRM	Integrated Water Resources Management
KLM	Kgetlengrivier Local Municipality
LGAB	Local Government Advisory Board
LHWP	Lesotho Highlands Water Project
LWCs	Local Water Committees
MIG	Municipal Infrastructure Grant
MOU	Memorandum of Understanding
MUS	Multiple Use Water Services
NBI	National Business Initiative
NGOs	Non-governmental organisations
NPC	Non-profit Company
NT	National Treasury
NW&SMP	National Water and Sanitation Master Plan
NWA	National Water Act
NWU	North West University
O&M	Operations and management
ODA	Overseas Development Agency
PPP	Public private partnership
RAC	Rural Advice Centre
RDP	Reconstruction and Development Programme
RDSN	Rural Development Services Network
SAHRC	Human Rights Commission of South Africa
SALGA	South African Local Government Association
SANCO	South African National Civic Organisation
SERI	Socio-Economic Rights Institute of South Africa
TCTA	Trans Caledon Tunnel Authority
TLB	Tractor Loader Backhoe
USA	United States of America
WRC	Water Research Commission
WSA	Water Service Authorities
WSA	Water Services Authority
WUAs	Water User Associations

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Section 1. Introduction

The Water Research Commission (WRC) has appointed the Council for Scientific and Industrial Research (CSIR) to conduct research with regards to the legal implications and institutional hurdles that community-owned water supply schemes experience while trying to provide a service to its customers. This research project has four broad aims; they are:

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The first three of these four board aims essentially provide context and sketches a picture in terms of communities in South Africa and their rights to water, but also the impediments they encounter in the process of fulfilling those rights. It should be noted that while the emphasis of this particular project is on Community-Based Water Management Schemes (CBWMS) many of the issues discussed go beyond these parameters. The fourth goal, namely to produce a framework for a community-managed water supply scheme, builds on the previous four. Taking the learning from the previous three, the team presents an Enabling Environment Framework. This Enabling Environmental Framework, suggests that one cannot separate the success of a CBWMS from the larger governance context within which it resides and tries to operate. Moreover, the success of a CBWMS cannot only be a success for the community alone, this success can and must be a success also of the governance structures that underpin and support the CBWMS. Section Seven of this document provides a full discussion of the Enabling Environmental Framework. The last section of this document presents a summary of the learning and recommendations emanating from our research.

1.1 Research design

The research design for this study comprises of three main methods. Firstly, the team used literature as a way of developing the context for this study, as well as to understand the way in which community management of water in other areas has manifested and have been handled by authorities. The context gained from the literature was also used to populate the historical overview section, as well as the legal and institutional analysis section. For the literature searches, the team focussed on peer reviewed documents as main source of information. This was supported by various other reports, specifically those reports generated by the South African Government.

The second method the team used to obtain data is through case study analysis. The goal of this particular part of the project was to obtain specific, and more in-depth information by utilising a case study approach. The case study approach seeks to obtain information by using a qualitative questionnaire (Appendix 1) in which specific questions are asked in a standardised manner to a respondent, or a number of respondents, per case study. The following themes were examined in the qualitative questionnaire:

- Nature of the scheme
- History of the scheme
- Governance of the scheme

- Perceptions with regards to who is responsible for the upkeep and maintenance of such as scheme
- Perceptions with regards to payment for water
- Support for communities who utilise a water scheme
- Community preferences with regards to water provision.

Ten case studies were identified initially. The sampling technique for the case studies is non-random, and purposeful. Purposeful sampling is a non-random selection of participants based on purpose. Purposeful sampling is widely used in qualitative research for the identification and selection of information-rich cases related to the phenomenon of interest (Palinkas et al., 2015). Denzin and Lincoln (2000) notes that purposive sampling is a process whereby the researcher identifies a person that can provide the relevant information for the study. The researcher selects participants based on the purpose of the study and knowledge of the population. Purposive sampling also ensures that every participant fits the criteria of the study and is able to assist with the research (Du Plooy-Cilliers et al., 2014). The main criteria for identification where geographical spread, as we were hoping to select a case study in each of the provinces. However, some limitations prevented this (see Limitations section in this document).

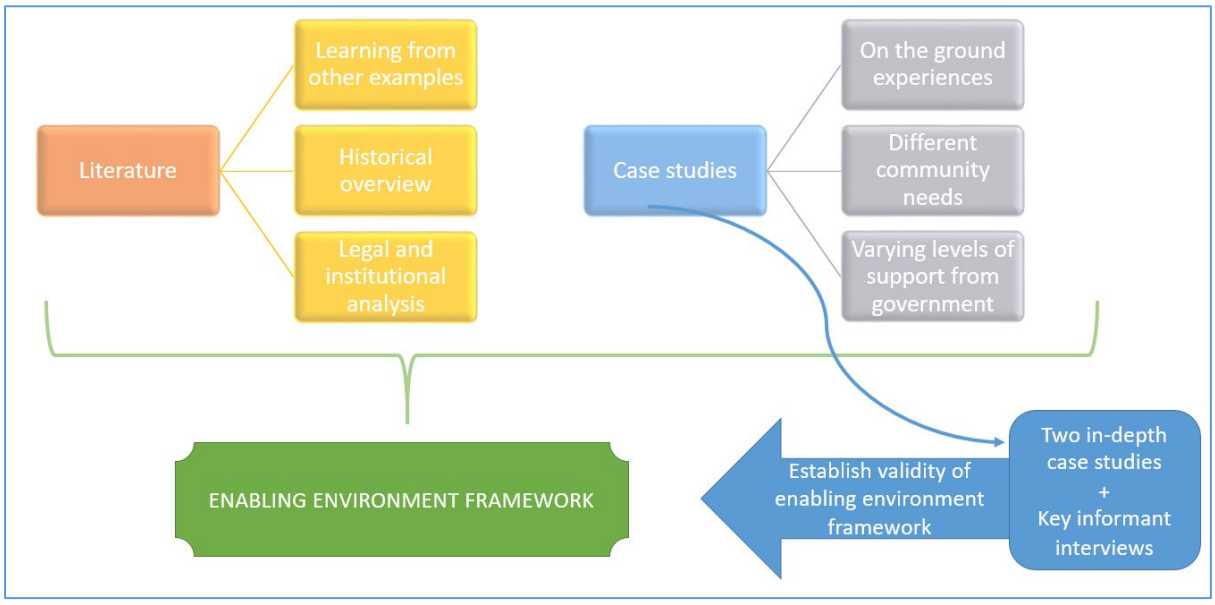


Figure 1. A graphic representation of the research design of the project.

From the ten case studies, two were selected to test against the Enabling Environment Framework in order to establish its validity. The two in-depth case studies were examined through the lens of the framework in order to highlight the findings from our study and the applicability of the framework. The team also used key informant interviews in the two in-depth case studies in order to broaden the scope of the information gained for the case study. To illustrate, these key informant interviews provided essential insight into the experiences, perceptions and needs of municipal officials whose job it is to secure water for communities in their jurisdiction. The key informant interviews were conducted on-line due to the COVID-19 restrictions (more about this under the limitations and ethical approval section). The team were also given the opportunity to test some of the issues emanating from these key informant

interviews with a focussed discussion with a number of the Department of Water and Sanitation (DWS) officials in February 2021.

The data analysis followed a fairly uncomplicated qualitative analysis procedure that incorporates themed coding of the relevant data followed by discourse analysis. In order to do this, the team used an open-source software program called WEFT QDA. WEFT QDA is a tool that can assist in the analysis of textual data such as interview transcripts, written texts and field notes. Once all the data was gathered it was downloaded into the program. The program then facilitated the coding of the data according to themes as identified beforehand, as well as any themes that emerged from the data.

1.1.1 Limitations and ethical approval

The CSIR requires ethical approval for any research project that seeks to engage with people in order to conduct research. Due to heavy delays within the approval process, the team's interaction with communities were delayed until ethical approval for the research was obtained (See Appendix 2). This unfortunately had a knock-on effect with regards the case study selection as well as the willingness of participants to participate in the research.

The idea behind the case study approach was that the team identify nine case studies – one per province. Due to the delayed ethical process some of the case studies that were already identified and willing to participate, pulled out at last minute. This required the team to identify new case studies in a very short time. This has also meant that the initial nine case studies (one per province) did not transpire as planned. Instead, while the team has been able to identify and visit ten case studies, in some cases there is more than one case study per province. Since the purpose of the case study approach is depth and not breadth, we do not foresee that the geographical spread will make a significant difference to the outcomes and findings of the study.

In some cases, while the team was given information about a case study, the team was not allowed to visit the area. Specifically, in cases where there was illegal activity, such as illegal connections to the system, the situation was deemed too volatile and the safety of the team was in jeopardy. In these cases, the team was also unable to take any photos.

Lastly, due to the delay in the case study fieldwork, the selection of the in depth case studies were further delayed. This caused a knock-on effect with the key-informant interviews as these were scheduled as Level Five of the National Lockdown commenced. This delayed our key informant interviews significantly as people were very difficult to get a hold of, especially in these early stages of Lockdown. As restrictions lessens and people were getting to grips with on-line life, were able to secure some interviews (one per in-depth case study area). Ideally the projects would have benefitted if more of these interviews could have been conducted, however circumstance did not allow. However, it has to be said that the interviews that were conducted provided essential and useful insight.

1.2 Structure of the document

The discussion starts with Section Two that provides the learning gained from literature with regards to communities and their water. This section in particular shows how the notion of

‘ownership’ becomes an interesting issue that has had to be dealt with when considering community governance of common-pool resources such as water. Section Three looks at the history and practice of community-based water management schemes from 1990 to 2020. In particular, it provides insight to the inner workings and developments of both government and civil society organisations such as Mvula Trust in terms of communities and water management structures. Section Four takes it cue from Section Three in that it also uses chronology as a structure for the discussion. In this section we examine the legal and institutional constraints of community-based water management schemes in South Africa. Section Five takes our discussion in Section Four even further by drilling down into particular legislation in order to bring to lights its implications for community-based water management.

Taken together therefore, Sections Two, Three, Four and Five provides essential context for the on-the-ground experiences and emerging needs from communities. This then leads us to Section Six which takes a closer look at how this context (as discussed in the previous sections) have manifested in ten case studies. Section Seven brings all the parts together in order to present the framework for an enabling environment. In this section we discuss the framework and show how the different elements feed into each other. We also discuss how our two in-depth case studies fared when scrutinised through the Enabling Environment Framework, thus establishing the legitimacy of the framework.

The final section of this document brings all the learning from our research together. In Section 8 we present this learning in a summary form and then also provide some suggestions with regards to recommendations.

Section 2. Communities and water supply – learning gained from literature

There are a number of terms that emerge from the literature when researching the prevalence and significance of "community-owned water supply schemes". For example, the terms 'participatory water management strategy' and 'community-based management' (CBM) are two terms that gain traction. While neither of these terms are exactly the same as 'community-owned water supply schemes' – both offer insights in different ways with regards to the management of water by communities (either in part or wholly) and water supply schemes towards improved water supply. In this discussion we provide examples from different countries. It is important to note that the assumption here is not that it is only communities in poor or developing countries that assume responsibility for their own resources. In fact, there are many examples (Lockwood and Le Gouais, 2015) where communities from developed countries such as the United States of America (USA), take responsibility for their own water services. As such we seek to capture learning from both those who are better off and those who are worse off than South Africa. Lastly, in this section we address issues relating to the management of water, both as management of water supply services (i.e. pumps and pipes) as well as management of water resources (i.e. who is allowed to use naturally available water, and for what purposes). The reason for this is that in many cases, these issues are not so easily divorced when it comes to communities and water management.

Van den Broek and Brown (2015) argue that CBM has been over the past few years the dominant paradigm for water management in sub-Saharan Africa specifically in terms of groundwater management. Prior to this in the 1980s, rural water supply was mostly supply-driven managed and support through government initiatives (Harvey and Reed, 2006). According to Harvey and Reed (2006) literature shows that there are three fundamental reasons for the rise of community-based management of water resources, these are: i) poor service delivery and performance by government institutions; ii) the suitability of the project approaches adopted by non-governmental organisations (NGOs) and donors; and, "Western 'cultural idealisation' of communities in low-income countries" (Harvey and Reed, 2006).

According to Day (2009), one should not make the mistake of thinking that CBM of water resources are limited to small geographical spaces. Rather there are examples where water management practices are present between agro pastoralists and nomadic pastoralists in the Sahel which cover large areas and even cross international boundaries. According to Day (2009), there are a number of distinct advantages for communities to engage in CBM of water, these are:

- "Where potential conflict over water resources exist, communities will have greater vested interest in practical Integrated Water Resources Management (IWRM)
- Local water users often possess detailed indigenous knowledge related to water resources, water needs and historical change that has occurred related to water use.
- Water users recognise that water is a fundamental component of their subsistence-based livelihoods, which helps to weave relationships between water users.
- Communities are able to monitor agreed water usage on a daily basis, as part of their daily activities.
- Communities often have historical mechanisms for conflict and dispute resolution related to water resource management, which may require continued support and assistance to evolve and adapt to global challenges.

- Effective water management requires community participation; this principle is well understood in development literature." (Day, 2009: 52).

Van den Broek and Brown (2015) argue that within the water management sector it has been well established that management strategies emanating from the top-down state-led paradigm has generally failed. Using an example from Uganda, Van den Broek and Brown (2015) examine the short comings of the community-based water management model and argue that many of the solutions to these short comings lie outside the CBM framework. Harvey and Reed (2006) echoes these sentiments and also argue that there are a number of short comings of the community-based management model that need to be highlighted.

Harvey and Reed (2006) suggest that there are a number of basic principles embedded in improved water supply through community management of water. These principles are as follows: i)) communities that benefits from an improved water supply should have a major role in its development; ii) own the water system or facility, and iii) have overall responsibility for its operation and maintenance.

Moriarty et al. (2013) looks at the different trends in rural water supply. Rural water supply is an important consideration for South Africa as many rural areas face significant water supply challenges due to a number of reasons, including failure of government to implement policies and fulfil their mandate (Ralo et al., 2000). In general, they agree with many of the authors thus far in arguing that community management on its own is no longer an ideal way of ensuring sustainable and reliable supply of water to communities. For Moriarty et al. (2013) what is needed is to look in more detail at the provision of a lasting service against defined and measurable indicators. What is needed for this they argue is: "identifying what level of service is demanded by users, and/or mandated to be provided by governments, and then defining those in (gradually improving) norms or standards" (Moriarty et al., 2013). They argue that a one-size-fits-all approach to community management is not sustainable and what is needed is a wider approach that seeks to include the diversity that different contexts bring. They argue that a shift towards a service delivery approach can facilitate more sustainable water resource management at community level (Moriarty et al., 2013). Moriarty et al. (2013) acknowledges that communities have been quite resilient in managing their own water resources, however two issues inevitably become problematic, and these are: longer-term sustainability and asset replacement. Given both the level of success and failures in community management of water resources Moriarty et al. (2013) highlights three responses (in general) have emerged in rural water supply over the last decade or so, these are:

1) Professionalisation of community management – as people become wealthier their water systems also become more complicated which inevitably requires more professional management in order to deal with activities such as water treatment, catchment protection and auditable bookkeeping.
2) Support to community-based service providers – it is acknowledged that often community-based service providers are unable to manage water supply without some form of external support. While many do receive assistance this assistance is often not structured and happens in an ad hoc fashion which does not provide for preparation for risk.
3) Self-supply – while there is a general trend towards urbanisation there are still pockets of deeply rural communities where self-supply is the only alternative – this is

especially the case in developing countries. But it is essential that self-supply is done is a way that is recognised and supported by the state and its agencies.

Concept of ownership is an important aspect that is discussed by a number of authors looking at the management of water by communities. For example, Lachapelle (2008) argues that while it is a difficult concept to pin down, however it is still an important concept specifically in relation to the management of water resources at community level. Lachapelle (2008) speaks about a "sense of ownership", and argues that there are three essential characteristics of a sense of ownership related to community development and the management of natural resources. These characteristics are:

1. "A sense of ownership in process (who has a voice and whose voice is heard?);
2. A sense of ownership in outcome (who has influence over decisions and what results from the effort?);
3. A sense of ownership distribution (who is affected by the process and outcome?)".

Harvey and Reed (2006) notes that there is a widespread misconception that ownership, as described by Lachapelle (2008) as a "sense of ownership" is a prerequisite for community management of water and their sustainable outcome. In fact, Harvey and Reed (2006) argues that just because a community owns a facility does not automatically ensure their feelings of responsibility towards it and it certainly does not ensure their payment of fees towards operations and management of the resource and its infrastructure. However, Harvey and Reed (2006) argue that the converse may also be true in that just because a community is willing to pay for the upkeep of systems does not mean they have a strong sense of ownership. Harvey and Reed (2006) acknowledge that the concept of ownership has application well beyond the legal, and is perceived and understood as such by many. But having said that, it has to be recognised that ownership is not synonymous with sustainability in community ownership and management of water resources.

Ara (2013) echoes much of what has been said by other authors mentioned above. Ara (2013) however makes an important distinction between the role of communities in ensuring the sustainability of water provision in communities. The distinction lies between community participation as prerequisite for such sustainability, and community management as prerequisite for such sustainability. Ara (2013) makes the point that community management is not a prerequisite but rather that community participation is, but with the caveat that this participation is augmented by ongoing support from institutions. According to Ara (2013) community participation means: "the community to benefit from a development project is involved in information, sharing, consultation, decision-making, and initiating action". Guijit and Shah (1998) notes that community participation requires the full participation of community members with regards to the decisions that are made relating to water in the community and full participation in the decision making process.

What the discussion above implies is that the concept of "community" becomes an important factor to be considered. As Ara (2013) suggests, community is not synonymous with village or family groups. Therefore, Ara (2013) notes that many groups of individuals who are identified as a community may be made up of "different families, clans, ethnic groups, religious groups, and socio-economic groups". As such one cannot assume that these groups of people (or communities) have the resources or shared interest to afford the upkeep and maintenance of a water scheme or facility (Harvey and Reed, 2006). Ara (2013) defines community

management as a "…bottom-up development approach whereby community members have full responsibility, authority, and control in managerial, operation, and maintenance responsibility for their development projects". As previously suggested, Ara (2013) notes that community management has proven inadequate to safeguard and promote sustainability of water management processes in communities. Here Ara (2013) identifies a number of reasons for low levels of sustainability with regards to community management. These reasons are: limited demand, lack of affordability or acceptability among communities, perceived lack of ownership, limited community education, and limited sustainability of community management structure (Ara, 2013).

2.1 Examples from different schemes where communities become involved in co- or complete management of water

An international study done in 2008 in Ghana, Bolivia and Peru looked at the community management model for water in rural communities. This study by Whittington et al. (2008) examined the outcomes of community management of groundwater and reports interesting results for consideration, these are:

1. Communities were involved in the pre-construction planning: Communities in their study showed enthusiasm for taking part in planning and construction of water supply schemes from the out-set.
2. Community water supply projects are still working: Despite the team's expectation that the water supply infrastructure would be degraded, damaged or even destroyed, they were still operational. This includes both the infrastructure and whether or not people actually use the water (Whittington et al., 2008).
3. Households still using unprotected sources: Despite having structured water sources through the water scheme, communities would still use other unprotected water sources to augment their water supply.
4. Households pay little for improved services: The team found that despite the fact that community members were participating in the village water systems or schemes, communities were paying very little for the water system they were connecting to.
5. Villages use post-construction support: Despite the communities in the case study areas having very little income, most households still found budget to spend on fixing infrastructure where needed. Moreover, in some cases there is a cross sharing of resources and skills between community members in order to fix infrastructure that may be broken. In addition, the villages made use of other types of post construction support such as NGOs and local municipalities.

Indonesia has developed an Institutional Framework for Community-Managed Water Supply. In this Framework, the government provides an overview of the legal and policy framework within which community-managed water supply systems operate; it provides a description of the range of owner and operator arrangements based on the degree of participation by third parties; it discusses the different rights and responsibilities of water supply owners and operators; and, highlights the rights and obligations of water supply service customers (Water and Sanitation Programme, 2011). According to this Framework they set out three basic requirements for establishing a water supply service organisation – in other words the regulatory requirement for communities (and other institutions) if they which to become a

supplier of water. These requirements are: i) Formation of a legal entity; ii) License to operate a water supply system, and iii) Water extraction permit (Water and Sanitation Programme, 2011).

Examining the management of water in Bangladesh, Ara (2013) determines that while community management on its own is not a viable option in most cases relating community water schemes, it can be viable is supported by appropriate institutions and institutional processes. But for this to work, their Bangladeshi example shows that one requires greater agency accountability and greater government accountability.

Tigabu et al. (2013) has done an interesting study in Ethiopia that seeks to identify household level determinants of community participation in water supply protection and maintenance. They ask what are the factors the prevent communities from participating. Through their research with local communities in Ethiopia, Tigabu et al. (2013) has identified a number of recommendations that can give insight into developing a strategy towards increased community participation in community management schemes in terms of water. Their findings and recommendations are as follows:

1) Research shows that communities annual contributions, both labour and cash are not likely to be sufficient in the long run for the adequate management of rural water systems
2) The more households are able to participate during the planning and service establishment stage, the more likely it is that they will be willing to contribute cash and labour for the water supply system protection and maintenance
3) The higher the level of organisation in terms of participation by the households, the more likely there will be higher levels of participation in general
4) Higher levels of advocacy about water supply management and its consequences proved to increase households' participation and significantly influenced the labour contributions from the communities.
5) Level of income is directly linked to the level of participation. As such, mechanisms to address poverty in general is essential.
6) Household head gender, household age, household educational level, household size, convenience of location, incidence of waterborne diseases and perceived safety of the water from the sources are found to be insignificant factors in determining cash and labour contributions of households.

Machado et al. (2019) looks at community management models of water supply in rural communities from Brazil and Ecuador. Here they examine four different community management models namely: Espírito Santo (CESAN), Paraná (SANEPAR), Ceará (SISAR) Ecuador, and (CENAGRAP). Each of these models of water supply have emerged due to the need for water. Also, each of these models operate in a way that is suited to its own needs. In this study the authors compare the management and operation of these management models and in particular they examine the Responsibilities of each stakeholder during different phases. The phases they identify here for community management models of water supply are: the implementation phase, the operations and management (O&M) (post-construction) phase, and the management (post-construction) phase (Machado et al., 2019). The following table (Table 1) has been reproduced from the study in order to show the level of detail in the comparison between the different phases. What is significant for our own study is to note the different stakeholders involved at different phases of the model.

Table 1. Responsibilities of each stakeholder during the Implementation, O&M (post-construction) and Management (post-construction) phases. (Reproduced from Machado et al., 2019:

	Responsibilities	Espírito Santo (CESAN)	Paraná (SANEPAR)	Ceará (SISAR)	Ecuador (CENAGRAP)
Implementation	Concession of land to system construction	Municipality	Municipality	Municipality	GAD
	Engineering project	CESAN	SANEPAR	CAGECE	GAD
	Technical support and orientation	CESAN	SANEPAR	CAGECE	CENAGRAP
	Social and environmental actions	CESAN	SANEPAR	SISAR	CENAGRAP/GAD
	Provision of resources or funding mechanisms	Municipality/State	Municipality/SANEPAR	State	CENAGRAP/GAD
	System construction	CESAN	Community/SANEPAR	CAGECE	Community/ CENAGRAP/GAD
	Operator employment and training	Municipality or community/CESAN	Municipality or community	Community/SISAR	CENAGRAP/GAD
	Legal support to communities	-	-	-	GAD/ROSCGAE
O&M (post-construction)	System operation	Community	Community	Community	Community
	Corrective and preventive maintenance	-	Municipality	SISAR	Community/ CENAGRAP
	Water quality control	Municipality	Municipality	SISAR	CENAGRAP
	Fees collection	Community	Community	SISAR	-
	Regular technical support	-	-	SISAR	CENAGRAP/ GAD
	Clandestine connections inhibition	Community	Community	Community	-
Management (post-construction)	*O&M* costs establishment	Community	Community	SISAR	Community/ GAD
	Spare parts supply	-	-	SISAR	CENAGRAP
	Fees definition	Community	Community	SISAR	CENAGRAP/ GAD
	Financial resources management	Community	Community	SISAR	CENAGRAP
	Administrative assistance	-	-	SISAR	CENAGRAP
	System ownership	-	Municipality	-	Community

What Machado et al.'s (2019) research examples shows is that community organizations and municipalities can adequately maintain rural communities through joint initiatives with local governments, multi-lateral entities, and associations. This efficiency however comes into question when local governments and local communities are the only actors involved in O&M. In addition, their research shows that the presence of associations of community organisations reaching regional and national scales enables further possibilities of improvement for local communities (Machado et al., 2019).

Helgegren et al. (2020) looked at three CBOs in the metropolitan area of Cochabamba, Bolivia. The three case studies represented different types of CBOs and had different socio-economic characteristics. The aim of the study was to understand how some urban and peri-urban neighbourhoods self-organise and succeed in implementing and operating communal water and wastewater systems internally (without external support), while others do not (Helgegren et al., 2020). In order to understand their study sites Helgegren et al. (2020) identified four prerequisites for implementation and long-term operation of community-managed water and wastewater systems namely: leadership, agreed vision, collective action, and management.

Helgegren et al. (2020) view all four as interconnected and equally important. In addition, Helgegren et al. (2020) identified three distinct phases in terms of which each of the four prerequisites were assessed. These phases are: initial implementation, long-term operation and subsequent improvements. In their analysis of their case studies Helgegren et al. (2020) developed an enabling framework that incorporates the findings from their case study analysis. Their framework therefore consists of prerequisites and enabling factors associated with distinct phases of community-managed water and wastewater systems (Helgegren et al., 2020) (see Figure 2).

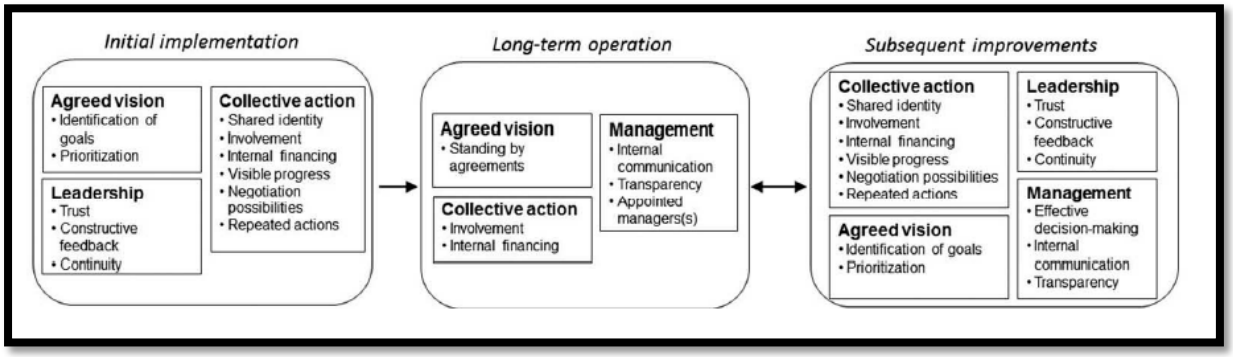


Figure 2. Framework developed for community-managed water and wastewater systems of prerequisites and associated enabling factors, which differ between the distinct phases of community management. Reproduced from Helgegren et al. (2020: 1045).

A study done in South Africa in the Sekhukhune District Municipality of Limpopo Province showed how a one-size fits all approach may not always be advisable and that context can play an important role. Using both qualitative and quantitative methods, Van Koppen et al.'s (2020) study looked at the views of water users and their related levels of satisfaction relating to a participatory process implemented to deliver water to the community – and in particular co-management of water in a community. The outcome of this process in particular was to create opportunity for multiple water uses (MUS)[1] so that the resultant livelihood benefits from such uses can be reaped (van Koppen et al., 2020).

Using two case studies, van Koppen et al. (2020) showed that it imperative that one starts to mobilize the community's contribution from the very beginning of such a venture and cannot only be brought in at the use phase. Such contributions can take the form of labour, money, skills and knowledge. They argue that it is important to do a proper diagnosis of the local situation in order to ensure sustained and relevant support. Moreover, by making sure one understands the local situation, one can do justice to local diversity, knowledges, the coexistence of public infrastructure and self-supply infrastructure as well as the complexities of daily life in these communities (van Koppen et al., 2020).

Looking at co-management of water sources, the study implemented a six step MUS approach (see Figure 3) consisting of 1) initiating collaboration; 2) diagnosing; 3) envisioning solutions; 4) fitting the financial framework; 5) implementing; and, 6) operating and maintaining in the use phase. They found the process hugely successful. More importantly however, they found

[1] Van Koppen et al. (2020:2) define Multiple Use Water Services as: "A holistic, participatory approach to planning and providing water services that support people's self-supply and their multiple water needs, as identified by the community, and coordinates across government departments as needed".

that while one may implement the same process in different locations, context plays an important part which means the outcomes and resultant roles and responsibilities may vary considerably. For example, the found that geohydrological and socioeconomic conditions, and the type of technologies and service levels differed, and as such the co-management arrangements will also differ. This means that the roles and responsibilities of the government and community will also be different depending on the local differences.

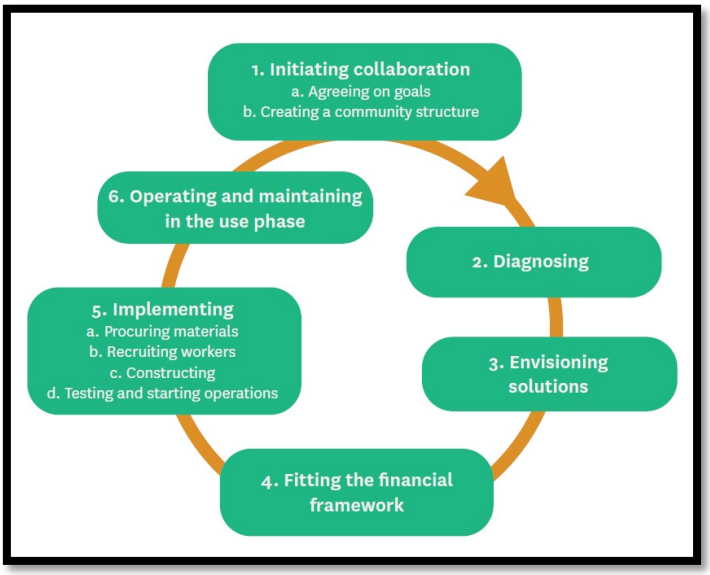


Figure 3. The six steps of the community-led multiple use water services (MUS) approach (reproduced from van Koppen et al. (2020).

The Socio-Economic Rights Institute of South Africa (SERI) provides an interesting case study as a part of their End Water Poverty's global #ClaimYourWaterRights campaign initiated in December 2019. Chamberlain et al. (2020) notes that the purpose of the project was to examine how water rights are being claimed in South Africa, with specific reference to the Maluti-a-Phofung community who has become well known for their actions in Harrismith, earning themselves the name 'Harrismith Water Heroes' (HWH).

Located in the Thabo Mofutsanyana District Municipality in the Free State Province, the HWH provides an interesting case study as it shows how community agency culminated in people taking on the technical work of actually repairing infrastructure in order to ensure access to water, in the face of continued poor service delivery by their municipality (Chamberlain et al., 2020). According to Chamberlain et al. (2020), the provision of basic services had been in decline for a number of years in the area. They note that this deterioration is due to a number of factors, but mainly political in-fighting, crippling debt (in particular Eskom debt) and the collapse of governance and administration within the municipality.

Over a period of three years (2016-2018) the community has struggled with continued supply of water (Chamberlain et al., 2020). In 2018 this culminated in the community being without water for 40 days. This sparked the coalition between local white farmers and local black traditional leaders to form a coalition and start remedying the situation themselves (Chamberlain et al., 2020). The HWH acted over a three-month period by buying and installing a new pump at Nuwejaarspruit; purchasing chemicals to purify the water; and, installing JoJo tanks to provide water to houses that had been unable to access water due to low pressure in the system (Chamberlain et al., 2020). At the same time other needs also emerged such as

the fixing of toilets; repairing electricity supply, solid waste removal and road repair services, and even the cleaning of the municipal offices (Chamberlain et al., 2020). In March 2020 the HWH met with Minister Sisulu at the Parliament buildings in Cape Town. At this meeting, the Minister appointed the Sedibeng Water Board, a water utility serving North West, Northern Cape and Free State provinces, as the WSP. The Minister also instructed Sedibeng Water to work directly with the community, the municipality and other stakeholders to fix the water problems in Harrismith (Chamberlain et al., 2020).

Chamberlain et al. (2020) provides a number of important learning points and issues for consideration out of this case study:

1) *Community pressure can override deference to municipal autonomy:* For a long time, people have deferred to municipal autonomy, even when facing a crisis. Chamberlain et al. (2020) argues that this case study shows us that this need not be the case, and that by putting collective pressure on authorities one can secure interventions from higher structures.
2) *Communal need can bring together once divided communities:* In the case of the HWH we see two groups who have been historically at odds, now coming together and forming a coalition. The basis on this coalition is the shared frustration at the municipality for not providing services, and the need by the community as a whole for those services.
3) *Taking charge rather than protesting:* The HWH ethos has been to not take to the streets and protest but rather using that energy and time and doing the technical work of repairing pipes and pumps. However, some may argue that protesting gives those who have little to no other agency, an avenue for engaging as a way to express pain, to build social movements, to raise awareness and simply to exercise the right to voice.
4) *Contesting ownership of water infrastructure*: The HWH operate from the position that the water infrastructure does not belong to the municipality, in fact it belongs to the people. As such, HWH should be able to repair the infrastructure and use it to provide water to the people.
5) *Positioning themselves as WSP*: According to Chamberlain et al. (2020), one of the municipal administrators in an interview with the television programme Carte Blanche, argued that if the HWH wanted to act like a WSP provider, they should establish themselves as a business, and tender competitively for the role. Chamberlain et al. (2020) puts forth the idea that the HWH following their own approach are bypassing established procedures which have been developed in order to inculcate a culture of transparency, accountability and cost-effectiveness which could set a precedent for other less morally motivated organisations which may have political motivations.
6) *Financial sustainability*: The HWH example was lucky in that they had members who could finance the beginning stages of their intervention. But Chamberlain et al. (2020) argues that this is not a sustainable process, and even in the case of the HWH some of the initial moneys that were laid out by members have been recouped. The HWH have also proposed alternative funding options for the continued work of the HWH such as trust that residents could pay money into. This includes taking on greater responsibility by the HWH for example collecting the bills for water, electricity, sanitation and refuse collection. In return, they would maintain an improved water

and electricity infrastructure, fix the dysfunctional sewer plant and continue to fix the roads as they have already begun to do. The idea is that they would not request money from the municipality but ask only for the responsibility to supply services and collect payment for services rendered. Chamberlain et al. (2020) however questions whether this approach is the correct one. Especially taking into consideration that there are established mechanisms (for example, the Equitable Share allocation from National Treasury) through which municipalities fund the fulfilment of their obligations, aside from revenue collection (Chamberlain et al., 2020). Currently these funding mechanisms are not available to ordinary citizens or coalitions such as the HWH.

7) *What about water quality standards*? The issue of maintaining water quality standards is an important one. Chamberlain et al. (2020) note that while coalitions such as the HWH may be in a better position to assure such standards, there have to be formal channels of accountability. They argue that if a WSP, such as the HWH, who is not authorized to provide water by the WSA, provide water to communities, it is unclear as to who would be held responsible if there were to be a water quality public health crisis such as a cholera epidemic.

A significant development in the way in which communities will be able to take control of their own water futures occurred in January 2021 with the interim order of the High Court (North West Division) on an urgent application[2] by the residents of the Kgetlengrivier Local Municipality (KLM) against municipal entities regarding the failure of the Municipality to provide adequate water and to prevent the Municipality from polluting two rivers with untreated sewage.

Residents of the KLM raised concerns about the purity of the supplied water and the spillage of sewage into the Koster and Elands rivers. They accused the municipality of not being able to supply purified and portable water. In December, a group called Kgetlengriver Concerned Citizens and Mr Carel Van Heerden made an urgent court application in terms of rule 6 (12) of the Uniform rules of court. On the 18th of December 2018, the court heard this matter and ruled in favour of the applicants. The court noted the following in its ruling:

> "*It is declared that raw sewerage from the sewerage works at Koster and Swartruggens are flowing into and is contaminating the Koster and Elands rivers respectively"*
> *…*
> *"The First Respondent and Second Respondent are hereby ordered to immediately cease their usage of a raw sewer trench/ pipe or furrow to divert the flow of raw sewage into the Koster River"*
> *…*
> *"It is declared that the Kgetlengrivier Local Municipality ("KLM") is in breach of its obligations to prevent contamination of the environment whilst allowing raw sewage to spill".*
> *"The First and Second Respondents are interdicted from allowing raw sewerage to overflow into the Koster and Elands rivers"*
> *…*
> *"It is declared that the MEC for Environmental Affairs, despite a visit of the Provincial Government to the KLM, has not resolved the spillage of raw sewage"*
> *…*
> *"The First and Second Respondents are compelled and ordered to urgently take remedial steps to stop the pollution by immediately fixing the causes to the spillages and to remedy the effects of the pollution caused, and to rehabilitate the affected areas"*
> *…*
> *"The Applicants are authorised to employ an expert(s) to monitor the sewerage works and waterworks from date of this order for a period of 10 weeks and to compile a comprehensive report for the court, with*

[2] Kgetlengriver Concerned Citizens and others vs Ketlengriver Municipality CASE NO: UM 217/2020

the First respondent being liable to pay all such reasonable costs of the said expert. To the extent that costs are disputed, is the taxing master to be approached for resolution thereof".

…

"The Municipal Manager of the KLM is ordered to imprisonment for 90 days, suspended on the following terms:

a) That the spillage of raw sewage into the Elandsriver and the Koster river be cleared up within 10 week days from the date of the order and that the First Respondent, duly assisted by the Second to Fourth Respondents, is ordered to take all necessary steps to ensure that raw sewage is not discharged into the aforesaid rivers or onto land surrounding the respective sewerage works at Koster and Swartruggens;

b) *That the First Respondent is ordered to immediately cease the usage of raw sewer trenches / pipes or furrows to divert the flow of raw sewer from Koster and Swartruggens that finds way to the Koster and/or Elands rivers respectively"*

(In the High Court of South Africa, North West Division, Mahikeng, 2021)

On 12 January 2021 the court ordered again that an implementing agent must be appointed to run the water and sewage works. In terms of this agreement Magalies Water has been appointed for the "operation and maintenance of water and wastewater treatment plants for a period of three years"[3]

Ramsden (2021), a legal researcher from the Helen Suzman Foundation, looks at the possible ramifications for communities in South Africa following the ruling and provides some interesting examples from other ongoing situations in the country:

Rademan v Moqhaka Local Municipality: Ramsden (2021) notes that some residents' associations are considering implementing a tax diversion policy. This policy sees residents withholding or refusing to pay rates and taxes to their municipalities in response to the municipalities' failure to provide basic services. One such resident association is the Umdoni Action Group, from Scottburgh. Ramsden (2021) however notes that this may seem like a useful approach, it may have unforeseen outcomes. For example, the Constitutional Courts ruling in *Rademan v Moqhaka Local Municipality*. In this ruling the Constitutional court found that while there is no obligation on a resident to pay for services not rendered, the municipality may consolidate the different components of a resident's account (Ramsden, 2021). This could therefore mean that a resident's electricity supply may be cut where the payment of rates and taxes have been withheld, even though the electricity account has been paid (Ramsden, 2021).

Msunduzi Association of Residents, Ratepayers and Civics: In Pietermaritzburg the Msunduzi Association of Residents, Ratepayers and Civics are considering their options, which includes taking the municipality to court due to the degraded state of service delivery in the area (Ramsden, 2021). The Msunduzi Association of Residents, Ratepayers and Civics are emboldened by the SAHRC who launched a court application in 2020 over the Msunduzi Municipality's control and management of the New England Road Landfill Site being a violation of the "right to an environment that is not harmful to their health or well-being" as contained in section 24 of the Constitution (Ramsden, 2021).

Centre for Good Governance and Social Justice: The Centre for Good Governance and Social Justice, an NGO in the North West are seeking to hold the Mamusa Local

[3] Statement of MEC Mmoloki Cwaile on Kgetlengrivier Local Municipality Court Order (14 January 2021) available at https://www.gov.za/speeches/mec-cwaile-kgetlengrivier-local-municipality-court-order-14-jan-2021-0000#.

Municipality to account for consistent failures and degradation of municipal infrastructure and systems. The Centre has approached the SAHRC as well as the President in this regard. In addition, the Centre sought to institute an action against the municipality for employing a municipal manager who is wholly unqualified for the post. Ryan (2021) reports that the Centre is now, with the Kgetlengriver ruling, considering their own legal action suit.

SAHRC and the Emfuleni Local Municipality: Ramsden (2021) notes that the SAHRC have recently released a 100-page document that details the guilt of the Emfuleni Local Municipality in violating multiple human rights by failing to prevent raw sewage from entering into the Vaal River and dam thus causing contamination.

2.2 Explanations for failure or success

A study conducted in sub-Saharan Africa has highlighted a number of limitations with regards to community management of water resources. Harvey and Reed (2006) argue that their research indicates that many of the problems that arise with community management do not arise immediately but rather one to two years down the line. Harvey and Reed (2006) identifies six most commonly cited causes of the breakdown of water managements systems, they are:

- Community management of water systems are often characterised by voluntary participation and support from community members. Voluntary participation is effective for a short while and has proven not to be so in the long term since long-term incentives for voluntary participation is often insufficient
- Knowledge and wisdom embedded with key individuals are at risk when they leave the community or die and there is often no mechanism to replace these individuals with others who have the same level of knowledge and skills.
- Issues such a transparency and accountability become change factors that causes a loss in the trust and respect the general community have for those who serve on the community organisation that manages the water in the community.
- Those community members who serve on the community organisation that manages the water often experience a sense of disillusionment due to the fact that general community members do not pay their fees are do not provide support. Moreover, the stress these members experience may be exacerbated due to the lack of legal status of the water management scheme or the lack of authority held by the management committee.
- There is limited contact between government and communities and as such, communities feel unsupported and abandoned.
- Poverty makes it very difficult for communities to afford the replacement of capital item when they break down.

In a study done in 1998 in the Eastern Cape of South Africa, researchers looked at the reasons for the failure of a high proportion of rural community water supply schemes as a part of a national water supply programme. According to Dreyer et al. (1998), there are a number of reasons why, in this study's case studies, community managed water projects did not work. One of the reasons that stand out is that one cannot assume community cohesiveness from the outset, and as such one cannot use this as a valid basis for the establishment and election of a water committee (Dreyer et al., 1998). While it stands to reason that a community could, through such a water committee, negotiate and conclude agreements with those outside of

the community, this does not always translate into reality. Dreyer et al. (1998) argues their case studies showed that some cases the community preferred to abandon the project rather than risk internal conflict and loss of cohesion. Other in-project reasons for failure include:

- Weak community leadership
- Lack of communication between the water committee and the community
- Lack of project management expertise
- Impatient and ill-advised engineering consultants
- Unequal benefits from the water scheme to community members
- Projects proceeding without contributions from all community members
- No way of forcing community members to pay
- Multi-village schemes too difficult for a water committee to manage
- A low level of service
- Unwillingness to give money to fellow villagers
- The role played by organisations such as the South African National Civic Organisation (SANCO) and the African National Congress Youth League (ANCYL).

Machado et al. (2019) provide a summary of a number of factors they have found to be critical in the successful outcome of community management models. These factors are:

- Promoting joint actions between communities and external supporters
- Ensuring commitment of private and public entities in maintaining close contact with local communities
- Transparency and regulation enforcement are crucial to guarantee users' satisfaction and to maintain service quality
- A solid enabling environment is key to the functionality of for community organisations, providing the necessary conditions for them to formally establish themselves as service providers.

Moriarty et al. (2013) suggest that if one looks at the research on community management of water resources towards reliable supply, authors and organisations are generally moving away from only identifying factors at community level or within the project cycle but to also and more specifically draw out factors at other institutional levels. Table 2 presents the building blocks for sustainable service delivery within the community water supply specifically in rural areas as developed by Moriarty et al. (2013).

Table 2. Building blocks for sustainable service delivery (Reproduced from Moriarty et al., 2013: 339).

1. Professionalisation of community management	Community management entities supported to move away from voluntary arrangements towards more professional service provision embedded in local and national policy, legal, and regulatory frameworks.
2. Recognition and promotion of alternative service provider options	A range of management options beyond community management, such as self-supply and public-private partnerships, formally recognised and supported in sector policy.
3. Monitoring service delivery and sustainability	Monitoring systems track indicators of infrastructure functionality, service provider performance, and levels of service delivered against nationally agreed norms and standards.
4. Harmonisation and coordination	Improved harmonisation and coordination among donors and government, and alignment of all actors (both government and nongovernment) with national policies and systems.
5. Support to service providers	Structured system of direct (post-construction) support provided to back up and monitor community management entities and other service providers.
6. Capacity support to local government	Ongoing capacity support provided to service authorities (typically local government) to enable them to fulfil their role (planning, monitoring, regulation, etc.) in sustaining rural water services.
7. Learning and adaptive management	Learning and knowledge management supported at national and decentralised levels to enable the sector to adapt based on experience.
8. Asset management	Systematic planning, inventory updates, and financial forecasting for assets carried out, and asset ownership clearly defined.
9. Regulation of rural services and service providers	Regulation of the service delivered and service provider performance through mechanisms appropriate for small rural operators.
10. Financing to cover all life-cycle costs	Financial frameworks account for all life-cycle costs, especially major capital maintenance, support to service authorities and service providers, monitoring and regulation.

The Global Water Partnership (GWP) has compiled a number of lessons learnt from their experience with community-based water supply organisations (GWP, 2017). These lessons are:

- “Proper legal framework should be adopted so that community-based water supply organisations work alongside other entities of the water governance structure;
- Increasing the sense of ownership works not only to promote stakeholder engagement but also help in minimising project costs and programme efficiency;
- The relative performance of Water User Associations (WUAs) at managing water and sanitation supply networks largely relies on the competence of the participating manager and community members;
- Close contacts between WUAs and governments, especially at the local level, is needed so that active coordination and collaboration can be reached;

- Network expansions should be done in accordance to a WUA's competence and abilities. It should not overstretch a WUAs' financial, human and administrative capacities".

Schouten (2006) argues that one needs to 'scale-up' community management. Scaling up means that one's aim is to build upon the previous successes of community management examples (as we have seen in this section), but in addition one has to adapt. For Schouten (2006) the most important adaptations that need to occur are:

- One has to look beyond the two to three-year life cycle of a water implementation project. One cannot expect communities to be able to completely operate alone after construction. A lot needs to be done in the years after construction. Succession planning, and planning in general needs to happen.
- Endeavour to move decision makers away from the short term, system- and project-focussed approach towards a service delivery approach which takes into account the whole life cycle of a water service.
- Strengthen the institutions and capacities at the intermediate, decentralised level, e.g. at the level of districts, departments or provinces. It is at this level that service delivery should be planned and community institutions supported.
- For effective service delivery from the intermediate level, approaches, systems and tools must be harmonised. The current practice of every agency (government or non-government, local or international) using its own approaches, systems and tools is counterproductive for scaling up community managed water supply.
- Despite the fact that community management has been mainstreamed in policies and projects, it is often not legally recognised or formally integrated in national institutional frameworks for water service delivery. For sustainable water services, a community should not be considered as some artefact from the old days of participation, but as a legal, institutional entity for water service delivery.

2.3 Conclusion

From our discussion of literature in this section, it is clear that there are a number of studies that have been conducted on instances where communities are getting involved with the management of water. The examples that we have cited also shows that this phenomenon is not something exclusive to South Africa, and that in fact there are a number of different countries across Africa and the world where this is happening.

It seems that most sources are in agreement that there are many positives to communities getting involved in water management, however the research shows that this 'involvement' brings with it a number of challenges. These challenges are not only of the community's making but are often entrenched in socio-political and governance systems.

Section 3. South African context: History and practice of community-based water management schemes

In this section we provide a discussion in chronological format of the history and practice of communities and the management of water schemes in South Africa (see Figure 4). We start in the 1990s and see how the legacy of South Africa's Apartheid policies played a significant role specifically with regards to the state of water provision in the rural areas of South Africa. We then move on to the second time frame (1994-2001) that illustrates how efforts were influenced by our country's first tentative steps to democracy. The next timeframe (2001-2020) examines the introduction of local government structures such as municipalities and their envisaged roles and responsibilities in terms of water provision. The last timeframe, 2020 onwards, looks to the future and how this may pan out given current trajectories.

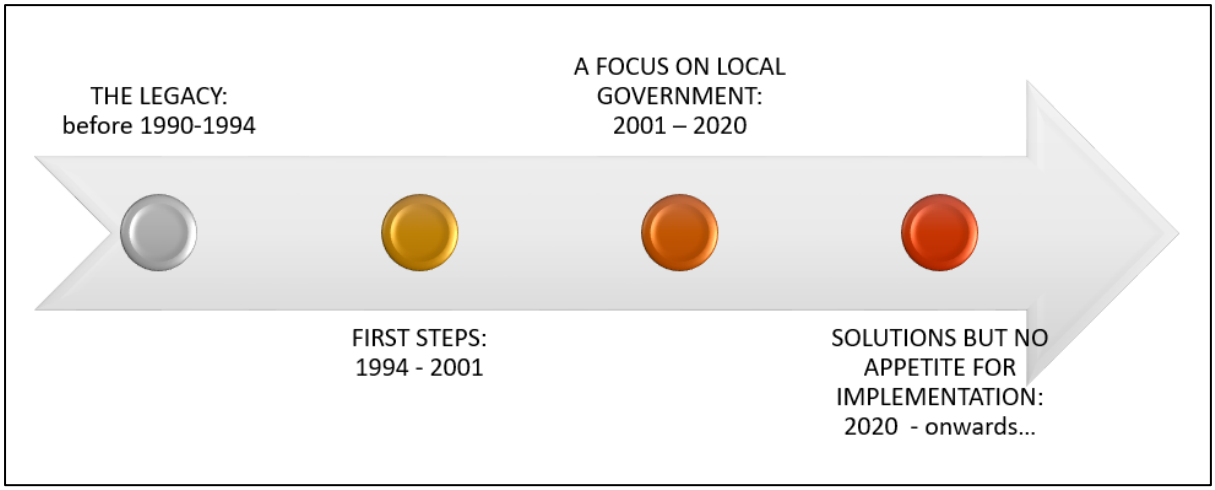


Figure 4. Timeline that illustrates four timeframes through which one can understand the history and practice of community-based water management in South Africa.

3.1 The legacy: Before 1990-1994

Prior and during this period of political instability and transition in South Africa, there were a number of initiatives to address the poor state of water supply in the rural homeland areas. A number of NGOs were established with the specific purpose of supporting the development of water supply to rural communities. These included organisations with national coverage such as the Rural Advice Centre (RAC) as well as a number of others with a more regional and/or multi-sector focus.

This work became more urgent as a consequence of a serious drought in 1991/2 which led to the establishment of a National Drought Management Forum in which representatives of the democratic movement worked with government on interventions to mitigate the impact of drought. This led them to engage in some of the management and organisational challenges of rural water supply. As Vogel and Drummond (2003) explained:

> "The region has deteriorated as a result of several factors (many arising from apartheid policies), including the following: an extremely deficient water supply in all the regions, muddled dispensing of drought funding, disrepair of existing infrastructure such as hand pumps and diesel engines, lack of trained personnel to repair facilities and a lack of employment that has served to entrench rural poverty (Abrams et al., 1992). Despite

> assistance schemes by several Non-Government Organisations (NGOs), such as Operation Hunger and the Rural Advice Centre, the pre-existing drought features of the landscape, as outlined above, have exacerbated the cruel impacts of the drought. The British Engineers funded by the Overseas Development Agency (ODA) of the British Government stated that "in all their substantial experience in places such as Ethiopia, Somalia and Iraq, they have never worked in a situation more chaotic and with less support".

The failure of the RAC in 1993, as a consequence of internal mismanagement, saw a more regional NGO architecture gain support from the external donors who were the primary source of financial support for community-based supply initiatives:

> "Between 1993 and 1995 three new multi-disciplinary NGOs focusing on rural water supplies and sanitation were established in South Africa, mainly by former Rural Advice Centre staff members. These NGOs are: Tsogang in Tzaneen, Rural Support Services in East London and Thuthuka in Pietermaritzburg, which formed a co-ordinating office in Johannesburg called the Rural Development Services Network (RDSN). In June 1995 the European Union (EU) signed a five year grant agreement with the RDSN for ECU 3,2m (+/- R20m) to fund a number of small comprehensive community driven water and sanitation projects facilitated by the RDSN's three member organisations." (Syme et al., 2000)

Related to this, the European Union co-funded (with the Government and 'Democratic Movement') the establishment of a rural water services NGO (Mvula Trust) to support the establishment of water supplies in rural communities. These worked through a range of institutional frameworks that were acceptable to the democratic movement and the communities concerned. In the absence of legitimate governance structures in many areas, the Mvula Trust promoted and supported community-managed projects (Rall, 2002).

3.2 First steps: 1994-2001

Post-1994, the ad hoc efforts of civil society to support community managed water provision continued. These efforts were supported by parliamentarians and technicians who, prior to 1994, had worked on drought relief initiatives and in rural water projects in former homelands. They promoted the concept of community water management. As a consequence, the intention to allow community water committees was stated in the 1994 Water Supply and Sanitation Policy White Paper. This was drafted by Len Abrams, who had established the Rural Advice Centre NGO in the late 1980s and was working as an advisor to the Minister of Water Affairs and Forestry. According to the White Paper:

> "…. it is unlikely that effective local government will be established in all areas for some time. The moral and political demand for water however requires immediate action of the Department. It is for this reason that the Department has tabled legislation which enables it to intervene on two fronts.
>
> - First, the mandate of the Water Boards will be expanded so that they can provide water supply and sanitation services to the final consumer.
> - Secondly, the Minister of Water Affairs and Forestry will be empowered to establish statutory Local Water Committees (LWCs) to undertake the task of local water and sanitation service provision." (DWAF, 1994)

The Water Rationalisation and Amendment Act (1994) gave the Minister the power to "out of moneys appropriated by Parliament for the purpose, render or cause a water supply and sanitation service to be rendered" which had not previously been the case and, as part of this, to make regulations for the establishment of "local water supply and sanitation committees".

But this provision was subject to there being no local authority or if the local authority having the jurisdiction was not able to render such service.

This importance of this provision was that it allowed the Reconstruction and Development Programme (RDP) budget allocations to be used by the Department for the promotion and implementation of water supply projects. In these projects, there was always an attempt to establish some form of community oversight and involvement, usually a project steering committee (Muller, 2002). However, implementation and operation was almost always initially undertaken by the staff of the former homeland authorities who were now part of the national Department, since they had the organisational presence and capacity to do this.

This period saw a rapid expansion of the Mvula Trust's operations. In its history of its first ten years of operation, the Trust noted that it had "completed in excess of 250 water projects as well as thousands of sanitation programmes in seven of the nine provinces" (Mvula Trust, 2003). During this period, the original donor support for Mvula Trust was increasingly replaced by budgetary transfers from the national government which at the end of the period made up more than 60% of the Trust's project funding.

By the time that there was national legislation in place that outlined the future structure of the water services sector, plans for the establishment of wall-to-wall local government envisaged in the Constitution were already well advanced. So, the Water Services Act (1997), specifically provided (Chapter 7) a formal provision for community-led water committees and a process for their establishment and governance. But it was already acknowledged that local government institutions would be established in the areas concerned. And it was recognised that these would be the formal Water Service Authorities (WSA) for their area of jurisdiction. So the legislation made provision that a Water Service Committee could only be established in consultation with (i.e. with the agreement of) the relevant WSA and that no water service committee would be established in an area in which the WSA was able to provide a supply.

During this period, there was also growing tension about the future role of traditional authorities. "The new local government system was perceived by some traditional leaders as unacceptable, and that it would lead to the usurpation of their powers. This caused a lot of tensions in the rural areas" (Department of Planning and Local Government (DPLG), 2003). There were clear conflicts of interests and incentives between a variety of more or less legitimate traditional authorities and the new local government institutions, anxious to establish their role and functions and to take control over public resources in their areas of jurisdiction. These tensions created further barriers to the introduction of community-based water management.

3.3 A focus on local government: 2001-2020

The incoming administration of Thabo Mbeki focused on the establishment of local government. This involved the organisation of elections (the first comprehensive elections for local government involving the entire country happened in 2001), the establishment of municipal institutions and the introduction of a financial system which included substantial financial transfers for the provision by municipalities of basic services including water supply and sanitation. This process defined the way in which services were provided in the rural areas of the former homelands and in turn created a new and more difficult environment for the establishment and operation of community-based schemes.

3.3.1 Transfer of functions from DWAF to local government

In 1994, the national DWAF took responsibility for the water services activities of the former homelands. The relevant infrastructure, staff and budgets formerly managed by homeland governments were all transferred to the Department. That included all the public water supply systems except for those in formally proclaimed towns. This was always a transitional arrangement until formal local government was in place to take over. In the negotiations that followed, there was little interest in community-based water management from either the incipient municipalities or South African Local Government Association (SALGA), their national association which was helping to facilitate the process.

Existing community managed schemes were not part of the process. It was understood that any new community management arrangements would be determined by new municipalities not DWAF, as the outgoing caretaker. But the issue was not even raised in the internal documentation of the formal transfer process. Perhaps more important, there was no consideration of the manner in which existing and proposed community managed schemes would be treated in the planning, development and operational processes of the new municipalities. The impact of this transition is best illustrated by considering the work of the Mvula Trust and how it was affected.

The Trust was initially conceived as a four-year project, whose future would depend on its performance in the early years and on anticipated future needs. The aim was to alleviate the critical situation in the 1990s by setting up a fast and effective mechanism for funding community-driven water and sanitation projects. It drew its approach from international NGO practice (such as focusing on the poor, on people-centred development, on appropriate technologies, on being mission-driven rather than profit-oriented, and on process as much as product) adapted to the particular environment in South Africa. As the organisation explained:

> "Soon after the new government had established the Community Water Supply and Sanitation programme, an agreement was signed between the Mvula Trust and the Department of Water Affairs and Forestry to formalize the relationship between them. This agreement, and subsequent ones, has formed the basis of a co-operative partnership between DWAF (now DWA) and Mvula which continues to this day.
>
> The Mvula Trust was established in a time when there was no effective government activity in rural water supply, enabling it to develop and implement its own set of policies and approaches. The national government supported this degree of independence and gave the Trust considerable latitude to pilot approaches within the broad directions of government policy. The Mvula Trust developed an approach to community management and demand responsiveness that, even after considerable modification over the years, has been able to demonstrate applicability and relevance at scale, having completed in excess of 250 water projects as well as thousands of sanitation programmes in seven of the nine provinces.
>
> The steady decentralization of government powers and functions from 1996 onwards saw local government wrestling with newly mandated roles and responsibilities. Mvula has provided extensive support to municipalities, in close cooperation with DWA and other departments, to develop institutional capacity and implement policies and legislation. In addition, Mvula has strengthened its role as an implementer of people-centred water and sanitation projects on behalf of municipalities, allowing local governments to benefit from Mvula's extensive experience in community-based development." (Mvula Trust, 2014)

The focus of national government's 2nd administration, which began with the elections of 1999, was to make the new structures of local government work effectively. The priority was getting the public sectors' structures in place and functioning rather than relying on community-based activity which was often dependent on the support of a large network of NGOs.

The resulting challenges in the water sector were outlined during a workshop involving civil society organisations and the members of Parliament's committees responsible for water and

sanitation (Contact Trust, 2002). At the workshop, the important contribution of NGOs and civil society more broadly to effective service provision was recognised. However, there was little focus on community management. The significant benefits of community-based organisations as service providers were noted but it was clear that it would be problematic to channel local government funds derived from equitable share payments to community-based projects for a function that was officially the mandate of the municipalities themselves.

It was also obvious that there were a range of perspectives from civil society that depended on their particular interests and experiences. For example, one villager from a successful community managed water project supported by Mvula spoke of the approaches they had adopted to keep community members involved and avoid conflict. Another speaker who had been involved in community projects in the same area reported, however, that her organisation had had difficulty in keeping skilled people involved in a voluntary capacity given the limited local opportunities that saw them drift to urban areas.

Another successful Mvula scheme reported was the Isulabasha Mvunyane Development Society's effort which, in 1989 had established a community water supply predating government initiatives. The scheme was encountering problems however, specifically, a reluctance of households to pay for O&M. The solution, it was reported, was that "youth were used to inculcate the culture of payment and valuing of services" and "standpipe committees headed by water minders were established to deal with deviant behaviours".

However, for many of the participants in the workshop, the concern was the delay in transferring projects to the municipalities; this was associated with a delay in implementing free basic water; the failure to provide subsidies to CBO managed schemes was raised; but, in parallel, it was difficult for CBOs to pay adequate wages to their staff. Finally, CBO schemes were sometimes affected by the poor relations between traditional authorities and local government structures.

These concerns encapsulated the problems faced by CBM more generally. And community-based organisations, increasingly dependent on government financial support, found the administrative requirements onerous.

One response from community focused organisations such as Mvula and others, to municipalities taking responsibility for water supply services, was to turn their attention to the provision of household level sanitation services through organisation of community-based initiatives. Mirroring the debates about community-led water provision versus municipal provision, there was substantial debate about whether sanitation could best be promoted through community-based as opposed to public contractor implemented approaches. (Contact Trust, 2002)

It is now a matter of record, however, that the Mvula Trust has survived until the present day by adapting to these changed circumstances and their further evolution. It has now positioned itself primarily as a project implementer for agencies such as municipalities and provincial departments of health and education. Its key offering in these projects is its focus on promoting community participation in what are now government projects.

3.3.2 Community focused rural development organisations

The establishment of formal local government radically changed the environment for civil society. There was less opportunity for direct project promotion and development and a greater focus on advocacy. Thus some of the organisations that had been active in supporting

CBWS projects in the earlier period were instrumental in supporting the establishment and expansion of the free basic water policy, despite its impacts on the feasibility of some of their projects (NGOPulse, 2006).

Between 2001 and 2005, concern grew about the sustainability of the projects that were being promoted by both DWAF as well as by community-focused organisations such as Mvula. One evaluation cited a review of problematic projects as evidence that most of DWAF's projects had failed (Hagg & Emmett, 2003).

On the other hand, a donor evaluation of 50 Mvula projects found that only 15-20 were functioning sustainably. (Syme et al., 2000)

> "Part of the increased emphasis on local government has been the diminished focus on community structures, a trend that has generated concern by those who see local government's capacitation as a long-term process. The same trend has affected NGOs, whose overseas funding has declined since 1994, with the established of a democratic government in South Africa. Notwithstanding the high profile and accomplishments of the Mvula Trust, the diminished financial capacity of the NGO sector is a negative development, in light of the niche it has filled in community development and the valuable civic voice it can provide." (Syme et al., 2000)

Hagg and Emmett (2003) describe how many community-based projects faltered as decision had to be taken about payment and maintenance. There were predictable management failures as "some members misused their positions or were reluctant to collect contributions".

While there were conflicts in larger projects, "in many smaller community projects village water committees and project steering committees did not function effectively and participation decreased over time" (Syme et al., 2000). When local governments were established, "Communities that were involved in Mvula Trust projects were reluctant to hand over to local authorities. On the other hand, management by village water committees often deteriorated due to inadequate cost recovery and loss of experienced representatives that migrate to the cities." (Syme et al., 2000).

In order to get things moving faster, "DWAF relied on consultants and water boards that didn't have the time, commitment or sensitivity to incorporate community participants…" (Syme et al., 2000). Further, "…. the introduction of policies that emphasised the leadership of local government rather than community ownership left the Mvula Trust in a difficult position as it had a limited relationship with councils, and the latter distrusted the trust's policy of community ownership." (Syme et al., 2000).

These experiences, and the recognition that they could only be addressed by sustained (and often expensive) external support, saw enthusiasm for community-based management as a dominant paradigm for small rural water supply management decline.

3.3.3 Declining reliability of public supplies and a continued reliance on household-based solutions

Local government management has also not been as successful as hoped for. Over the past decade, while water supply infrastructure has been expanded to reach around 95% of the population (depending on the specific definition used), the *reliability* of services has declined dramatically. According to Stats South Africa's household surveys, only 65% of households

reported that their services met standards of reliability (usually expressed in the time that services were not available – typically, no more than two weeks per year) (StatsSA, 2019).

The situation in the poorer rural municipalities was much worse. The Department of Water reported that, in 27 priority rural district municipalities, less than 40% of households had a reliable public water supply (DWS 2017).

In the absence of a reliable public supply and with little support for the development of formal community-based schemes, households have had to resort to their own resources. These have not been systematically identified and it is difficult to estimate the number of households affected since many make use of multiple sources, according to their availability.

There is a significant population that might benefit from small-scale community managed supplies on the basis that they are currently dependent on unprotected sources or household solutions. From the StatsSA Household Survey (StatsSA, 2019), it would appear that as many as 10.9% of the population (around six million people) fall into this category (see Table 3).

Table 3. Households dependent on household or inadequate water sources that may benefit from community managed water supply systems (as a % of the total South African population). (StatsSA, 2019). Note total of 10.9 is made up of those sources highlighted in green.

Source of water supply	**% of the total South African population**
Piped water in dwelling	46,3
Piped water on site	28,5
Borehole on site	2,1
Rainwater tank on site	1,2
Neighbour's tap	1,9
Public/ communal tap	12,3
Water-carrier/tanker	3,0
Borehole off-site/communal	1,5
Flowing water/ stream/river	1,7
Stagnant water/dam/ pool	0,1
Well	0,3
Spring	0,6
Other	0,4
Total	**10.9**

In addition to piped public supplies, there is resort to household water tanks; these may be filled by rainwater collection or, when there is no rain, by private tanker services or other informal providers; in some cases, water is delivered by 'bakkie' in 200 litre drums. Better-off households resort to drilling individual boreholes where groundwater is available; in a few parts of the country, it is possible to find water using shallow, hand-dug wells.

Where one household develops an adequate and reliable water source, the householder may allow neighbours to draw from it or may formally sell water to them. There are also cases that revert to the community-based approach where a group of households cooperate to drill a single borehole for their collective use.

Such household systems are often precarious and themselves unreliable and their use may provoke community conflict. A particular problem can arise where a household borehole is overused and the householder refuses to supply neighbours. But the quality of individual

boreholes is often poor and householders have no recourse if and when they fail. However, the persistence of household-based solutions and the reversion to them when public supplies fail shows that there is still scope for community-based water supply systems in some parts of the country.

3.4 Solutions but no appetite for implementation: 2020 onwards

As outlined above, the weaknesses in the current institutional arrangements for water services have become increasingly obvious as supply reliability decreases. The potential for community-based management to help to address these issues had already been raised much earlier by, amongst others, the National Planning Commission (NPC) which noted that

> "Many small and rural municipalities lack the financial and technical capacity to manage water services adequately. Some flexibility in approach is recommended, which could include the use of regional utilities and community management of franchise arrangements, provided municipalities retain their role as the political authority responsible for service oversight." (NPC, 2012)

This position was restated at the 2017 workshop organised by National Treasury with the participation of many stakeholders from national and local governments where it was concluded that "Community-based management is way under-supported and there needs to be a new drive to engage with communities." (National Treasury, 2017).

However, the barriers to this approach lie at many levels with limited capacity at community level to initiate such approaches and many vested interests, particularly at local government level likely to oppose them. It will require a high-level policy change to enable the required finances as well as the technical and organisational support needed to be made available.

Section 4. Chronological overview of legal and institutional constraints to community-based water management schemes

The legal framework for the provision of water supply and sanitation services has changed substantially since 1990. In this section we provide a chronological discussion of legal and institutional constraints to CBWMs in South Africa.

4.1 Prior to 1990

Prior to 1990, arrangements for private- and community-owned supply were legally allowed and were indeed the norm for smaller communities. In formerly 'white South Africa', water services were the responsibility of individual local authorities (town and village councils and health committees). The local authority mandate was as much to assure the quality of water supplies from privately owned sources as to provide a municipal supply. However, Provincial Ordinances did allow the municipality to compel private landowners to connect to a piped municipal supply, but only if the local authority believed that the premises concerned did not have "a sufficient supply of good and wholesome water for drinking and domestic purposes". (Transvaal local government ordinance, 1939)

As cities and towns grew and their responsibilities expanded and became more complex, the management arrangements were reviewed by instruments such as the Transvaal Local Government Control Ordinance (1953), which provides for the establishment of (a) a Department of Local Government in the Provincial Administration; and (b) a Local Government Advisory Board (LGAB). This allowed municipalities to be structured on a more professional basis (rather than being managed by committees of elected councillors) but also established the LGAB as a mechanism to support smaller communities. This was a period in which it was increasingly expected that formal local government would provide water supply while there were still significant areas outside of formal municipal jurisdictions.

Meanwhile, in the 'Bantustans', homeland administrations took some responsibility for water supply but, outside the larger settlements, some of which were administered by formal local authorities, there was no public obligation to provide such services. The Bantu Authorities Act (No. 68 of 1951) simply enabled 'regional authorities' (the homeland equivalent of district

Bantu Authorities Act (No. 68 of 1951)

5. Powers, functions and duties of regional authorities

(1) A regional authority shall have power-

(b) subject to the provisions of any regulations, and to the directions of the Minister, to provide for- …

(ii) the construction and maintenance of roads, bridges, drains, dams, furrows and any works which it may consider necessary for purposes of sanitation or for ensuring satisfactory water supplies or for preventing or combating soil erosion".

7. Powers, functions and duties of territorial authorities)

(3) Whenever powers, functions or duties have under paragraph (g) of subsection (1) been assigned to a territorial authority, the regional authority established for the area in respect of which such powers, functions or duties have been so assigned shall be deemed to be divested of such powers, functions and duties...

municipal authorities, composed of 'approved' tribal authorities) to do so, subject to the authorisation of the national government. The legislation also provided that, where convenient, the territorial authority (the homeland administration) would have the powers of the regional authorities.

In these circumstances, where and when services were provided was determined on political grounds. As a consequence, in most of the former homelands, the majority of households did not have access to an adequate supply of safe water at a reasonable distance.

4.2 1990-1994

There were no formal legal changes during the transitional period, save for the promulgation of the Interim Constitution (in 1993) which came into effect on the 27th April 1994 and repealed much of the apartheid legislation, notably that which dealt with the administration of the 'homelands' (see below).

The Interim Constitution (1993) already provided for relatively autonomous local government structures to which would be assigned the necessary powers and functions to enable them to "provide services for the maintenance and promotion of the well-being of all persons within its area of jurisdiction" (Interim Constitution, 1993).

This could have included delegation to community-based water management structures. However, while local government authorities were allowed to provide services, such authorities only existed in some parts of the country, and they were not placed under an immediate obligation to provide public water services. Indeed, they could only be required to do so "provided that such services and amenities can be rendered in a sustainable manner and are financially and physically practicable" (Interim Constitution, 1993).

The Interim Constitution (1993) also provided for traditional authorities to continue to exercise powers and perform functions in which they were engaged prior to the introduction of the Constitution, subject to changes by national legislation. During this period, many community-based water projects were implemented, primarily in the former homelands with no formal legal structure beyond, in some cases, an agreement between funding agencies such as the Mvula Trust and local community organisations.

4.3 1994-1997

The Interim Constitution was only formally in force from April 1994 to December 1996 when it was repealed. It was replaced by the final 1996 Constitution of South Africa, which provided clear guidance with respect to the responsibilities for the provision of water services in the context of its framework for the interaction of the three spheres of local, provincial and national government.

It began by setting out, in Chapter 2, a Bill of Rights which specifically determined that: "The state must respect, protect, promote and fulfil the rights in the Bill of Rights." (S7.2 Constitution, 1996). Amongst the rights established in Chapter 2 referred to water. The Constitution also provides a clear statement of the duties and objectives of local government, in the form of municipalities, with respect to service provision.

Constitution of the Republic of South Africa, Act 108 of 1996

27. Health care, food, water and social security.
(1) Everyone has the right to have access to -
(b) sufficient food and water; ….
(2) The state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of each of these rights.

152. Objects of local government.
(1) The objects of local government are-
(a) to provide democratic and accountable government for local communities;
(b) to ensure the provision of services to communities in a sustainable manner;
(c) to promote social and economic development;
(d) to promote a safe and healthy environment; and
(e) to encourage the involvement of communities and community organisations in the matters of local government.
(2) A municipality must strive, within its financial and administrative capacity, to achieve the objects set out in subsection (1)

It also located the responsibilities for provincial and national government in this regard and the way in which they should intervene should this be adjudged necessary. The provincial and national spheres are required to support municipalities so that they can perform their functions. But provincial and national spheres are also required to ensure that they perform effectively and to regulate the way in which they performed their functions.

Constitution of the Republic of South Africa, Act 108 of 1996

154. Municipalities in co-operative government.
(1) The national government and provincial governments, by legislative and other measures, must support and strengthen the capacity of municipalities to manage their own affairs, to exercise their powers and to perform their functions.
(2) Draft national or provincial legislation that affects the status, institutions, powers or functions of local government must be published for public comment before it is introduced in Parliament or a provincial legislature, in a manner that allows organised local government, municipalities and other interested persons an opportunity to make representations with regard to the draft legislation.

155 (7) The national government, subject to section 44, and the provincial governments have the legislative and executive authority to see to the effective performance by municipalities of their functions in respect of matters listed in Schedules 4 and 5, by regulating the exercise by municipalities of their executive authority referred to in section 156 (1).

These provisions establish the framework within which water services are provided. They assign the function of service provision to the local government sphere and limit the ability of national and provincial government to dictate approaches. They do however allow local government to choose different approaches to the provision of such services while national

and provincial government are provided with mechanisms through which they can intervene if there is a failure of the local sphere to perform its duties effectively.

4.4 1997-2001

While the provisions of the final 1996 Constitution gave local government, in the form of municipalities, clear responsibilities for the provision of water services, there were still large parts of the country where no formal local government structures were in place. Within the framework of the national Governments RDP there was an active programme to rapidly expand, in particular, water supply services which continued to take an ad hoc approach, supporting NGOs and other institutions to work with community organisations to develop water supply services.

In an attempt to provide some formal basis for such efforts, the Water Services Act (1997) made specific provision for the establishment of community-based water supply arrangements. It enabled the Minister to establish water services committees whose function would be "to provide water services to consumers within its service area". However, the Minister could only do this after consulting the community concerned and with the agreement ("in consultation with") the relevant authorities in all three tiers of government (the nominated local government 'water supply authority' if it existed, the provincial government, and the Minister for Provincial Affairs and Constitutional Development.

4.5 2001-2020

With the establishment of local government (whose establishment and practice was set out in a variety of legal instruments, notably the Municipal Systems Act (No. 32 of 2000)) the approach to and prospects for community managed water supplies became clearer. This was the situation already envisaged in the provisions of the Water Services Act (1997) whereby water services committees could be established to undertake water services functions with the concurrence of the municipality concerned. In 2003, it was acknowledged that formal Water Services Committees as provided for in Water Services Act (1997) were no longer an option. As noted, however, this did not mean that there was no scope for community-based organisations to be involved in water supply activities, but rather that this was now provided for in specific local government legislation such as the Municipal Systems Act (No. 32 of 2000). However, Goldman et al. (2013) assessment suggests that the issue comes in with the qualification of an institution providing a "municipal service" (specifically Section 78). This can be circumvented if the community *partners* with the municipality rather than taking on the role of a municipal service provider.

The Strategic Framework for Water Services made it clear that there remained an important role for civil society in the sector. This included policy development, research and advocacy; assisting with planning, implementation and management of programmes and projects at community level; supporting capacity development in civil society organisations; helping to monitor sector performance; and linking government and local communities. In addition, a specific role was foreseen in "engaging capacitated community-based organisations to manage water services projects at the local level, where appropriate; and assisting in the mobilisation of funds for non-government and community-based organisations where appropriate." (DWAF, 2003)

Municipal Systems Act (No. 32 of 2000)

76. A municipality may provide a municipal service in its area or a part of its area through-
(a) an internal mechanism ….
or
(b) an external mechanism by entering into a service delivery agreement with—
i) a municipal entity;
ii) another municipality;
iii) an organ of state, including
(aa) a water committee established in terms of the Water Services Act, 1997 (Act no. 108 of' 1997):
(bb) a licensed service provider registered or recognised in terms of national legislation: and
(cc) a traditional authority;
iv) a community-based organisation or other non-governmental organisation legally competent to enter into such an agreement: or
v) any other institution, entity or person legally competent to operate a business activity.

An outstanding issue is the funding of such activities. The municipalities receive an 'equitable share of revenue', calculated to enable the municipality concerned to meet the costs of providing basic water supply to those members of the community who are unable to afford it. However, funding provided by the municipality would have to be given in compliance with the provisions of the Municipal Finance Management Act, 2003. While that Act provides in detail for the establishment of public-private partnerships, there is no mention of funding for activities undertaken by a local community with the agreement of the municipality. The Act also does not require any disclosure of how funds from the equitable share are allocated. Yet these are the transfers that, in terms of the Constitution, are intended to enable local government to provide basic services, such as water. This significantly limits the establishment of a structured and transparent process to disburse a share of equitable revenue funds for the purposes intended.

Municipal Finance Management Act, 2003

123. (1) The annual financial statements of a municipality must disclose information on-
(a) any allocations received by the municipality from-
(i) an organ of state in the national or provincial sphere of government; or 5
iii) a municipal entity or another municipality;
(i) a municipal entity or another municipality; or
(ii) any other organ of state;
(c) how any allocations referred to in paragraph (a) were spent, per vote, excluding allocations received by the municipality as its portion of the equitable share or where prescribed otherwise because of the nature of the allocation

Similarly, the Municipal Systems Act (2000) provides for the establishment of municipal entities and acknowledges that they may be a "company, co-operative, trust, fund or any other corporate entity established in terms of any applicable national or provincial legislation" but requires that they should operate "under the ownership control of one or more municipalities". So a community could, in theory, establish a cooperative to manage its water system provided that the ownership of the infrastructure remained under the control of the municipality.

The situation was further complicated by tensions over the role of traditional authorities. By 2004, it had become clear that the provision of municipal services had become a contested issue in areas where traditional authorities were in place. Section 37 of the Communal Land Rights Act (2004) specifically sought to ensure that municipalities could provide services on communal land.

> **Communal Land Rights Act (No. 11 of 2004).**
> 37. Provision of municipal services and development infrastructure on communal land. Despite the other provisions of this Act and the provisions of any other law, no law must prohibit a municipality from providing services and development infrastructure and from performing its constitutional functions on communal land however held or owned.

This addressed the question of the limits to the control of traditional authorities over what were seen to be primary municipal functions. The effect of this was that any attempt to establish autonomous community service provision could be seen (from the municipal standpoint) as a challenge to municipal power and functions while (from a traditional authority perspective) this could be a means for weakening the power of municipalities and strengthening that of the traditional authority. For communities, however, it simply meant that they would have to choose between two masters.

In conclusion, the process of acquiring the land required for the provision of services presents a significant challenge even to well capacitated local government institutions and severe difficulties for weaker rural municipalities (Hoffmann & Dilizo, 2018). In this complex and politically charged situation, the administrative and procedural hurdles for a small, community-based, organisation that sought to promote a formal, community-based water supply scheme that involved land acquisition would be almost insuperable. In addition, although it is theoretically possible for such activity to be funded by local government, this would have to overcome yet more procedural hurdles. It is perhaps for this reason that attempts by organised civil society to formally take over the provision of failed services in the better-off areas of small municipalities have failed. It also explains why there is no significant movement for formal organised community self-provision in poorer communities, despite the wide-spread evidence of a deterioration in supply services.

Section 5. Access to water, entitlements and rights – legislation and policy analysis

According to the Human Rights Commission of South Africa (SAHRC, 2018) there a three significant pieces of legislation that makes clear the responsibility of the South African government towards the supply of sufficient water to the South African population, these are: The Constitution; the Local Government Municipal Systems Act; and, the Water Services Act (see Figure 5). In addition, South Africa recognises water as a common asset whose trusteeship lies with the state (DWA, 2010). The Department of Water and Sanitation is mandated by the National Water Act (Act No 36, 1998) to ensure that all water resources are well managed and protected, developed and conserved "for the benefit of all persons" and in accordance with the Constitution.

It is important to make a distinction between people's rights in terms of access to water, the use of water, and the provision of water. This section will be broadly structured according to this distinction, where the first part deals with the right to access to water which is enshrined in the Constitution of South Africa under Section 27. This will be followed by a discussion of what is set out in terms of people's use of water. Here we specifically look at the National Water Act (1998) and the provisions it makes in terms of the who, how and how much of water use in South Africa. The next section will deal with the provision of water. Here we look specifically at the Water Services Act (No. 108 of 1997) which regulates the institutions that operate to provide water. For each of these sections we take our discussion further in order to understand the implications for CBWMS.

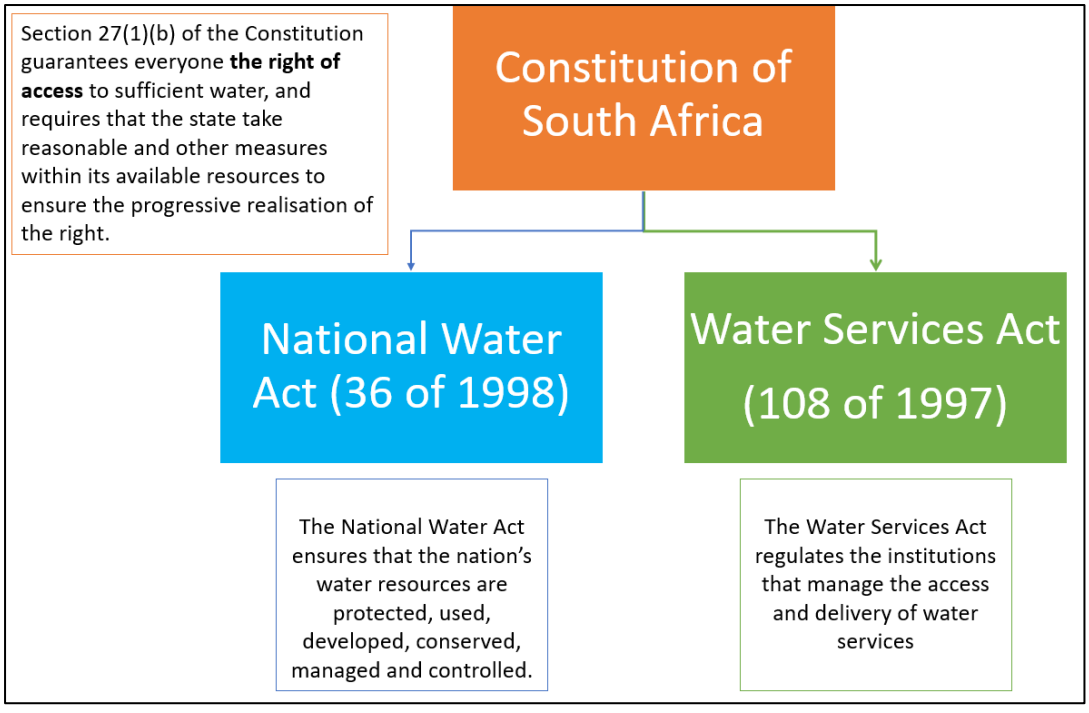


Figure 5. Important legislation flows from the provisions made in the Constitution with regards to people's rights and entitlements relating to water.

5.1 People's rights in terms of 'access' to safe water for domestic use

Section 27(1)(b) of the Constitution (Constitution of the Republic of South Africa, Act 108 of 1996) guarantees everyone the right of access to sufficient water, and requires that the state take reasonable and other measures within its available resources to ensure the progressive realisation of the right. As such, the Constitution highlights an all-encompassing commitments of the state to progressively realise and fulfil socio-economic rights as shown in Sections 24 and 27 of the South African Constitution.

According to Gowlland-Gualtieri (2007), an important aspect to this section in the Constitution is that it binds all three spheres of government to realise the right of access to water, and to provide clear guidance on which sphere of government is primarily responsible for which function. This 'right' includes both physical and economic access to water. However, this is qualified by the Constitution where it notes that the state only has to take "reasonable" legislative and other measures "within its available resources" to achieve this right, thus the 'progressive realisation' of the right to access water. What this means is that the Constitution places an obligation on the government to take action to realise the rights of the people, and places the responsibility for providing sustainable services to all citizens with the local sphere of government.

Constitution of the Republic of South Africa, Act 108 of 1996

Section 27: the rights to food, water, health care and social assistance
(1) Everyone has the right to have access to-
(a) Health care services, including reproductive health care;
(b) sufficient food and water; and
(c) social security, including, if they are unable to support themselves and their dependants, appropriate social assistance.

Also: Section 24: Environment

Everyone has the right to:
A. an environment that is not harmful to their health or well-being;
B. The environment protected for present and future generations.
I. Prevent pollution and ecological degradation

According to Muller (2006), the national programme in South Africa to provide basic water services to its people, preceded the adoption of the Constitution, however it was driven by a similar set of values. He notes that, even before the 1994 elections, surveys conducted found that in rural areas, apart from jobs, water supply was an important expectation of the new government. Similarly, people in urban areas wanted housing which includes access to basic water and sanitation services (Muller, 2006).

As a part of the move to implement free basic water, local government was designed in such a way as to provide more powers and autonomy under a policy of developmental local government (Van Koppen and Schreiner, 2014). This design also highlighted decentralised decision-making, participatory governance and management. Legislation such as the National Water Act (No. 36 of 1998) and the Water Services Act (No. 108 of 1997) made possible the provision of free basic water (Backeberg, 2005).

The policy on free basic water requires an initial block of 6 kilo litre per month of drinking water without charge per indigent household as part of a block tariff (DWAF, 2002). This calculation is based on the assumption that each individual person needs 25 litres of water per day. It is however important to note that the amount of free water is the same for every household, notwithstanding the level of wealth of the household or its size (Gowlland-Gualtieri, 2007).

GNR.509 of 8 June 2001: Regulations relating to compulsory national standards and measures to conserve water.

3. Basic water supply—The minimum standard for basic water supply services is—
(a) the provision of appropriate education in respect of effective water use; and
(b) a minimum quantity of potable water of 25 litres per person per day or 6 kilolitres per household per month—
(i) at a minimum flow rate of not less than 10 litres per minute;
(ii) within 200 metres of a household; and
(iii) with an effectiveness such that no consumer is without a supply for more than seven full days in any year.

According to Dugard (2016) the implementation of the free basic water policy provided for some flexibility as the 6 kilo litre stipulation is supposed to be seen as a threshold but with encouragement to provide more free water to indigent households if the municipality is able. While seen by some as pragmatic and allowing for different municipal contexts Dugard (2016) argues this has caused a haphazard implantation of the policy across the different municipalities, with municipalities tending towards providing the minimum and not the maximum of free water. As such Muller (2008) notes there has been a lot of criticism with regards to the policy and its implementation, specifically by civil society commentators who argue that it fails to reach all the poor, it includes too many non-poor users, while at the same time providing insufficient water but charging too much for the water supplied beyond the free amount. In addition, one of the major criticisms relates to amount of water, specifically in terms of vulnerable groups such as those living with HIV/Aids and large households (Muller, 2008).

The landmark case of *City of Johannesburg and Others v Mazibuko and Others 2009* provides an excellent example that illustrates the inconsistencies of how the policy is applied as well as the consequences of this. The case considered a City of Johannesburg project called Operation Gcin'amanzi. This was a class action initiated to challenge the amounts of water that the City of Johannesburg had allocated and the prepaid water meters it had set up for residents in Phiri, a township under the Johannesburg City Council. Operation Gcin'amanzi was piloted in Phiri in early 2004 to address the severe problem of water losses and non-payment for water services in Soweto. This included the relying of water pipes in order to improve the water supply and reduce any water losses. It also included the installation of pre-paid meters in order to charge for water over and above the 6 kilo litre per household monthly free basic water allowance. However, there was a small, yet significant difference in the prepaid meters installed in Phiri. Unlike other 'conventional' meters available in Johannesburg at the time which provided water on credit with a number of safeguards against unfair disconnections, prepayment water meters did not have these safeguards. In fact, unless

additional water credit is purchased and loaded, these meters automatically disconnect once the free basic water supply was exhausted. This meant that poor households would be left without water for days on end.

City of Johannesburg and Others v Mazibuko and Others was concerned with two main issues relating to the City of Johannesburg's water services policy and provision. In particular, the reasonableness and sufficiency of the City's free basic water allocation of six kilo litres per household per month, and the lawfulness of the City's imposition of prepayment water meters on poverty-stricken households in Phiri, Soweto. The case was initially launched in 2006 as a legal challenge in the Johannesburg High Court. According to Dugard (2016), the ruling of 30 April 2008 declared the prepayment of water meters unlawful and unconstitutional, thus also declaring the City of Johannesburg's free basic water policy unreasonable. Furthermore, the ruling ordered the City of Johannesburg to provide the applicants, as well as all other applicants who share a similar situation (context), with 50 litres of free water. This judgement was however appealed in March 2009 to the Supreme Court of Appeal where the judgment upheld the appeal but ruled in the applicants favour similar to the previous judgement (Dugard, 2016). However, the applicants appealed the decision to the Constitutional Court in October 2009 – this was due to perceived problems with the order of invalidity regarding prepayment water meters (Dugard, 2016). In a surprising turn of events, the Constitutional Court's judgement in October 2009 ruled against the applicants on all grounds. This ruling includes finding prepayment water meters to be lawful as they 'suspend' the water supply rather than discontinue it. In the ruling it was also made clear that the case presented has to be seen within the context of the challenges facing the City of Johannesburg.

Dugard (2016) argues that despite the ruling in this case, we are far from clear whether or not the Court holds there an obligation to provide even the minimum amounts of water free of charge. According to Motsoeneng (2016) the case of *City of Johannesburg and Others v Mazibuko and Others 2009* posits that there is no positive obligation on the state to immediately deliver sufficient water. Chenwi (2013:743) echoes this statement:

> *"… the progressive realisation qualification requires a state to strive towards fulfilment and improvement in the enjoyment of socio-economic rights to the maximum extent possible, even in the face of resource constraints. A state's performance in terms of the progressive realisation would depend on, among other things, both the actual socio-economic rights people enjoy at a given moment as well as the society's capacity of fulfilment (in terms of the resources available to the state)".*

Polity (2009) notes that the Constitutional Court held that the obligation placed on government by Section 27 of the Constitution of South Africa, is an obligation to take reasonable legislative and other measures to seek the progressive realisation of the right. In this ruling, the Court therefore noted that implicit in the concept of progressive realisation is that there will be a waiting period before everyone has access to sufficient water. Lastly, the Court concluded, in contrast to the High Court and the Supreme Court of Appeal, that it is not appropriate for a court to give a quantified content to what constitutes "sufficient water" because this is a matter best addressed in the first place by the government.

What does this mean for CBWMS?

What is clear is that the Constitution makes provision for the right to have 'access' to water. Out of this provision, communities can expect that their municipality to take reasonable measures to realise it. However, what is unclear, and that makes it a more complex issue is what is considered 'reasonable', and in what context. In short, it is not a simple matter. This is evidenced by the court case of *City of Johannesburg and Others v Mazibuko and Others* where three appeals culminated in a ruling that still makes it unclear exactly what the obligation by the state is, despite the enshrined rights of people regarding water as stated in the Constitution. Dugard (2016) however does make reference to other cases appearing in front of the High Court (*Nokotyana and Others v Ekurhuleni Metropolitan Municipality and Others, and Mtungwa and Others v Ekurhuleni Metropolitan Municipality*) where the cases have tried to establish that where there are no water connections at all, there is an obligation on government to ensure access to the minimum regulated amount. In both of these cases Ekurhuleni Municipality either agreed to, or were ordered to provide communal taps to residents of both informal settlements in accordance with Regulation 3b on free basic water.

In all of these cases, the municipality in question was a large metropolitan municipality that arguably have a larger constituent base and revenue income stream compared to many of the municipalities in which CBWMS occur. It is significant that even in the City of Johannesburg the case ruling made specific reference to the particular contextual challenge the City was facing at the time. It is thus difficult to imagine that the contextual challenges of municipalities in the rural geographies of South Africa, will be overlooked. As such, it seems that the notion of progressive realisation of rights may overshadow other issues of relevance. Lastly, taking municipalities to court does not come cheap. Moreover, it requires levels of agency, knowledge and support that many rural communities do not have, or have access to. But most importantly, it takes time, a luxury people without water do not have, and which causes people in the interim to default back to their own solutions.

5.2 People's entitlement in terms of 'using' water

The entitlement people have with regards to water use in South Africa is stipulated in the National Water Act (Act 36 of 1998), specifically in Section 4 which is later expanded upon under Schedule 1.

National Water Act (Act 36 of 1998)

CHAPTER 1: Entitlement to water use

4. (1) A person may use water in or from a water resource for purposes such as reasonable domestic use, domestic gardening, animal watering, fire-fighting and recreational use, as set out in Schedule 1.
(2) A person may continue with an existing lawful water use in accordance with section 34.
(3) A person may use water in terms of a general authorisation or licence under this Act.
(4) Any entitlement granted to a person by or under this Act replaces any right to use water which that person might otherwise have been able to enjoy or enforce under any other law -
(a) to take or use water;
(b) to obstruct or divert a flow of water;
(c) to affect the quality of any water;
(d) to receive any particular flow of water;
(e) to receive a flow of water of any particular quality; or
(f) to construct, operate or maintain any waterwork.

Section 4 highlights water for domestic use – and stipulates in particular "reasonable domestic use" (see Figure 6). Section 4 also makes reference to Schedule 1 which relates to the permissible use of water and Section 34 which relates to the authority to continue with existing lawful water use.

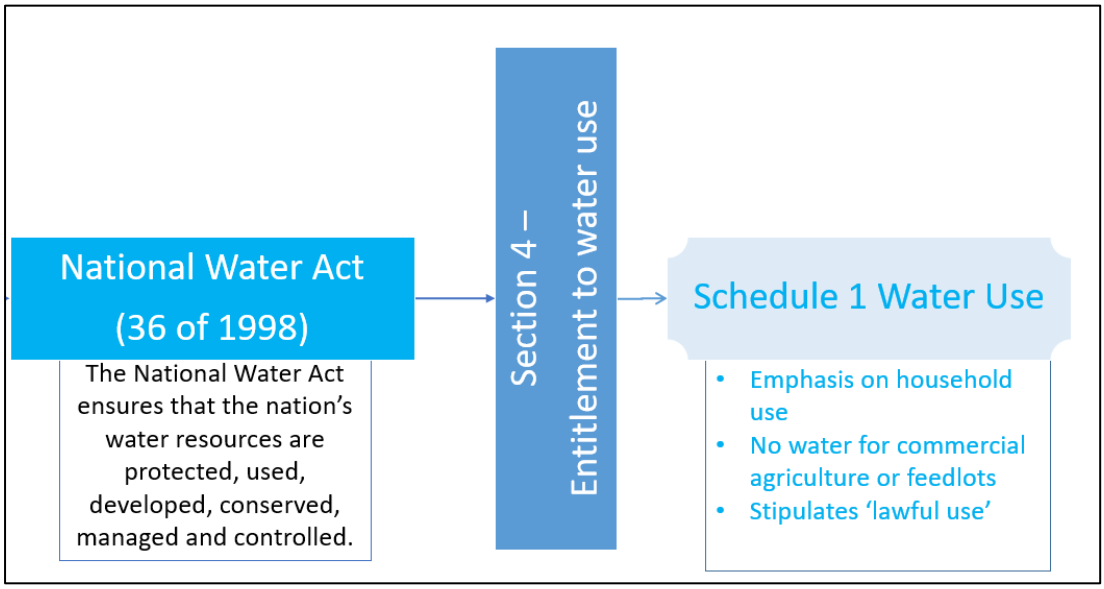


Figure 6. Schedule 1 as set out in the National Water Act provides particular insight in terms of how people may use water.

Schedule 1 of the National Water Act (NWA) is particular interesting as it provides more insight into how people may use water. Firstly, it specifies reasonable use by household members of a water resource they have lawful access to. The term "reasonable" is not defined in the Act itself, however Tewari (2009) states that in the water rights doctrines of South Africa the term is used in a way as to reflect a sensitivity to context, and is based on the notion that the reasonable use specified should not hinder or deprive other users from a similar enjoyment of the resource. In Schedule 1, reasonable use is specified for domestic use for a household; water for gardening that is not for commercial uses; and, the watering of animals but specifically in relation to the capacity of the water resource and needs of others.

What does this mean for CBWMS?

Schedule 1 makes specific reference to the following in terms of water use that is significant for CBWMS:

- Water that is taken for use should be done so for the person and their household only. It other words it does not make provision for providing water to other users.
- Schedule 1 water use is not designated for agricultural use where the outcome is for commercial purposes. Thus it serves to support the use of water for subsistence farmers.
- Schedule 1 water use does make provision for the water of animal, but again it excludes using water for commercial purposes such as feedlots, and has to be done within the grazing capacity of the land.

- Schedule 1 stipulates ‘lawful’ use of the resource. In other words, one has to lawfully have access to the resource in order for you to make use of the water. Note Sections 32-34 deals with ‘existing lawful use’ of water sources.

National Water Act (Act 36 of 1998)

Schedule 1
PERMISSIBLE USE OF WATER
[Sections 4(1) and 22(1)(a)(i) and Item 2 of Schedule 3]

(1) A person may, subject to this Act -

(a) take water for reasonable domestic use in that person's household, directly from any water resource to which that person has lawful access;

(b) take water for use on land owned or occupied by that person, for -

(i) reasonable domestic use;

(ii) small gardening not for commercial purposes; and

(iii) the watering of animals (excluding feedlots) which graze on that land within the grazing capacity of that land, from any water resource which is situated on or forms a boundary of that land, if the use is not excessive in relation to the capacity of the water resource and the needs of other users;

(c) store and use run-off water from a roof;

(d) in emergency situations, take water from any water resource for human consumption or firefighting;

(e) for recreational purposes -

(i) use the water or the water surface of a water resource to which that person has lawful access; or

(ii) portage any boat or canoe on any land adjacent to a watercourse in order to continue boating on that watercourse; and

(f) discharge -

(i) waste or water containing waste; or

(ii) run-off water, including stormwater from any residential, recreational, commercial or industrial site, into a canal, sea outfall or other conduit controlled by another person authorised to undertake the purification, treatment or disposal of waste or water containing waste, subject to the approval of the person controlling the canal, sea outfall or other conduit.

(2) An entitlement under this Schedule does not override any other law, ordinance, bylaw or regulation, and is subject to any limitation or prohibition thereunder.

There are three important points that need specific attention in relation to CBWMS. Firstly, while the NWA and specifically Schedule 1 makes provision for the use of water, the Act makes it clear that this use is contingent on the use being reasonable. In other words, one cannot make use of the water to such a degree that one impinges on the rights of others to also make use of the same resource. Here reference can be made to community schemes where water from mountain springs and the like is diverted and made available to only some parts of the community. This may be interpreted as ‘unreasonable use’, even if the water is made available through personal infrastructure. If it prohibits others of making freely use of the water it is not allowed under Schedule 1 of the NWA. While there is some conflation with regards to whether this applies solely to the right to use water resources (i.e. water in a stream) or the

right to a basic water supply (i.e. a safe and adequate service delivery), in these kinds of instances it is difficult to separate.

Secondly, point number two under Schedule 1 notes that any entitlement provided under Schedule 1 does not override any other law, ordinance, bylaw or regulation, and is subject to any limitation or prohibition thereunder. What this means is that while Schedule 1 does provide entitlements in terms of water use, these entitlements are still subject to other laws including municipal bylaws.

Lastly, Schedule 1 does make provision for the use of water from any water resource in 'emergency situations'. Here the use is characterised as use for human consumption and firefighting. The term 'emergency situation' is not defined. It might be beneficial to explore to what extent the term 'emergency situation' means and whether it could cover the use of water by CBWMS in the face of the inability of a municipality to provide water.

5.3 Giving effect to rights and entitlements

Section 3 of the Water Services Act (No. 108 of 1997) interprets Section 27 of the Constitution by stipulating that everyone has the right of access to water and basic sanitation, relevant state institutions must take reasonable measures to realise these rights and that relevant authorities must provide measures to realise these rights.

The Water Services Act sets the legislative framework to give effect to the rights named in the Constitution by regulating institutions that manage the access and delivery of water services (see Figure 7). These institutions include (i) water services authorities, or municipalities, (ii) water services providers, (iii) water services intermediaries, (iv) water boards, and (v) water services committees.

Water Services Act (No. 108 of 1997)

Main objects of Act.
2. The main objects of this Act are to provide for—
(a) the right of access to basic water supply and the right to basic sanitation necessary to secure sufficient water and an environment not harmful to human health or well-being;
(b) the setting of national standards and norms and standards for tariffs in respect of water services:
(c) the preparation and adoption of water services development plans by water services authorities;
(d) a regulatory framework for water services institutions and water services intermediaries;
(e) the establishment and disestablishment of water boards and water services committees and their duties and powers;
(f) the monitoring of water services and intervention by the Minister or by the 5 relevant Province;
(g) financial assistance to water services institutions;

The Water Service Act also sets out the specific conditions for the provision of water services. In other words, there are a number of conditions that has to be provided for before, during and after the provision of the service, for example tariff structures, conditions of payment, when and how water services can be discontinued.

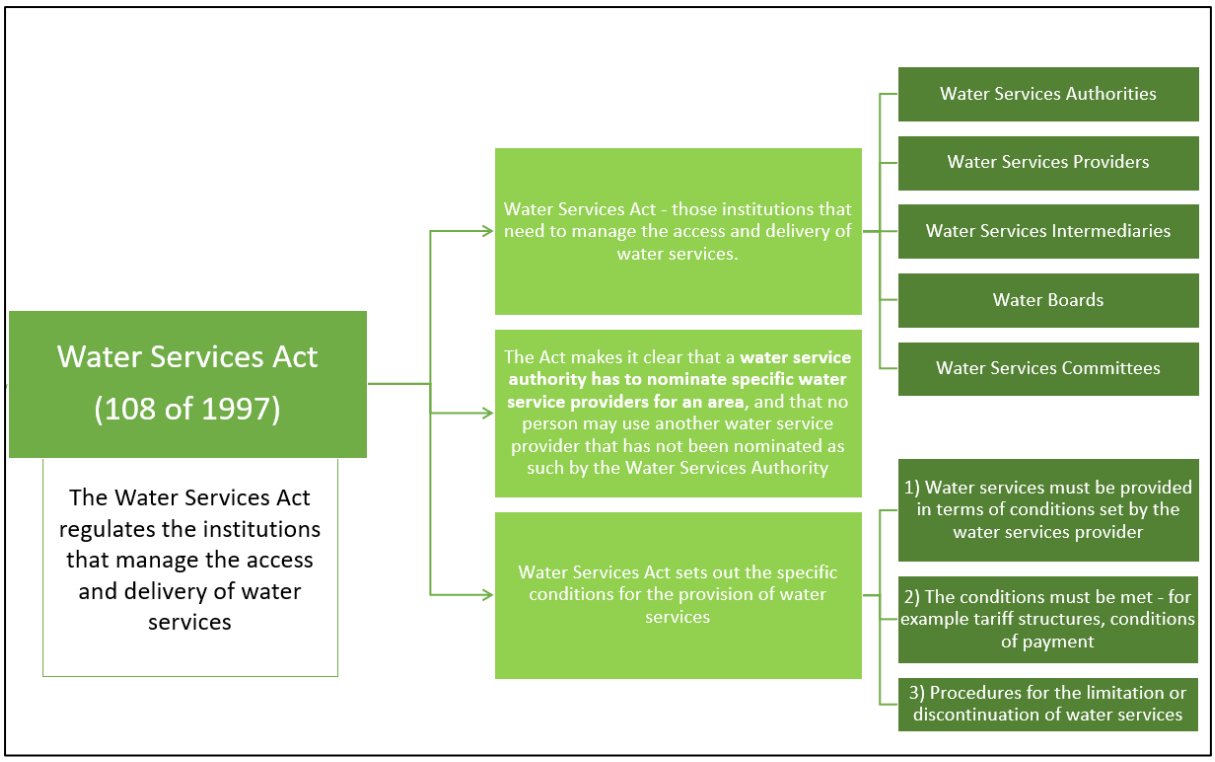


Figure 7 The Water Service Act (No. 108 of 1997) regulate the institutions that manage the access of delivery of water services.

The Act makes it clear that a water service authority has to nominate[4] specific water service providers for an area, and that no person may use another water service provider that has not been nominated as such by the Water Services Authority (WSA). The Act also recognises that cooperative governance is vital in any efforts to provide water supply and sanitation services. Therefore, national and provincial government also form part of the overall institutional structure of the water services landscape.

What does this mean for CBWMS?

Attention should be given to the institutions identified in the Water Services Act as those institutions that need to manage the access and delivery of water services. They are: (i) water services authorities, or municipalities, (ii) water services providers, (iii) water services intermediaries, (iv) water boards, and (v) water services committees. Under some of these, the Act make provision for local communities to become involved in providing a water service. An important aspect to keep in mind is that responsibility is placed at the door of the Water Services Authority, which often takes the form of the municipality, to nominate alternative institutions as water services providers. Here the capacity and capability of the WSA or municipality to go through the nomination process becomes a significant enabler or disabler in terms of communities being able to fulfil the role of providing water.

[4] Note Chapter 1, Section 6 of the Water Services Act (No. 108 of 1997) explicitly states water services providers must be nominated by the water services authority: "6. (I) Subject to subsection (2). no person may use water services from a source other than a water services provider nominated by the water services authority having jurisdiction in the area in question. without the approval of that water services authority" (Water Services Act (No. 108 of 1997).

Water Services Act (No. 108 of 1997)

Conditions for provision of water services:

4. (1) Water services must be provided in terms of conditions set by the water services provider.

(2) These conditions must—

(a) be accessible to the public;

(b) accord with conditions for the provision of water services contained in bylaws 25 made by the water services authority having jurisdiction in the area in question; and

(c) provide for—

(i) the technical conditions of existing or proposed extensions of supply:

(ii) the determination and structure of tariffs:

(iii) the conditions for payment;

(iv) the circumstances under which water services may be limited or discontinued;

(v) procedures for limiting or discontinuing water services: and

(vi) measures to promote water conservation and demand management.

(3) Procedures for the limitation or discontinuation of water services must—

(a) be fair and equitable;

(b) provide for reasonable notice of intention to limit or discontinue water services and for an opportunity to make representations. unless—

(i) other consumers would be prejudiced:

(ii) there is an emergency situation; or

(iii) the consumer has interfered with a limited or discontinued service; and (c) not result in a person being denied access to basic water services for non-payment, where that person proves, to the satisfaction of the relevant water services authority that he or she is unable to pay for basic services,

Provision of basic water supply and basic sanitation to have preference

5. If the water services provided by a water services institution are unable to meet the requirements of all its existing consumers. It must give preference to the provision of basic water supply and basic sanitation to them.

5.4 Access and delivery of water services through institutions

Municipalities play an important role in the management and provision of water services. However, they are not alone in this. Section 154 of the Constitution of South Africa notes that:

> 154. (1) The national government and provincial governments, by legislative and other measures, must support and strengthen the capacity of municipalities to manage their own affairs, to exercise their powers and to perform their functions.

Provision is made for the monitoring of municipalities in this regard both in the Constitution (Section 139) which states that a province may assume the responsibility of ensuring the delivery of water services to people in a particular area if a municipality is unable to do so. In addition, in terms of the Water Services Act, monitoring of the performance of municipalities

by the Minister and the relevant province is made provision for. Monitoring and compliance is sought in terms of prescribed national norms and standards and every applicable development plan, policy statement and business plan adopted in terms of the Water Services Act.

Section 11(1) of the Water Services Act puts forth that all Water Services Authorities are duty bound to "progressively ensure" affordable, economical and sustainable access to water services. The majority of Water Services Authorities in South Africa are municipalities, though there are other institutions that have assumed this role on behalf of the municipality. Given the diversity in terms of size, type and capacity municipalities differ quite drastically, for example from large Metros (metropolitan municipalities) that have a strong revenue base to other smaller, more isolated municipalities that may be severely constrained through limited revenue base. As such Section 19 of the Water Services Act makes provision for municipalities to provide water themselves or alternatively contract such services out to other water services providers, or lastly, enter into a joint venture with another water services institution[5] to provide the services.

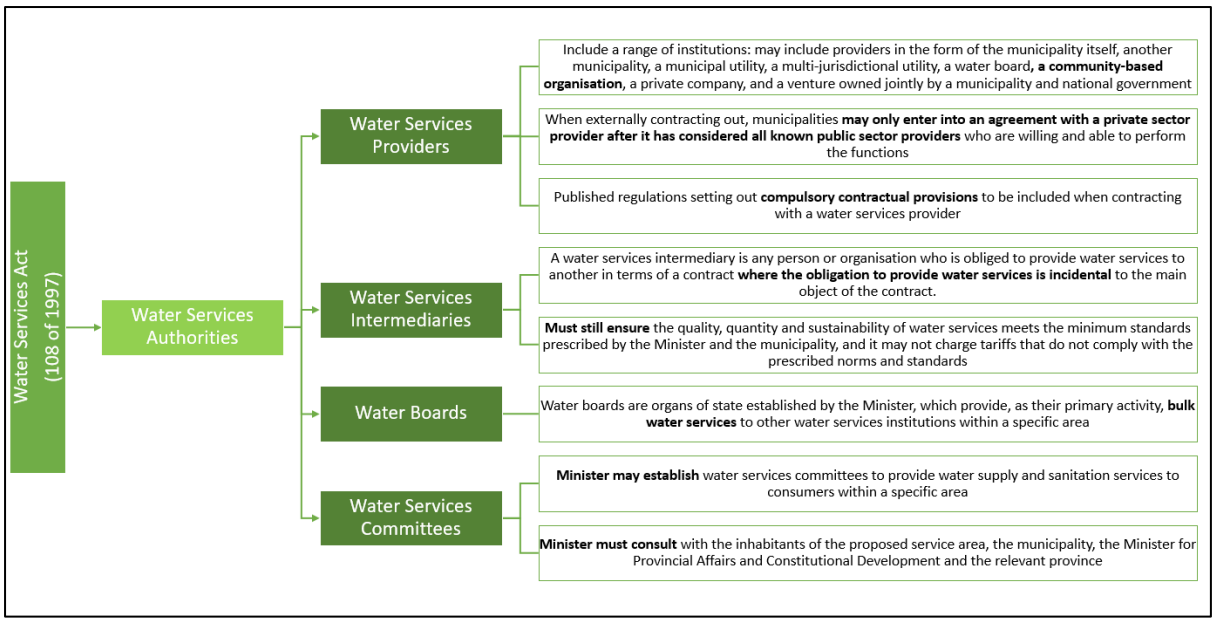


Figure 8. Provision is made in the Water Services Act for water services authorities.

As we have already mentioned, the Water Services Act makes provision for four different water services authorities, namely: (i) water services providers (ii) water services intermediaries, (iii) water boards, and (iv) water services committees.

(i) *Water services providers:* Municipalities often take on the role as a water services provider, however this role may also be performed by other institutions such as water boards, community-based organisations, etc. Water services providers in essence assumes the operational responsibility of providing water services to consumers. The duties of a water services provider may be performed by Water Services Authorities (such as municipalities) or the Water Services Authority may enter into a water services provider, or form a joint venture with another water

[5] According to the Water Services Act (No. 108 of 1997) a water services institution is defined as follows: "a "water services institution" means a water services authority, a water services provider, a water board and a water services committee" (p10).

services institution. An important aspect to entering into a contract with a private water service provider is that a Water Services authority may only do so after it has considered all other known public sector water services providers and who are willing and capable of performing this service. In addition, if a water service provider is not the same as the water services authority, then it requires approval by the water services authority.

(ii) *Water services intermediaries:* May take the form of a person or organisation who provides water services in terms of a contract. However, here the main obligation to provide water services is not the main object of the contract. If the main obligation in the contract is to provide water, then it is considered a water services provider. Typical examples here are farmers or mining companies who provide employment and accommodation to staff and are also obligated to provide basic services such as water and sanitation. It is important to note that while the main obligation in the contract may not be water, they water services intermediary must still ensure the quality, quantity and sustainability of water services meets the minimum standards prescribed by the Minister and the municipality.

(iii) *Water boards:* The primary activity of a water board is to provide bulk water services to other water services institutions. Currently there are nine water boards in operation (used to be 15) with the two largest being Rand Water in Gauteng, Umgeni Water in KwaZulu-Natal. While Water Boards are allowed to provide other services, these may not impinge on their main duty as bulk water services provider. It is important to note that the only reason why a Water Board is allowed to refuse the request of a water services institution to provide bulk services, is if providing such service is not viable for technical or financial reasons.

(iv) *Water Services Committees:* The committees may be established by the Minister to provide services related to water and sanitation to people in a specific area. In order for this committee to be constituted, the inhabitants of that particular area must request its establishment and the relevant municipality must agree before the Minister can approve.

What does this mean for CBWMS?

Community-based organisation (CBO) as *Water Service Providers*

Frameworks and policy documents such as the Water Supply and Sanitation Policy White Paper of 1994, the 1998 White Paper on Local Government, and Municipal Service Partnerships White Paper of 2000 recognises Community-Based Organisations (CBOs) as a possible option for the delivery of municipal services in rural communities. The Department of Water and Sanitation's guidelines of 2001 on CBOs as water services providers' stipulate that WSAs can enter into a joint venture with a CBO to form a community-based water services provider (CBWSP). The Municipal Systems Act of 2000 also makes provision for CBOs to enter into an agreement with the municipality to provide municipal services, including water services.

According to the Municipal Service Partnerships White Paper of 2000 define an NGO and CBO as follows:

"NGOs and CBOs may be defined as organisations of a public character established for public purposes with the sole object of carrying on public benefit activities in a non-profit manner and whose income and property is not distributable to its members or office-bearers except as reasonable compensation for services rendered. NGOS and CBOs can take different forms:

- companies formed or established in terms of the Companies Act 61 1973;
- trusts established in terms of Trust Property Control Act 57 of 1988; or
- associations of persons."

As such, a CBO (in the context of the water sector) is a NGO within a community, providing water services to that community. The mandate for service provision stems from the municipality as well as from the community. The role of the CBO is to act in the overall interest of the community. Requirements (White Paper on Municipal Service Partnerships, 2000) that need to be complied with before a CBO can be appointed as a municipal service provider:

- CBOs need to adopt a formal constitution
- CBOs need to adopt a code of good practice consistent with those set out the Minister
- CBOs need to be registered in terms of the Non-Profit Organisations Act.

A WRC report by Goldman et al. (2013) provides a comprehensive look at the opportunities and obstacles through policy and legislation for CBOs to provide water to communities. However, since then same challenges prevail. Below we provide a summary of some of the Main findings from Goldman et al. (2013) in terms of community water provision:

1. They present a hybrid – Community-Based Partners (CBPs)
   - Assists with the implementation of projects at community level
   - CBPs can be instrumental in linking government initiative and communities. Specifically, CBPs are embedded with communities thus are able to discern and communicate community needs easily.

2. State of rural water supply in South Africa
   - A large number of the rural water supply systems in South Africa are out of date, no longer functional and unreliable. According to Goldman et al. (2013) rural water supply systems in South Africa are being used in ways that are different for what they were designed for. This has resulted in demand that exceeds capacity thus creating shortages.

3. Municipalities and their role in water supply
   - Municipalities have in the past not performed optimally – the reasons for this according to Goldman et al. (2013) are: poor governance; weak accountability; and, weak managerial and technical capacity.

4. Financial matters with regard to CBPs

   - Goldman et al. (2013) argues that too little is spent on managing water supply systems and specifically on customer relations and management of distribution systems. The long term consequences of this is that the system becomes unsustainable as revenue is unable to cover costs.

Establishing a Water Services Committee

While the provisions of the final 1996 Constitution gave local government, in the form of municipalities, clear responsibilities for the provision of water services, there were still large parts of the country where no formal local government structures were in place. Within the framework of the national Governments RDP there was an active programme to rapidly expand, in particular, water supply services which continued to take an *ad hoc* approach, supporting NGOs and other institutions to work with community organisations to develop water supply services.

In an attempt to provide some formal basis for such efforts, the Water Services Act (1997) made specific provision for the establishment of community-based water supply arrangements. It enabled the Minister to establish water services committees whose function would be "to provide water services to consumers within its service area". However, the Minister could only do this after consulting the community concerned and with the agreement ("in consultation with") the relevant authorities in all three tiers of government (the nominated local government 'water supply authority' if it existed, the provincial government, and the Minister for Provincial Affairs and Constitutional Development.

A detailed set of powers, governance procedures and conditions for service provision were outlined as well as oversight arrangements. Some of these arrangements were generic in nature because they preceded the formal local government arrangements that were still being negotiated and drafted. They thus provided for hypothetical situations that were expected to emerge. And, indeed, the subsequent local government legislation did provide for a procedure through which municipalities could choose to introduce alternative service provision mechanisms, including the use of community organisations.

In 2003, it was acknowledged that formal Water Services Committees as provided for in Water Services Act (1997) were 'obsolete':

> ***"3.5.3 Water services committees***
>
> *The Water Services Act made provision for the establishment of water services committees to undertake the tasks of the water services authority where there is a failure of local government. No water services committees were formed in the period 1997 to 2002. This provision is now obsolete and will be removed from the relevant legislation. (Water services committees should not be confused with community-based organisations which may act as water services providers in some rural communities, operating with the agreement and support of the relevant local government. The latter are also sometimes known as water committees.)"* (DWAF, 2003)

However, Toxopeüs (2019) in a legal review of the institutional structure of water service delivery in South Africa, make the point that the establishment of Water Services Committees might be an ideal option for communities who wish to provide and manage their own water.

Water Services Act, 1997

31. (1) Subject to subsections (2), (3) and (4) the Minister may by notice in the Gazette—
(a) establish a water services committee;
(b) give it a name or approve a change of its name;
(c) determine or change its service area;
(d) determine its powers: or
(e) disestablish it.
(2) The Minister may only act in terms of subsection (1) —
(a) after consultation with either the inhabitants of the proposed service area or with the established water services committee for that area; and
(b) in consultation with the water services authority for the area in question, the Minister for Provincial Affairs and Constitutional Development and the relevant Province, with regard to-
(i) the period for which the water services committee will operate;
(ii) the nature and extent of the water services to be provided;
(iii) the area or the community to be served;
(iv) the composition of the water services committee and the appointment of its members;
(v) any contribution to be made by the community or its members to the provision of water services; and
(vi) any other related matter.
(3) No water services committee may be established if the water services authority having jurisdiction in the area in question is able to provide water services effectively in the proposed service area.
(4) The Minister must, after consultation with the water services committee and the inhabitants of the area—
(a) himself or herself or
(b) at the request of the water services authority having jurisdiction in the area concerned, disestablish a water services committee once he or she is satisfied that the relevant water services authority is able to provide water services effectively within the service area.

5.5 Status quo in terms of institutional support for water supply in South Africa

According to the National Water and Sanitation Master Plan (NW&SMP) (2018) the institutional landscape with regards to water and sanitation provision in South Africa is quite complex and cumbersome (see Table 4 for a breakdown of the current status quo). Furthermore, the NW&SMP (2018) makes it clear that in order to improve efficiency within this sector the institutional landscape and its associated value chain has to be simplified. One way to do this is to decentralise a number of the functions and responsibilities of the institutions (NW&SMP, 2018). However, this is a proposal and would require Constitutional amendments.

Table 4. Status quo in terms of institutional support for water and sanitation provisions for South Africa. Table Adapted from NW&SMP (2018: 39) – text mostly reproduced as is.

Institutions	Functions	Level
Department of Water and Sanitation (DWS)	Responsible, amongst other things, for water and sanitation policy, regulation of water supply and sanitation provision, oversight of water sector institutions, water resources planning, operation and maintenance of 320 large dams and associated bulk infrastructure, regulation of water use and the collection and assessment of water data	National
Department of Co-operative Governance and Traditional Affairs (COGTA)	Responsible for ensuring that all municipalities perform their basic responsibilities and functions consistently, including supporting the delivery of municipal services to the right quality and standard; promoting good governance, transparency and accountability; and ensuring sound financial management and accounting	National but with impact at local governance levels
South African Local Government Association (SALGA)	An autonomous association of all South African local governments, with the mandate to represent, promote and protect the interests of local governments and to raise the profile of local government.	National but with impact at local governance levels
National Treasury (NT)	Makes provision of grants for water and sanitation provision and has oversight of municipal finances.	National
Trans Caledon Tunnel Authority (TCTA)	Initially established to fund the Lesotho Highlands Water Project (LHWP), but subsequently directed by the Minister to fund and implement a variety of water resource projects as an implementing agent for DWS.	Local
Catchment Management Agencies (CMAs)	Only two of the nine envisaged CMAs have been established in terms of the National Water Act. No functions have been delegated to these bodies which are therefore currently only responsible for the limited initial functions of a CMAs as set out in the Act.	Catchment
Water Boards	Established in terms of the Water Services Act, have a primary function of providing water services to other water services institutions and with secondary functions which could include supporting municipalities.	Local
Water Services Authorities (WSAs)	144 municipalities are designated as WSAs, responsible for the constitutionally mandated task of supplying potable water and sanitation services, either as water service providers (WSPs) themselves, or externally through third party WSPs.	Local
Water User Associations (WUAs) & Irrigation Boards (IBs)	90 WUAs and 177 IBs exist to manage common water resources, in some cases including infrastructure for irrigation and some of these for government water schemes (GWS).	Local
Transboundary Watercourse Commissions	There are transboundary watercourse commissions in the Orange Senqu, the Limpopo and InkoMaputo basins, as well as KOBWA (Komati basin water authority) and the Lesotho Highlands	International (transboundary)

Institutions	Functions	Level
	Water Commission which are responsible for transboundary integrated water resource management.	

The NW&SMP (2018) notes that a new institutional structure for the water sector is currently under discussion. Figure 9 provides a suggested new structure. Note four areas are still under discussion – these are National Water Resources Services Authority; National Water Resources and Services Regulator; Water Boards; and, Local Water Resource Management Institutions. The occurrence of community-based water management and community-owned water supply schemes will most certainly be an element that can be unpacked and supported by the proposed "Local Water Resource Management Institutions". One of the areas of major concern for the sector has been the establishment of the CMAs as only two out of the planned 9 have in actuality been established and are functional[6]. The NW&SMP (2018) notes that bringing Local Water Resource Management Institutions into the mix will help to support local management of water efforts.

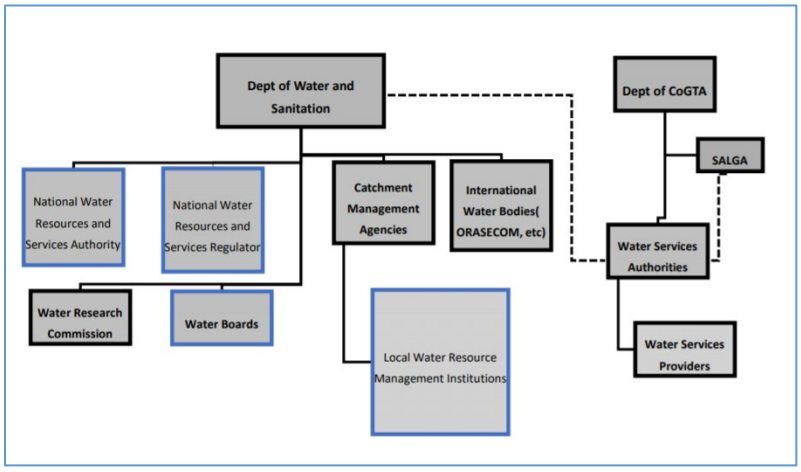


Figure 9. Suggested new institutional structure for the water sector. Reproduced from NW&SMP (2018: 40)

5.6 Role of municipalities

As we have shown, municipalities play a key and integrative role in provision and organisation of water services to the people. In this section we take a look at the performance of municipalities thus far in terms of their ability to fulfil their roles and responsibilities. We then provide a view from municipal officials themselves in terms of the obstacles they are experiencing.

[6] The establishment of one CMA which would replace the separate nine CMAs was made as a suggestion in early discussion regarding the NW&SMP, however it was decided that this suggestion was not feasible and that the vision of nine separate CMAs is still planned (NW&SMP, 2018).

5.6.1 Performance of municipalities

The NW&SMP (2018) reports that municipalities are losing about 1660 million m³ per year through nonrevenue water. This means that at a unit cost of R6/m³ this amounts to R9.9 billion each year. The NW&SMP (2018) report that some of the reasons for this is that "… 11% of water supply schemes being completely dysfunctional. In the 27 priority district municipalities the water reliability is only 42%, with the worst 10 WSAs below 30% reliability… [in addition] interruption in water supply (unreliability) and blocked and overflowing sewers are two of the key public frustrations leading to protests and vandalism".

Key concerns with regards to municipalities' ability to provide adequate water to households are (NW&SMP, 2018):

- Constitutionally the water supply and sanitation services responsibility lies with municipalities as they are regarded as water services authorities
- Approximately 33% of municipalities are regarded as dysfunctional and more than 50% have no or very limited technical staff.
- 27 priority district municipalities have been identified as being particularly dysfunctional and requiring specific intervention.
- Many of the smaller and/or rural municipalities are faced with financial challenges.

A number of reasons are identified by the NW&SMP (2018) for the difficulties municipalities are experiencing with supplying adequate and reliable water to households. These reasons are listed as follows:

- The lack of technical skills to operate, maintain and manage water and wastewater infrastructure assets properly,
- Lack of institutional capacity to operate, maintain and manage water and wastewater infrastructure assets properly
- Lack of funding to operate, maintain and manage water and wastewater infrastructure assets properly.
- Limited budget allocated for operations and maintenance relative to that allocated to new capital works,
- Poor revenue management
- Failure of municipalities to employ appropriately qualified technical staff.
- The national infrastructure grant funding mechanisms incentivise the building of new infrastructure, rather than the maintenance of existing infrastructure

Municipalities have in the past not performed optimally – the reasons for this according to Goldman et al. (2013) are: poor governance; weak accountability; and, weak managerial and technical capacity.

A 2018 study by the National Business Initiative (NBI) echoes the findings from Goldman et al. (2013) and the NW&SMP (2018). Their analysis summarises the challenges facing municipalities as Water Services authorities and divides them into three groups namely infrastructure, governance and institutional capacity and finance (see Figure 10 below).

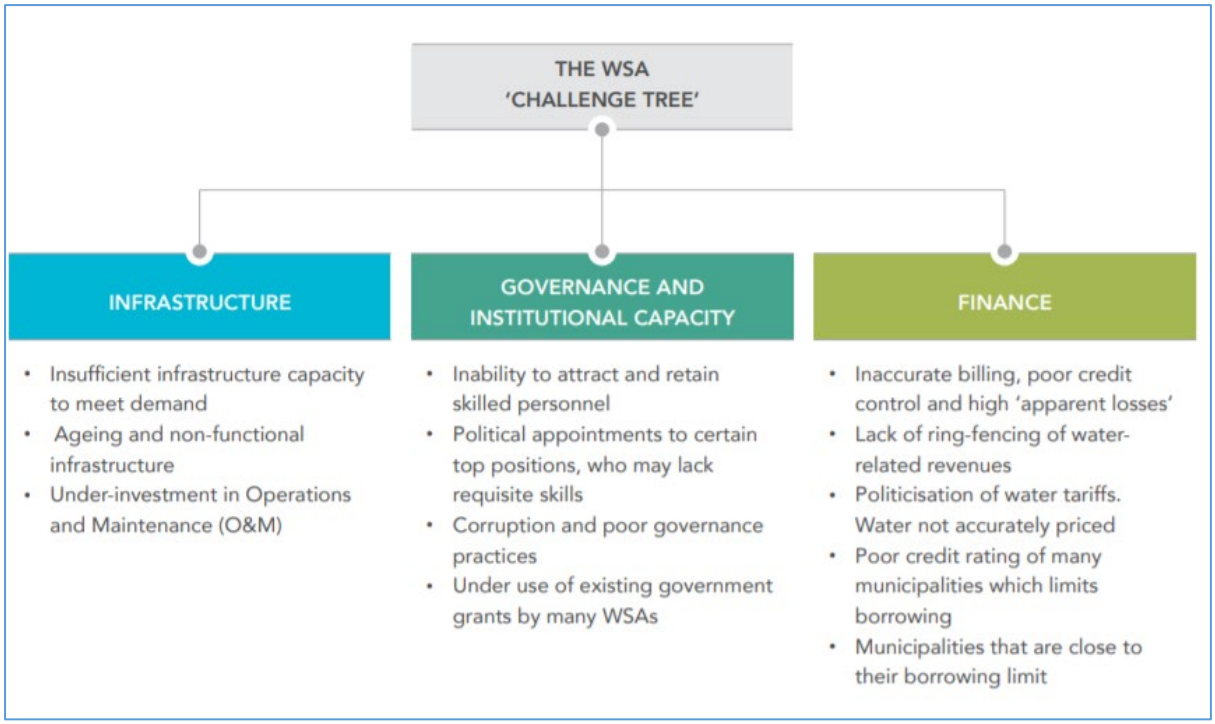


Figure 10. Problems facing municipalities as water services authorities (sourced from NBI (2018)).

5.6.2 Constraints identified by municipalities

In this section we provide some constraints identified by municipal officials themselves in terms of their lack of performance relating to water and sanitation delivery. It is important to note that these constraints presented here should be read as personal experiences and opinions as provided by municipal officials. As such it should provide an indication of how these issues are perceived and interpreted by some officials. While these constraints are based on personal experiences of a few officials, it does also provide a glimpse in terms of the broader issues.

Funding

- MIG (Municipal Infrastructure Grant)

The Municipal Infrastructure Grant (MIG) is a conditional grant from the national government that goes to local government for maintaining and improving municipal infrastructure. Municipal officials note that not all municipalities receive the same amount of money. This they argue is due to politics. And while they acknowledge that politics should not play a role here it does. They argue that power politics in terms of whom one knows, or whom one has some sort of relationship with (whether that is social or economic) have in some cases become the determining factor in how money is allocated. As a result, some municipalities receive very little money.

- Politics in getting projects approved

It is a lengthy process which is causing severe backlogs for municipalities. Moreover, this process is being 'hijacked' by political motivations and agendas. While the decision is supposed to be a technical one, it currently is not due to political interference. Officials argue that politics comes into play especially in terms of allocating funding. Councilors all have a specific agenda and each want money to be allocated in their areas (not because

of specific need but to cement their own power and position). This politics becomes a deciding factor in finalizing the spread of funding in a district.

- Limited funding for projects

Due to (mainly) funding constraints municipalities argue they tend to look for large projects. These projects need to be sustainable in the long term and more importantly they should require very little from the municipality after the fact (except general monitoring and evaluation). They do this as MIG funding and RDP funding is not enough and they are generally unable to generate their own funding. This means that smaller projects, for example relating to smaller community schemes, tend not to get supported.

- Funding time-frames

Officials noted that they struggle with the funding time-frames. For example, budget allocation can take more than 2 years. Given the urgency of the situation this amount of time is in itself unacceptable. Officials note that budget get delayed to such extents due to that fact that municipalities are unable to make decisions and to implement those decisions. In the short term, officials note that there is a high level of uncertainty and fear when it comes to making a call on budget allocations. Some of this has to do with not actually understanding how budgets work, thus a high level of fear. In the long term, due to the fact that there is inadequate planning at budget stage, implementation is either delayed or scrapped altogether. The fact that the budget cannot be planned successfully is also indicative of a municipality that is unable to implement their vision and plans. This then has a spill-over effect on their capability and capacity to support communities.

Capability and capacity

Municipalities note that they do not have the capability and expertise when it comes to some water related issues. For example, Joe Gqabi District Municipality notes they have no groundwater specialists. Some places are just too far or difficult to access. Municipal officials express their frustration as these communities still make use of instream water. There is very little (according to them) that they can do to help communities, except:

- Provide guidance
    - This guidance is generally not provided in an official capacity, and the guidance is not offered equally to all. This guidance more often than not stems from personal relationships that have developed over time where the official then feels some personal stake in the plight alleviation of that particular community.
- Access money through petty cash and provide to community
    - Accessing money in this way, while not illegal is not ideal. Officials note that this money is provided in an ad hoc fashion, and is not a long term solution. In particular, it is a problem as there is no suitable mechanism to track what is being done with the money. As such it is important to note that the money is not planned for in the budget and thus, follows no structure and does not support any long-term plan.
- Provide material that is already in stock
    - Similar to money that is being provided via the petty cash route, providing material that is already in stock is not an ideal solution. Again, officials note

that this is an ad hoc way of supporting communities, however it is not planned for (or budgeted for), or supports a particular vision or plan.

Communication breakdown

Many municipal bylaws require communities to use only municipal supplied water. If there is no municipal water provided, communities need to inform the municipality. Municipal officials note that they have no way of knowing what is going on or the problems communities are facing, if communities do not inform them. This points to a serious breakdown of communication between political and official bearers.

Also, municipalities find it difficult to keep track of projects as these are often scattered all over the place. As a result, there has been a significant breach of trust between the municipal officials and the communities they serve. A second, yet not surprising result is that since communities are not getting the support they need in terms of water provision, they resort to Schedule 1 water use for their household purposes.

Managing expectations

Officials note that many communities are doing "their own thing". In some cases, this mainly due to the municipalities' inability to provide water and sanitation to the community, in other cases however, it is because communities prefer to do so on their own because trust has already been broken. What this means is that community members invest quite a lot of time, money and effort on their own to procure, install and on the upkeep of water and sanitation infrastructure. Officials note that, as a result of this investment, oftentimes communities seem to think they have the right to demand resources, material and support from the municipality as they wish. Municipal officials argue that such demands fall outside the official protocols and processes that are in place that municipal officials have to follow (for example, through planned budgets), which do not fit the demands of these communities. This leads to a break in trust.

Breakdown in implementation of processes – no enforcement

Municipal officials note that years ago "about 15 years ago things were done properly". What they mean is that at this time, assessment of water sources such as private boreholes, were done as per the guidelines in the Water Services Act, but there has been a bureaucratic breakdown. Currently, no assessments are being done, no water quality checks and more importantly there is very little to no revenue gathered in many cases.

Municipal officials noted that the policies are there, for example what the quality of water should be, but there is no enforcement of such policies. Moreover, municipal officials note that municipal processes are sluggish (such as the budget process) and therefore, cannot keep up with the development and needs of the people – thus enforcement also cannot keep up!

Analysis of these constraints provide us with important insight specifically relating to the relationship between municipal officials and communities, as well as the consequences of this relationship. It is also significant no note that the constraints mentioned here points to deep seated issues that goes beyond merely finance, governance and infrastructure issues as identified in the WSA challenge tree (Figure 10).

5.7 Conclusion

In this Section we have provided a discussion on the different legal and institutional avenues available to CBWMS in terms of either being provided with access to water or providing water themselves. From our own case studies (which we will discuss in the next section), as well as our review of literature, it is clear that there are many communities in dire need of secure and sustainable access to water. However, while this is a very real and consequential reality for those communities, the legislation and institutions developed and put in place by the government to attend to this problem are available. Having said this, it is equally clear that there is a disconnect between the existence of the policies and institutions and the actual delivery of the benefits that are supposed to emanate from them.

Our research, supported by our CBWMS case studies, as well as one-on-one interviews with municipal officials show that the disconnect (referred to in the previous paragraph) starts and ends with municipalities and their ability (some will argue willingness) to implement, and give effect to the instruments already provided for in our legislation. This is not a new finding, however while much research and thought has gone into solving this problem, it seems that many years down the line we are still facing the same issues.

Section Seven presents our proposed solution in the form of an enabling environment for CBWMS to be able to access water as enshrined as part of their Constitutional rights. It is a model of i) what needs to be in place institutionally, ii) the nature of the interactions between different role players, iii) necessary instruments of support, and iv) a suggestion of roles and responsibilities. These apply in different ways to both institutions (mainly municipalities and their structures), as well as communities who seek to enhance their access to water.

Section 6. Learning from case studies

In this section we take a look at ten different case studies. The idea behind this is to gain insight from those having to deal with these situations on a daily level. It is also important to see these case studies within the municipal constraints narrative provided and analysed in the previous section. For each of the case studies we provide some broad context in terms of statistics provided by StatsSA regarding the percentage of households with access to piped water, the percentage of households with access to toilet facilities and sanitation, and the level of employment in the area as well as. While the statistics provides the broader context, this is supplemented by the narratives from residents in these areas. These narratives provide a contextual understanding of the situation, and the efforts people have gone through to provide water to themselves and their neighbours. Table 5 provides a list of each of the case studies, as well as the local and district municipality in which it is located. In addition, Figure 11 provides a map of the geographical spread of the case studies.

It is also important to note that, the case studies do not all 'look' the same. In other words, in some cases the 'scheme' that is described pertains to a specific group of households, in other cases to one specific household, and yet for others the whole community. Similarly, the origin of the schemes would different substantially from communities doing everything themselves from the very beginning to those schemes who had so initial intervention by local government, but who are now operating the scheme themselves. This in itself points to the variety of operations in place. Our response to this was to ask locals (including local councilors, traditional authorities and community members) to point us to those operations where people are providing water to themselves and/or to other households. As such, our case studies reflect the views and perceptions of people in the communities themselves, instead of us applying a definition from the outside.

Table 5. Case study villages and their location

Name of case study	Local Municipality	District Municipality	Province
Mdleleni Family Water Scheme	Elundini Local Municipality	Joe Gqabi District Municipality	Eastern Cape
Setloboko Family Water Scheme	Elundini Local Municipality	Joe Gqabi District Municipality	Eastern Cape
Stinkwater Community Water Scheme	City of Tshwane Metropolitan Municipality		Gauteng
Kwadolo Village Water Scheme	uMsinga Local Municipality	uMzinyathi District Municipality	KwaZulu-Natal
Ngqongqongqo Village Water Scheme	uMsinga Local Municipality	uMzinyathi District Municipality	KwaZulu-Natal
Thakgalane Village Water Scheme	Greater Letaba Local Municipality	Mopani District Municipality	Limpopo
Tshamashango Springs Water Scheme	Thulamela Local Municipality	Vhembe District Municipality	Limpopo
Hartbeespoort Dam Community Water Scheme	Madibeng Local Municipality	Bojanala District Municipality	North West
Majeng Village Water Scheme/ Vaalharts WUA	Magareng Local Municipality	Frances Baard District Municipality	Northern Cape

Name of case study	Local Municipality	District Municipality	Province
Mothibi Village Water Scheme/ Vaalharts WUA	Joe Morolong Local Municipality	John Taolo Gaetsewe District Municipality	Northern Cape

6.1 Presenting the case studies

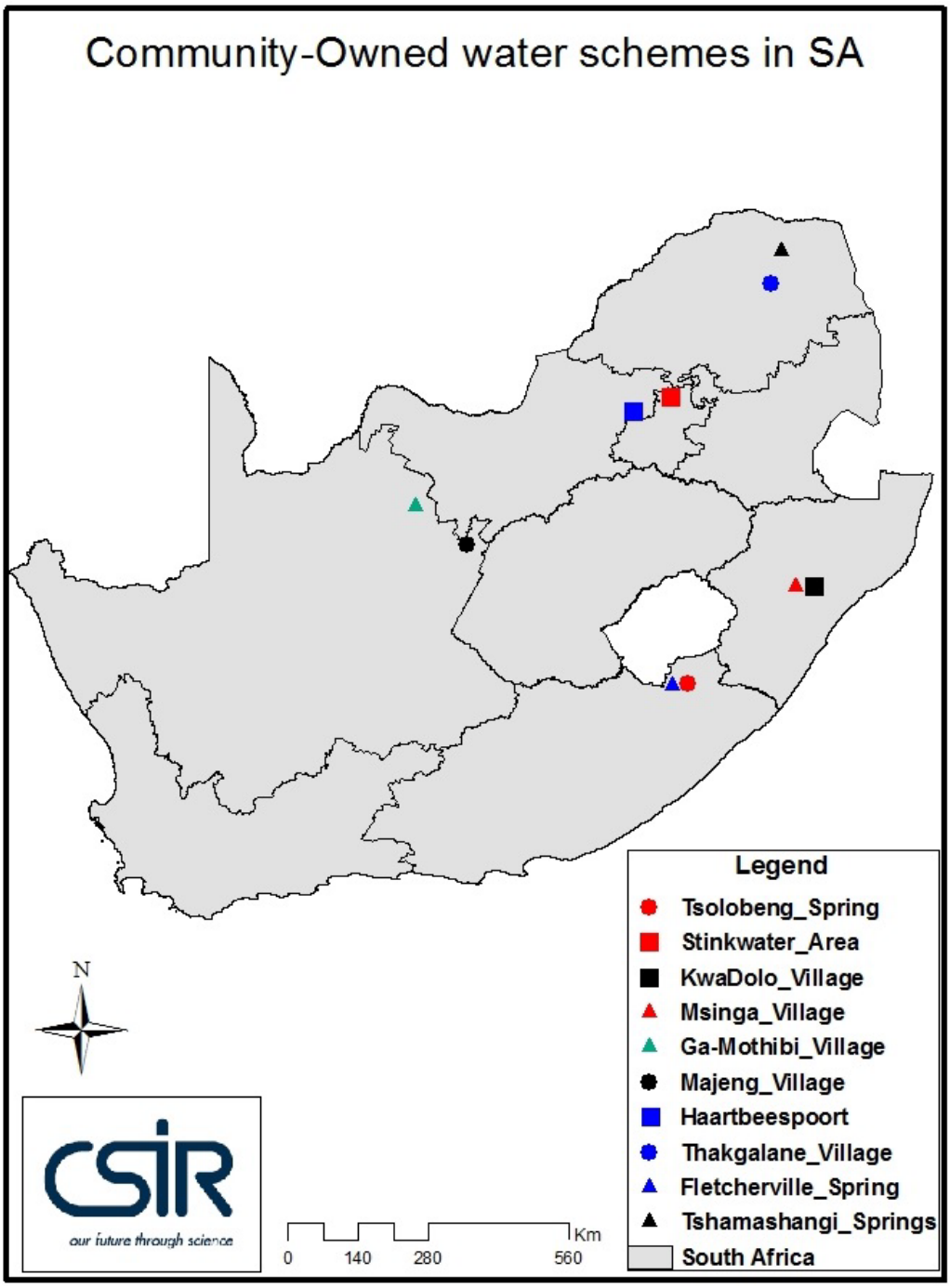
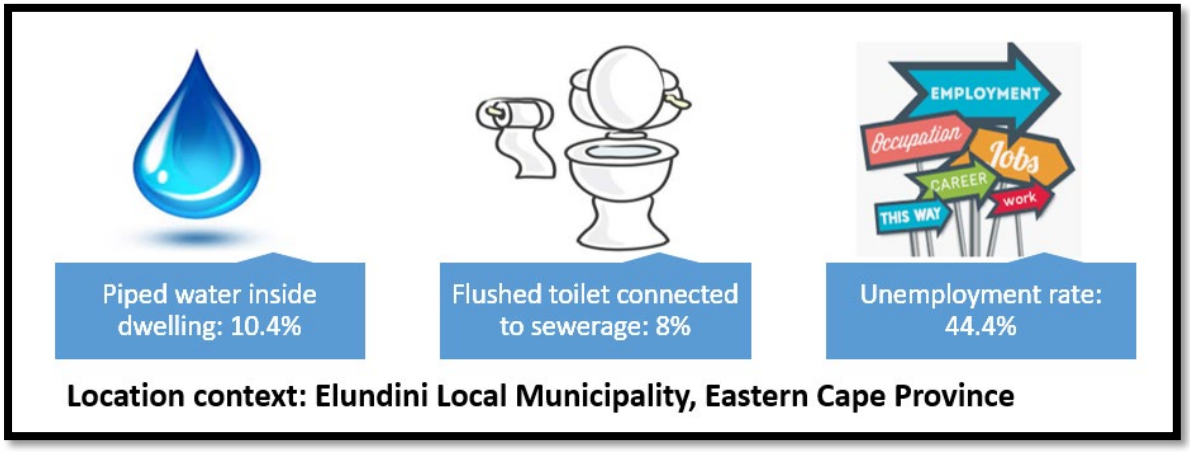


Figure 11. Map indicating the geographical spread of the case studies

6.1.1 Mdleleni Family Water Scheme

The Mdleleni Family Water Scheme is situated in Fletcherville in the Elundini Local Municipality and it was implemented around 2001 and 2002. People here have not had any water provided to them by the municipality. People from this community used to get water from water wells. The water wells had some water in them, however women had to travel a long distance by foot in order to get to this water. Every morning they had to wake up very early, often when it was still dark to go and collect water for the family. One trip was not enough and they had to travel this path more than once to fetch the water. This was not ideal as the path became dangerous to travel, especially in the dark and in winter. Moreover, they had to walk back with a bucket of water carrying more than 20 litres of water on their heads.



The family decided that something had to be done to help with the situation. One of the wells were dug deeper so as to serve as a small dam. The family hired some people to dig furrows, and Mrs Mdleleni bought a number of pipes which was laid down in the furrows to bring water from the spring located in the mountain to the well they dug deeper. They then laid down more pipes which brought the water from the well to the house.

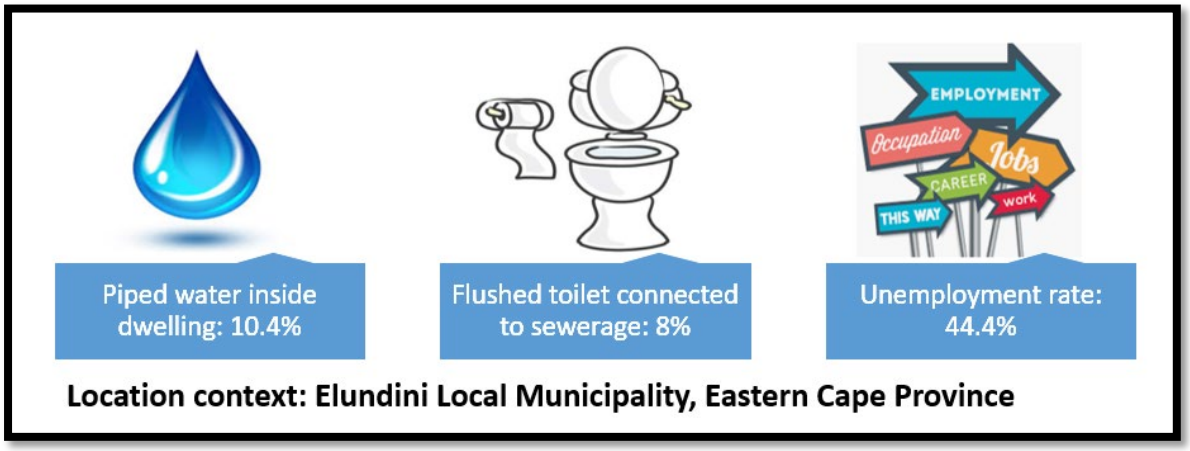
There have been no issues with vandalism of any of the pipes or the well. This might be because many of the neighbours are getting free access to the water. Mrs Mdleleni argues that she does not want people to have to buy water as it is an essential part of surviving. So, as long as she can she provides water to them for free. They have not had any support from government or any outside organisation and have taught themselves how to do the general maintenance and upkeep of the system.

Currently there has been little rain in the area so the well has gone dry but the family has saved water in some tanks for exactly this kind of emergency. The family once tried to resurrect an old borehole that was in the vicinity. The borehole was sunk by farmers who used to live there but eventually gave no longer water. The family has some experts come and have a look at it and they said it was 50m and did not reach the water table. This is the only other possible source of water in the vicinity.

Figure 12. Illustration of the Mdleleni Family Water Scheme

6.1.2 Setloboko Family Water Scheme

The Setloboko family water scheme is located in the Tsolobeng area in the Elundini Local Municipality. People in this community used to get water from municipal taps, however they have run dry. People speculate this is due to the fact that the Tina and Tinana Rivers ran dry because people illegally connected their own pipes to the pipes of the municipality. These rivers are supposed to serve eight different villages.



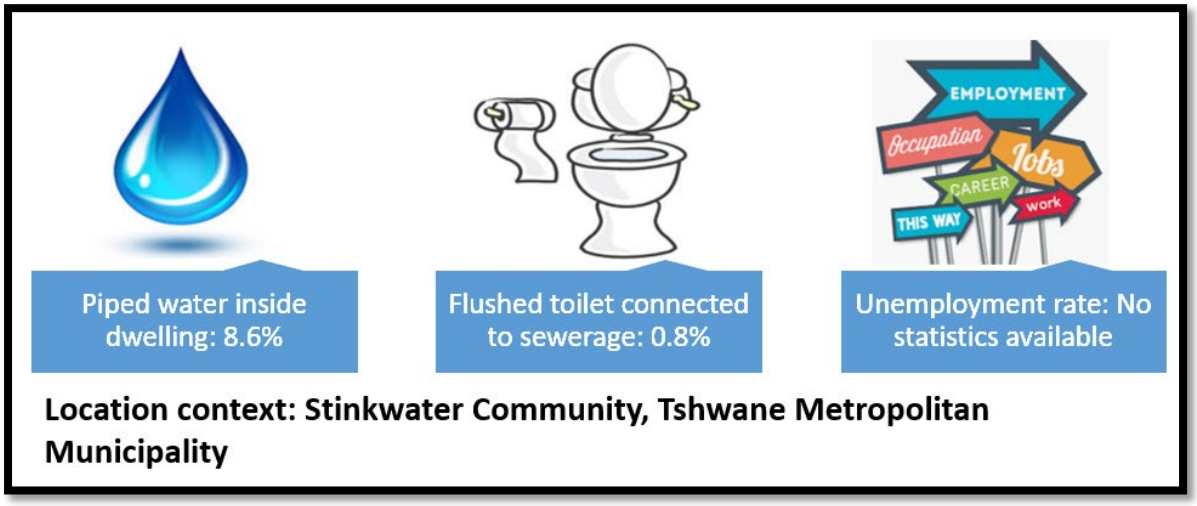
Since people could not rely on the municipality for their water they proceeded to dig wells for themselves. This was not easy as these wells are located far away from the houses. Unfortunately, due to the high demand in water, community members started to compete with one another for water. One person in particular posed a problem as they would go to the wells extremely early in the morning with about 10 25 litres containers. Once they collected water there was none left for the rest of the villagers. The general lack of water and inability of the municipality to provide water to this community provided the needed impetus to the family to start their own water scheme.

The system is made up of a number of different parts. First they take a 20 litre square barrel and cut it open on the bottom. They turned it upside down and drilled a whole next to the opening so they can fit a tap. The water from the spring flows into the barrel via a pipe. They built a small wall to make sure the barrel and tap is secure. Inside the barrel they placed a filter to prevent debris, insects and frogs from entering the system. They hired people to dig furrows to lay the pipes down to bring the water down from the mountain to the house where the water is collected in Jojo tanks. The water is first channelled into a 10 000 litre tank, and when that one is full it flows over into two 5 000 litre tanks.

The family implemented the system in 2004 and over the years not much has changed except the size of the pipes as they needed to get more water to the village. Over the years there has been some cases of vandalism when the people cut and stole the pipes. Also the spring that provides the water from the mountain is not closed and the family is afraid that people might poison the water. They however have no other options as to use the system. The family has shared their water with their friends and families at no cost to those people. Mrs Setloboko has been the custodian of this scheme ever since her husband died. She is currently responsible for making sure that the system is kept in order. However, she is worried that she is getting old and that she won't be able to walk up the mountain to check the spring and the pipes. She hopes that the community will be able to take care of the system in the future.

6.1.3 Stinkwater Community Water Scheme

Stinkwater is located in the City of Tshwane Metropolitan Municipality and is situated on the outskirts of Pretoria, the main capital of South Africa. Stinkwater is considered to be a peri-urban community due to its position on the border with the City of Tshwane. The community of Stinkwater were relocated to their current position during Apartheid as part of their resettlement programme. They were moved from Eersterust to what is today known as Stinkwater. People were forcibly removed and were resettled in this place which had no infrastructure or services.



Residents of Stinkwater still do not have infrastructure of services. According to our respondents living in the six blocks that make up Stinkwater, namely Mokone, Mtethwa, Ruth, Oliver Tambo 1 and 2, and Stinkwater New Stands, the last time the inhabitants of the settlement had a sustainable working infrastructure, and had access to running or fresh tap water in their houses was in February 2014. According to them the long spells of water scarcity began in the latter part of 2012 and persisted through to November 2013. Residents say that the city of Tshwane metropolitan municipality authority issued a notice, informing households that it planned to renovate the water service pipelines and household taps infrastructure in the area, however this never transpired. Residents argue that they were informed by the City of Tshwane Metropolitan municipality authority that the planned upgrade would affect their water supply and a temporal infrastructure would be put in place. The upgrade was planned because the water resources infrastructure was aging and contributed to huge amounts of water losses through leaks of worn-off pipelines. Some households had also allegedly tampered with the pipeline by individually connecting their own pipes to the pipeline without the municipality's endorsement. The municipal authorities considered them to be installed illegally and illegitimate. Households were advised to disconnect the pipes so that they would be eligible to receive the upgraded new pipeline. Unfortunately, this left many households without water as their own systems was dismantled but the new municipal system which was promised had not materialised either.

Figure 13. Digging of a water well by hand

Currently households in general have to provide their own household water. Specific to this project are the groups of community members who pool their resources together in order to establish a hand-dug well. These hand dug wells are dug in the back yard of community members. The water table is really high and as a result they are able to dig these wells without too much equipment and formal knowledge. Community members explain that if they want to build one of these wells they call together their neighbours and friends – some have knowledge, others have skills, equipment or even money that they can contribute.

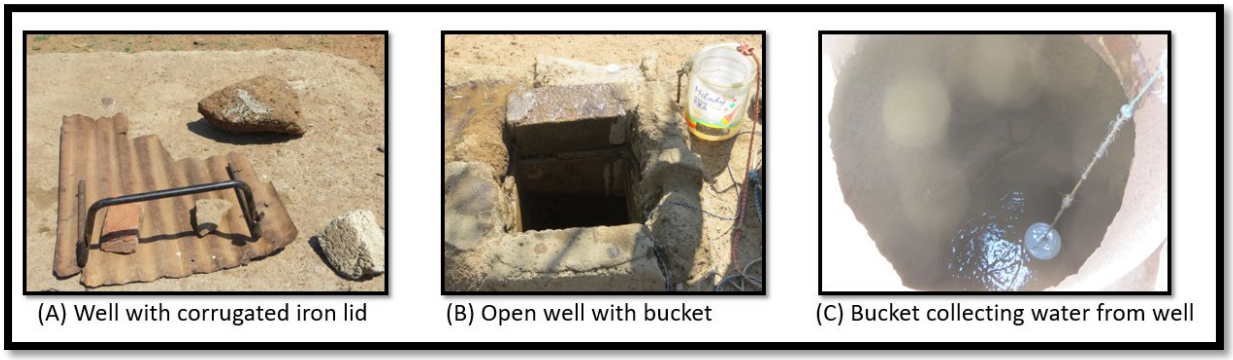
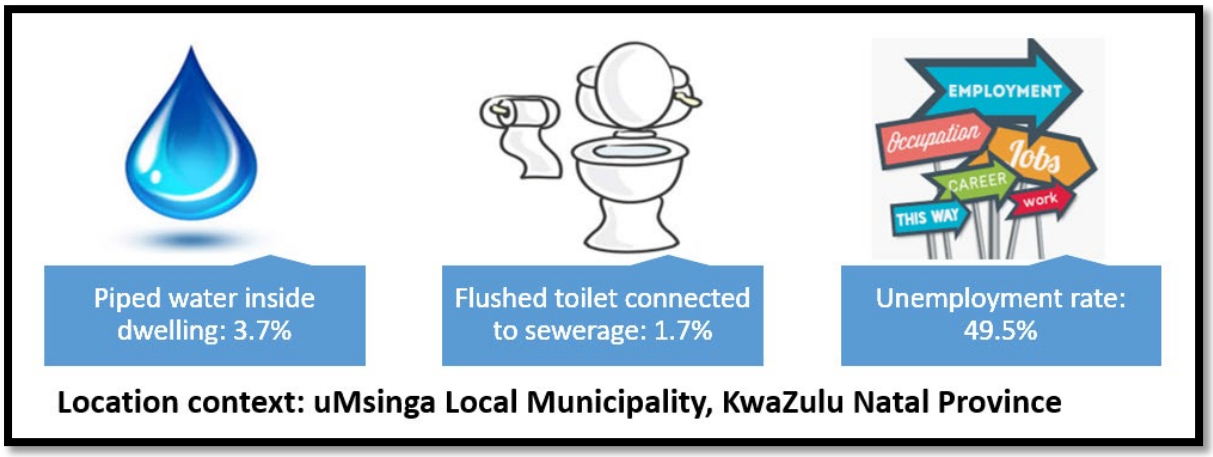


Figure 14. Illustration of a hand dug well in Stinkwater

Once the well is dug it is usually covered with corrugated iron on something similar to protect the water, and also to ensure that children do not fall into it. Often a bucket is connected to a string that is lowered down into the well to collect water. Usually people who were involved with digging the well are allowed to get water from the well. Other community members sometimes are allowed to purchase some of the water.

6.1.4 KwaDolo Village Water Scheme

The KwaDolo Village[7] is situated in the uMsinga Local Municipality and uMzinyathi District Municipality in the KwaZulu-Natal Province. The community used to collect their water from the river and springs. Unfortunately, the springs dried out and rivers became more polluted as the number of households increased. Respondents note that the rivers became so polluted that people could no longer make use of it. Since this place had potential for groundwater exploration and exploitation, boreholes were the next viable option. The community talked to the chief who then had a discussion with the municipality who appointed borehole drillers to explore the availability of groundwater.



The water system consists of submersible pumps that pump water to storage tanks where people then collect water. The system has been in place for the last 13 years. The initial layout of money was provided by the municipality and subsequently they contribute to the maintenance of larger items such as pumps. The community contribute money to buy taps and other minor maintenance equipment as is needed. Community members will also contribute through the provision of labour where needed.

Respondents note that at the start of the scheme things worked out well. People were happy because everyone got water and there was enough water for all. However, over time people wanted more water for themselves and their gardens, and started to connect illegally to the system. Because of these illegal connections, the storage tanks are not able to fill to capacity. This means that there are some people who are not getting water at all.

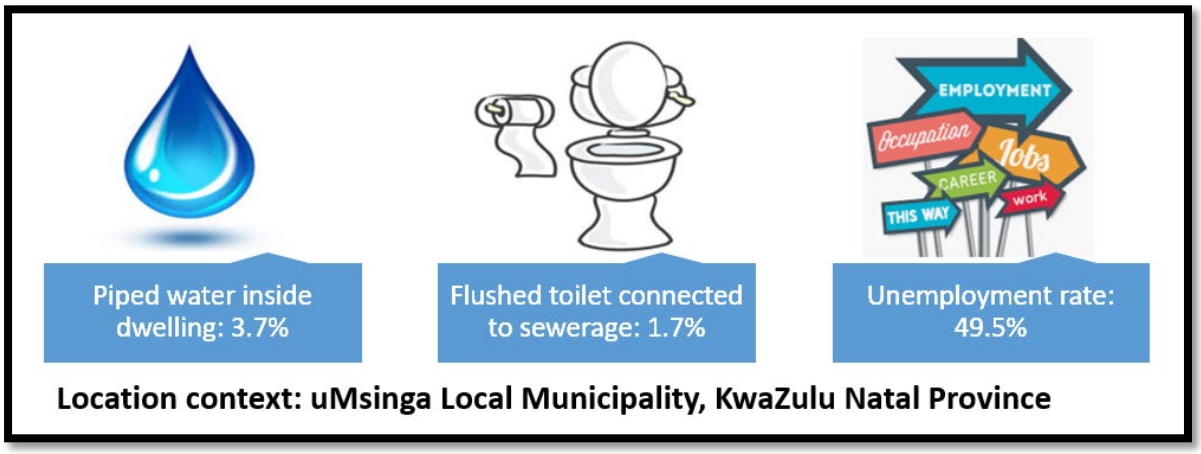
While the system was initially funded by the municipality, they are now the custodians of the scheme and the scheme is managed through the traditional leadership on behalf of the municipality and the community. Respondents however note that nothing is being done about

[7] Note – the CSIR team was not allowed to take any photos of the area due to unrest and political strife as a result of water issues and illegal connections.

the illegal connections. They argue that greed and politics are preventing the issues to be sorted out, and they note that confronting people about their illegal connections can become nasty.

6.1.5 Ngqongqongqo Village Water Scheme

The Ngqongqongqo village water scheme is located in the uMsinga local Municipality in KwaZulu-Natal, close to the Nadi River. This community do not have access to municipal water and the community had to walk to the river with their 25 litre drums to collect water. Alternatively, community members would collect water from stagnant water in a pool nearby the settlement. Some community members used donkeys to help them collect water, however these were in the minority.



Apart from the long distances people had to travel to collect water, residents also became acutely aware of rising pollution in the water, especially also because the water source was shared by livestock. There are however a number of springs in the area and the community decided to explore the use of these springs as an alternative source of water for the community.

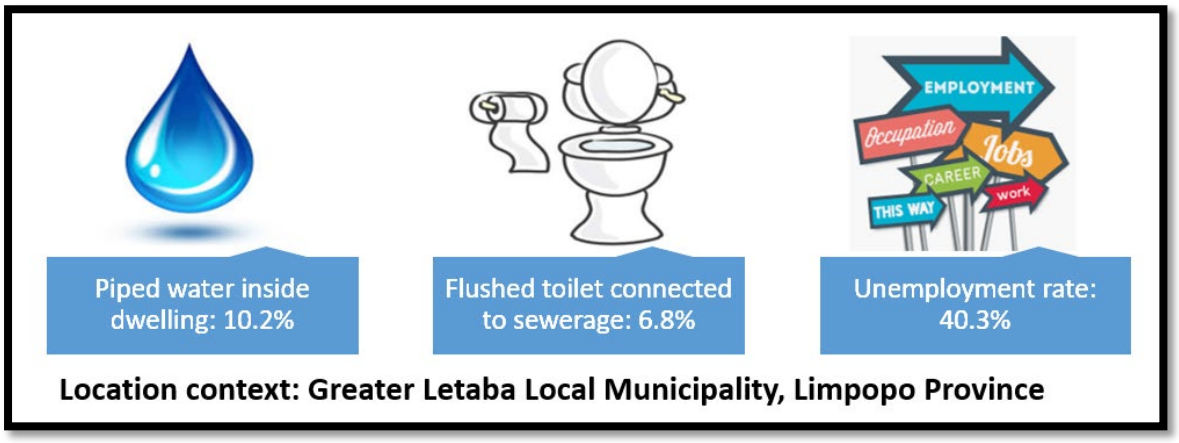
The community pooled resources and money together. The bought pipes and storage tanks and people worked together to construct the water supply scheme. The water was harvested from the springs in the mountains where gravity helped water flow down the mountain through the pipes into storage tanks where people could the collect water. Because of this people started to protect the springs and worked together to ensure that the pipes and infrastructure are maintained. Also, there was no vandalism of the system, respondents noted that because the system belonged to everyone, people did not vandalise it.

Figure 15. A water tank in Ngqongqongqo village no longer in operation due to water drying up

This gravity-fed water system was operational for about 10 years. Unfortunately, the water levels began to drop to such an extent that people could no longer get any water from the wells. Respondents note that this is due to global warming as it is becoming hotter. They have not been able to get the system working again and they still do not get any municipal water.

6.1.6 Thakgalane Village Water Scheme

Thakgalane is situated in Limpopo Province, in the Greater Letaba Local Municipality. It is about an hour's drive to some of the nearest large towns such as Louis Trichardt and Tzaneen. This community do not have reliable municipal water. Initially the community were able to get water from a borehole the municipality had drilled for them. Unfortunately, the borehole is no longer operational – this has been the case for the last 15 years. Through the intervention of the local Councillor a water tanker was organised. Initially it was scheduled to come once a week, however this is no longer the case. Sometimes, the tanker only comes after two weeks, in addition, people who stay at the back end of the village can't get water as there is no access road to their households.



Due to the fact that the community could no longer rely on the water tanker or the borehole, they resorted to using spring water. While the tanker does still come on occasions, respondents note that the water available from the tanker is just not enough for their needs. Presently the spring water is the main source of water. Mainly women walk to the spring where they then use a smaller jug or bowl to scoop water from the spring into a bucket which is then carried back to their home.

The spring is used by humans and livestock and as such the water can become polluted. People note that the water is not particularly clean as they have found worms and debris in the water. However, the feel they have no choice, even if they do get sick from the water, they do not want to die of thirst. The only protection offered to the spring is in the form of a bunch of sticks that the community have laid over the spring. As such there is also not much to vandalise, and since this is their main source of water, people tend to leave it alone. Respondents note that there is no formal governance or deciding body with regards to the spring, but they do own it and take responsibility for it. However, the community is extremely poor an as a result there is no money to invest in the scheme.

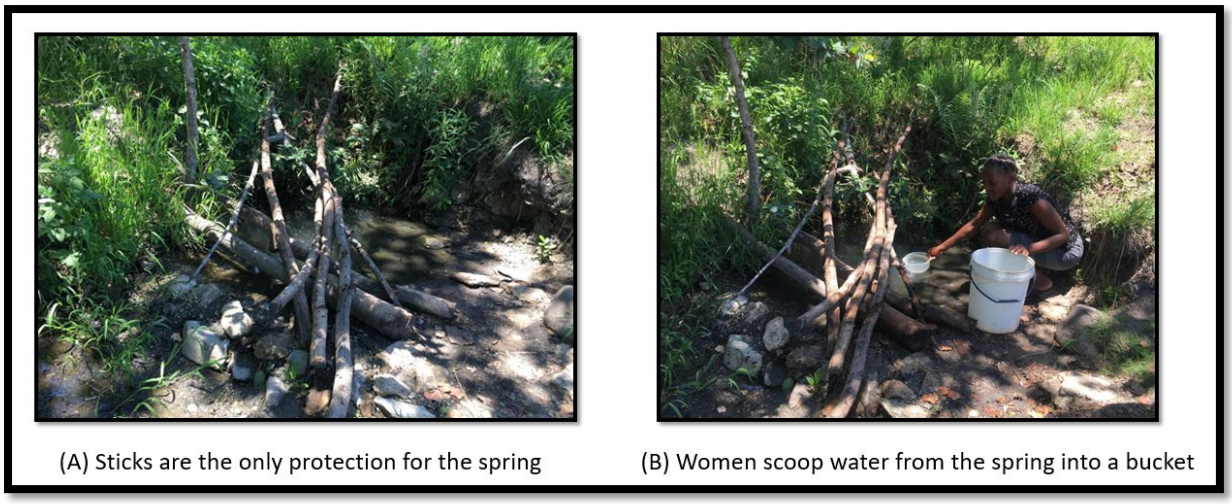
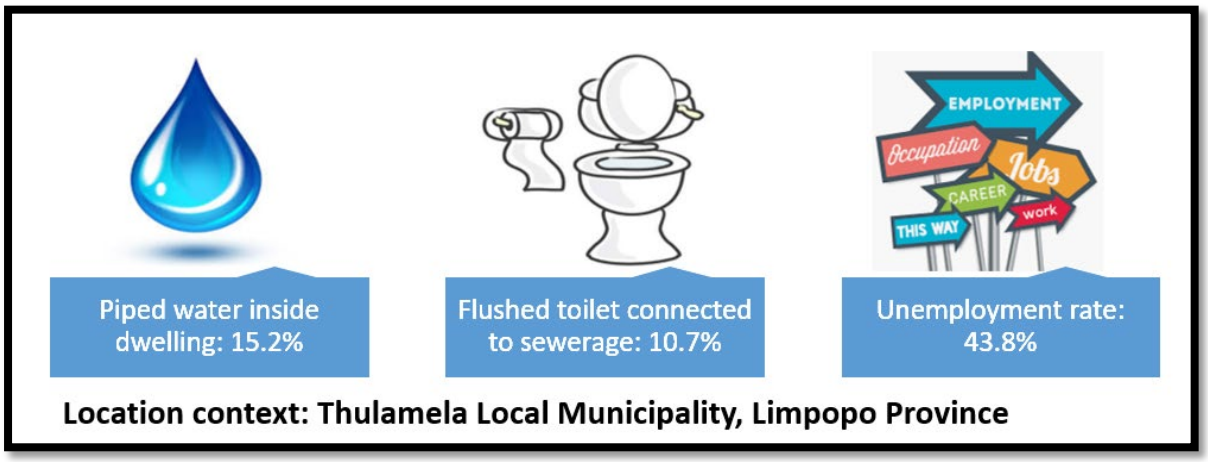


Figure 16. The spring that supplies water to the Thakgalane Village

6.1.7 Tshamashango Springs Water Scheme

Tshamashango Springs are located in the Lutomboni Village in the Thulamela Local Municipality of Limpopo Province. It is situated to the north of Louis Trichardt, approximately five kilometres from the more established village in the area, Siloam, and, less than 20 kilometres from Nzhelele Dam. The villagers from Lutomboni have never received water from the municipality. Despite having requested the municipality's assistance with water provision in the village for so long, the villagers in the end had to come up with their own plan for water sources. At first people used to walk to the springs to collect water. However, this proved to be both far and dangerous especially for women and children walking on their own. The community then decided to put in a piped water reticulation system from the springs to the village. The water from these two springs is very clean and the yields are very high.

There are two springs that feed into the system. The one spring feeds directly into a sump where the water is the reticulated in black plastic pipes and flows gravitationally into a 10 000 litre tank. The other spring is reticulated directly into two 5 000 litre tanks. These tanks supply water into the communal taps from which households fetch water. The water is opened at 5h00 in the morning and closed at 17h00 in the afternoon.



The infrastructure for this scheme which consists of pipes, tanks and taps has been funded entirely by the community. And, since many of the villagers do not have any formal employment and have to rely on government grants, it was very difficult for these families to contribute. However, they did manage to do so, and as a result the scheme belongs to the whole community. In addition, because of this feeling of ownership, there is very little chance of vandalism and the community do not worry about security for their infrastructure.

The scheme was started in 1998 and was led by two villagers who used to work for the Department of Water Affairs (now Department of Water and Sanitation). These two men have been instrumental in the success of the village water scheme, and while they are older now they have transferred a lot of their knowledge to others who are able to operate and maintain the scheme into the future. In general, the community contribute money to the scheme, however they are worried because some people are able to drill their own boreholes, and as a result they are no longer contributing to the scheme. As such, the scheme is struggling with the general maintenance and upkeep without the extra contributions.

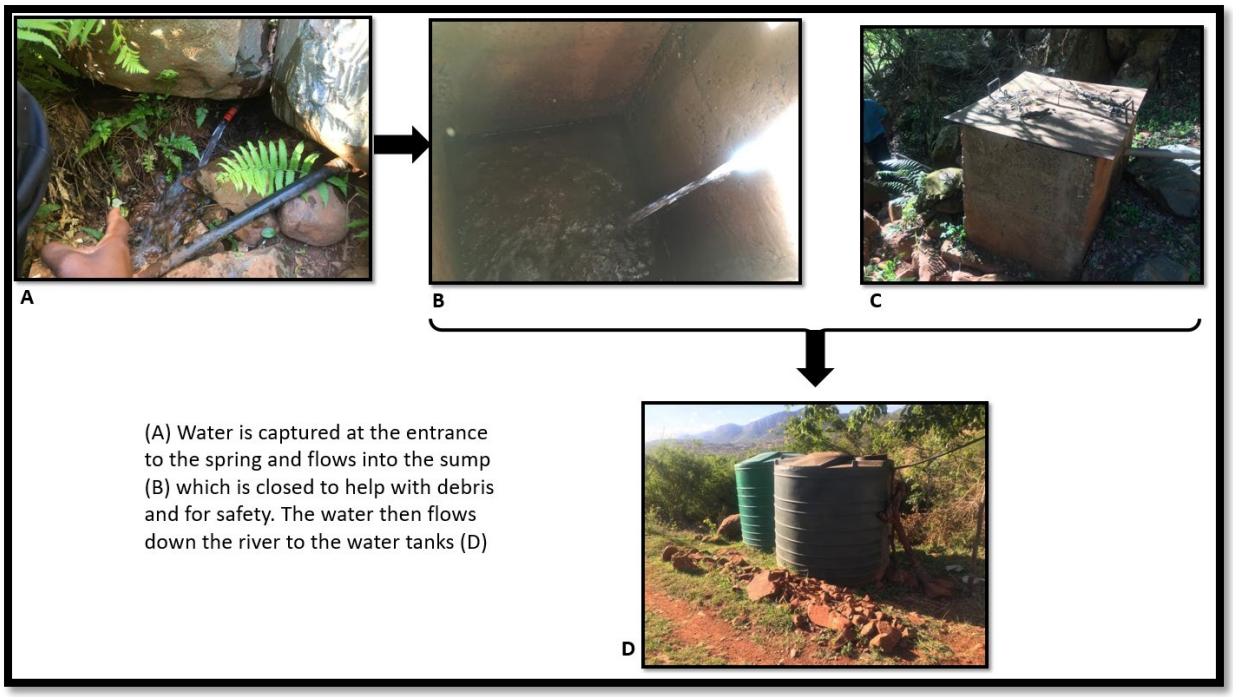
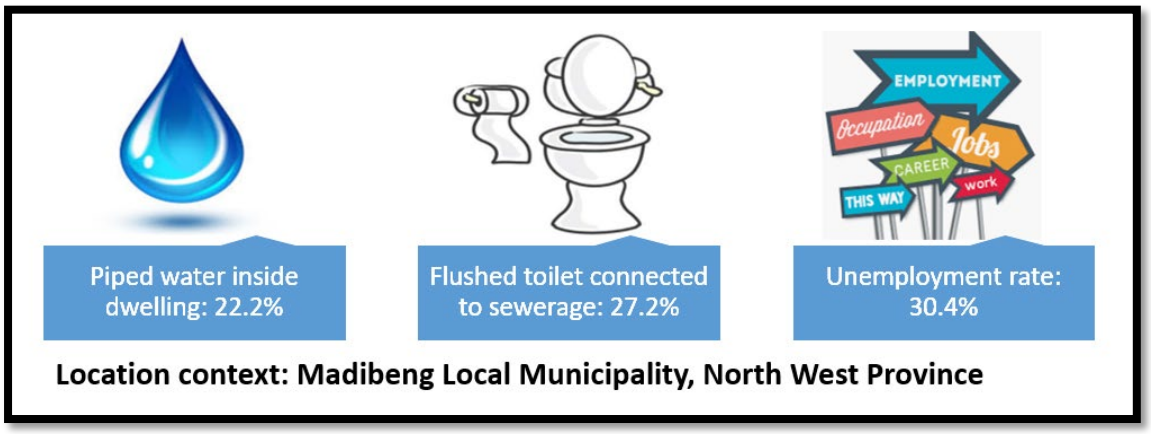


Figure 17. Illustration of the Tshamashango Springs Water Scheme

6.1.8 Hartbeespoort Dam Community Water Scheme

The community initiative to remove the alien invasive water hyacinth from Hartbeespoort Dam's surface started in 2017. Before this initiative, the Department of Water and Sanitation operated a public private partnership (PPP) to remove the hyacinth through a labour-intensive process. This project was called *Metsi a Me* that was implemented between 2007 and 2010. Rand Water was also a partner. This project included the composting of the hyacinth as well as earth worm farming and including floating wetlands on the dam to clean the reservoir's water. Even so, with DWS running into financial difficulty around 2010 and with the public losing interest in the PPP, the project stopped around 2014. The people working on the hyacinth clearing also lost their jobs.

The Harties Foundation Non-profit Company (NPC) was established as a legal entity to rejuvenate the project since the hyacinth spread to such an extent that it covered almost 50% of Hartbeespoort Dam. Since Hartbeespoort is built around the reservoir, this had a dire impact on the town's economy negatively affecting tourism, jobs, and property prices among others. For instance, the reservoir is popular with yacht and boating enthusiasts and there are several cruise boats, also known as party boats, operating on the dam. Hartbeespoort Dam is also a popular angling destination and commercial fisherman are active on the reservoir netting fish for the market. With the extensive hyacinth growth, such activities cannot continue. Schoemansville, a suburb of Hartbeespoort, uses the water from the dam for residential use.



In the 1970s and early 1980s, the Department of Water Affairs (DWA) spray the hyacinth with a herbicide killing the plants. The result of this was that the dead plants sank to the reservoir's bottom where they decomposed releasing sulphides into the water and subsequently the atmosphere. The result was a foul stench with which residents had to live with for some time. This plan had desired effect by ridding the dam of hyacinth, but the planners did not take unintended consequences into consideration. One of the consequences of the current hyacinth infestation, is that the plants are cleaning the water of phosphates and nitrates leaving the water crystal clear and without the infamous algal blooms for which Hartbeespoort is (in)famous. Respondents noted that that the Harties Foundation NPC is not only about the dam but is looking at the entire economic value chain with the dam as the centre pivot. The dam is merely the start of everything else.

Rudy indicated that the initiative runs on a collective wealth of knowledge. For instance, some residents have done PhD dissertations on the dam. Department of Water and Sanitation and some of their staff have a wealth of knowledge about the dam and the problems it has been experiencing. There is a lot of knowledge because of research projects that had been conducted on Hartbeespoort Dam. Currently an initiative is underway for the North West University (NWU) to become the centralised body of knowledge. A memorandum of understanding (MOU) exists between NWU and the Premier of North West Province's office. The signing of the MOU was in August 2019. In future the Harties Foundation NPC will become the custodian of the knowledge. Rhodes University's Prof. Martin Hill introduced a weevil (insect) that eats the hyacinth's flowers. This is an important step in curbing the plant's growth. Now, two schools in Hartbeespoort are involved in breeding the insects which means that the knowledge is also shared with school children, and helping them to understand ecological processes influencing the dam's aquatic ecology.

Figure 18. Extent of hyacinth problem at Hartbeespoort Dam

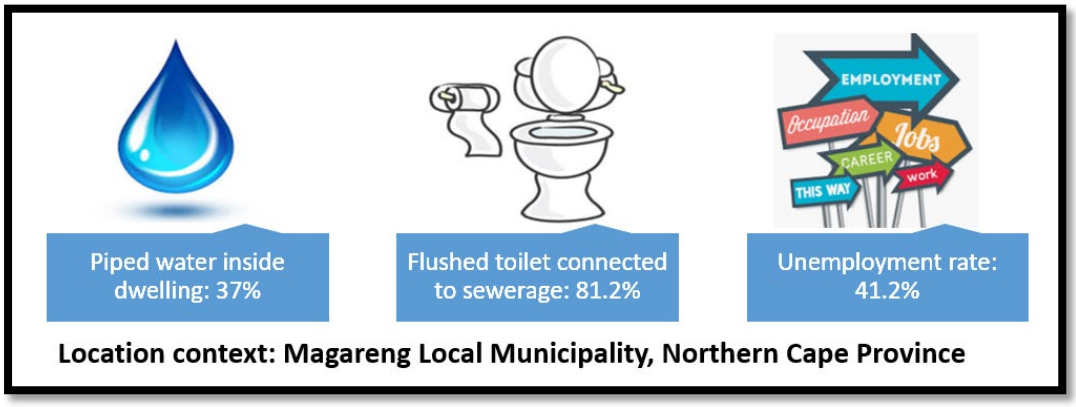
There is ongoing transfer of knowledge, particularly of technologies the clear and process the hyacinth into organic fertilizer (not compost) that has a higher market value than organic compost. Harties Foundation NPC also shares lessons learned especially between old and newer removal and processing approaches. For instance, the old technology used by Pecanwood estate was quite a labour and energy intensive process. Harties Foundation NPC took the lessons learned from this process and evolved it into less labour and energy intensive processes with the vision of creating more jobs throughout the value chain. They also have a 5-year plan in place for the project to become more sustainable and is looking into for knowledge on the percentage of hyacinth on the dam to keep the water clean.

6.1.9 Majeng Village Water Scheme/ Vaalharts WUA

The Majeng land is situated about 100 km north-west of Kimberley, in the Magareng Local Municipality and the Francis Baard District Municipality, in the Northern Cape Province. The community used to live in the area before they were resettled. The land awarded to the Majeng community under the Land Claims restitution process and is an area of approximately 10,220 hectares. The Majeng claimants are about 800 families, most of whom currently live at Kgomotso, near Jan Kempdorp, approximately 60 km north of Majeng. However, people are moving back to where they have received land.

Once the claimants were awarded their land claim, the people thought that they will be able to farm their land and make a living. Unfortunately, the land was only restituted with 300 hectares' worth of water rights – which is not enough for the area as a whole. Moreover, the current infrastructure can only carry 60 hectares of water. In Majeng there is a competition for water between household use and agriculture. In these areas where there are not a lot of opportunities with regards to employment, agriculture is an essential part of their livelihood options. Currently people have to provide their own water via rainwater harvesting and borehole water. They have learned how to do this through informal channels of sharing

information and knowledge between neighbours. No-one from the outside have come to teach them any of this. The community itself pulls together to help each other. Respondents noted how if there is a borehole to be drilled, neighbours will pull together their resources to help and get it done.



Due to the fact that they want to plough the land that has been given back to them and expand their agricultural endeavours, the community realised that they need help. As such the community is now actively taking part in the Vaalharts/Taung Irrigation Scheme by making sure they have a representative in the Vaalharts Water User Association (WUA). The Vaalharts/Taung irrigation scheme is the largest irrigated water scheme in South Africa with approximately 35 302ha of land under irrigation (Aurecon, 2011). The geographical area of the scheme crosses the North West and Northern Cape provincial borders, and passes through the local municipalities of Dikgatlong, Magareng and Phokwane in the Frances Baard District Municipality, and the Frances Baard District Municipal Area in the Northern Cape Province; and the Greater Taung Local Municipality in the Bophirima District Municipality in the North West Province.

Presently the Vaalharts WUA have a number of different representatives who serve on the WUA. The WUA is made up of different categories of representatives including small scale farmers; emerging farmers; local authorities and water boards; industry; and, commercial/large scale farmers. The Majeng Community also have a representative on the WUA who is delegated to do so by the Communal Property Association (CPA) of the community.

Figure 19. Old canal systems still visible but need major investment in terms of rehabilitation

In collaboration with the Vaalharts WUA, the Majeng community have started their application for more water rights. According to the community this process has been one of the major obstacles to their being able to obtain water for irrigation and livestock. Their application started in 2002 and they were only allocated 300 hectares of water rights in 2016. In particular,

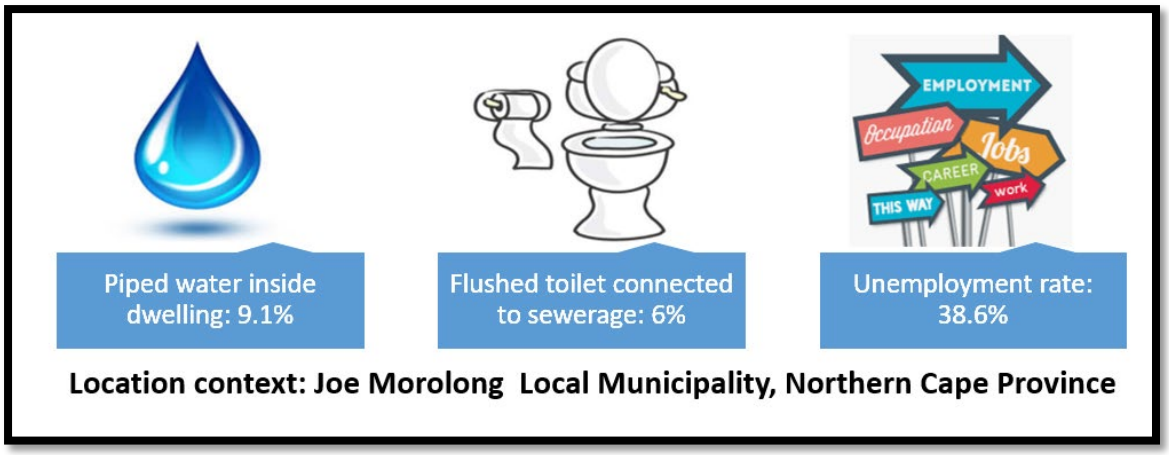
the synergy between the Department of Water Affairs and the Department of Agriculture. According to respondents, in order for them to get their ploughing certificate they have to prove that they have water, however in order to get their water rights they have to do a number of tests such as a soil investigation as well as an Environmental Impact Assessment. All of these cost a lot of money and requires knowledge and Infrastructure. This is where the Vaalharts WUA has been particularly supportive, for example they provided the fuel, driver and tractor loader backhoe (TLB) for the soil investigation.

Figure 20. Satellite image (sourced from Google Maps) that shows old irrigation areas in the Majeng restitution area

Another area of critical need for this community is to upgrade the current infrastructure of the Vaalharts/Taung Water Scheme. The area that has been restituted to the community still have the vestiges of old water canal infrastructure and if seen via satellite on Google Maps, one can see that there used to be irrigation in the area. The Majeng community need 1 000 hectares of water in order to fulfil their plans for the restituted land, at the moment the capacity is only 60 hectares. What is needed is financing for upgrading the canal. However according to respondents, the municipalities do not have the capital for such a project and as such the WUA and the community are looking for this funding.

6.1.10 Mothibi Village Water Scheme/ Vaalharts WUA

The Batlhaping Ba-Ga Mothibi community is located in the Joe Morolong Local Municipality in the Northern Cape Province. The community is situated on the border between the Northern Cape and the North West Province. In 2018 they were still considered to be North West, however they were recently incorporated in to the boundaries of the Northern Cape.



The village previously used to make use of borehole water. The village had a number of boreholes that provided water to them and they were satisfied with these because they could have control over them. However, a few years ago the municipality and its water services provider, Sedibeng Water, alerted the community to the fact that they will start providing the community with water and began a process of supplying the community with water taps. One of the conditions however was that people had to make sure that they destroyed their boreholes. While this did not sit well with the residents they complied as they were promised water.

Figure 21. People have to diversify their water sources (picture provided by Vaalharts WUA)

Unfortunately, the promises by the municipality and Sedibeng water did not transpire into reality as the village is struggling with reliable good quality water. Currently residents report that there is only water in the taps between 4am and 8am, and not every day. Now, since all the boreholes have been destroyed, people want to return to the river to fetch water as they can no longer depend on the municipality for water. Unfortunately, the river is not pristine and according to the Kgosi, the people do not know how to deal with the pollution in the river. The Kgosi also reports that many people thought that it was the fault of the Water Scheme's fault that the community is not getting the water. In fact, some people wanted to start and vandalise the canals of the scheme in retribution for their water being cut off. The Kgosi began to work closely with the Water Scheme to see is she, with the help of the Scheme, could do something about the water situation in the community. Currently the Kgosi is serving as a representative in the Vaalharts WUA.

As already mentioned, the Vaalharts/Taung irrigation scheme is the largest irrigated water scheme in South Africa with approximately 35 302ha of land under irrigation (Aurecon, 2011). Also, the Vaalharts WUA have a number of different representatives who serve on the WUA. The WUA is made up of different categories of representatives including small scale farmers; emerging farmers; local authorities and water boards; industry; and, commercial/large scale farmers.

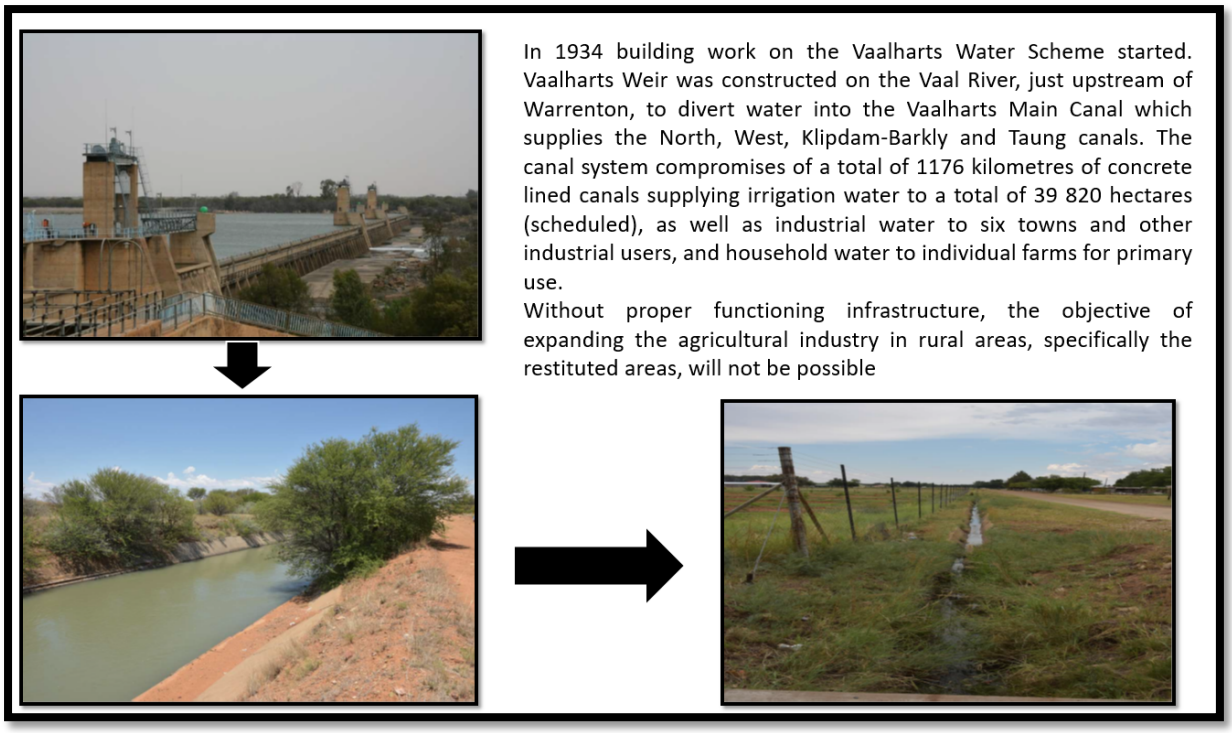


Figure 22. Illustration of the Vaalharts Water Scheme (Pictures provided by Vaalharts WUA)

One of the things the current Kgosi wants to achieve is to provide water-use licences for the new emerging farmers in her area – she recently allocated new plots of land for agriculture to farmers against the river. She notes that this have been an extremely steep learning curve as she, nor her advisors knew anything about water licencing. In addition, they had no idea how the canal systems work and the influence they could have by the Kgosi becoming a representative on the WUA. While the infrastructure and the processes followed by the WUA for the Vaalharts/Taung Water Scheme is regulated through the Department of Water and Sanitation, the decision making with regards to the scheme is in the hands of the various representatives. Moreover, 56% of the representatives on the WUA who contributes to the decision-making for the WUA are historically disadvantaged individuals (HDIs).

6.2 Findings

In general, the water schemes that are being used by communities are not very complex or complicated. We identify three main types of schemes within our pool of case studies, they are: Schemes that make use of water through gravitational flow; schemes that make use of groundwater in close proximity to their, or neighbour's yard; and, schemes who seek to utilise established water sources and infrastructure.

6.2.1 Types of schemes

Type 1: Schemes that make use of water through gravitational flow

Most often the scheme relies on gravitational flow of water from some source further away from the village and houses. These types of schemes then consist of some pipes and a tanks in which the water is kept for people to collect from. The knowledge used to construct these schemes generally come from within the community themselves, and they do not need a lot of input from outside organisations or government. Because these schemes are not very

complex, and often everyone in the village has contributed to its success, people tend not to vandalise the infrastructure, though there have been one or two cases. In some case we also see these schemes belonging to a particular family. In both cases however the family share the water with others for free.

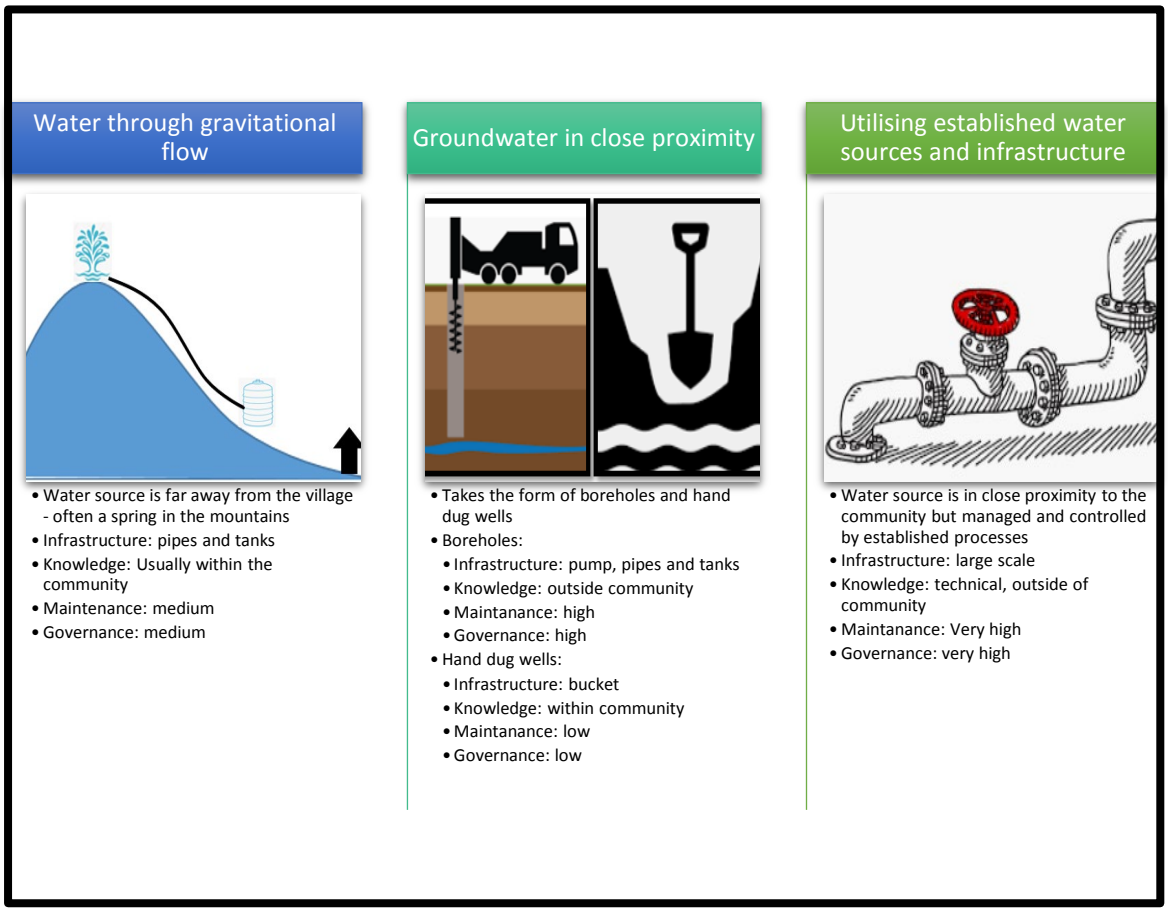


Figure 23. We identify three main types of schemes within our pool of case studies, they are: Schemes that make use of water through gravitational flow; schemes that make use of groundwater in close proximity to their, or neighbour's yard; and, schemes who seek to utilise established water sources and infrastructure

Type 2: Schemes that make use of groundwater in close proximity to their or neighbour's yard

Some communities rely on groundwater which they can utilise in close proximity to their yard or their neighbours' yard. In these types of schemes, we found two prominent examples. Firstly, those communities who make use of boreholes. Using boreholes requires a lot of investment both in terms of money and time. Moreover, it requires specialised knowledge and equipment – aspects not readily available to communities and not very affordable for those who are living in poverty. In some cases, municipalities sunk the boreholes and provided the initial equipment, in other cases it was the communities who provided everything. Boreholes also require constant maintenance, investment (electricity or diesel for the pump), and solid management structures in terms of decision-making. One of our case studies provided a good example of how, when there is no control over the system, the

system can fail due to illegal connections and overuse of the resource to the detriment of all involved.

The second example of groundwater use are those schemes consisting of hand-dug wells. These schemes are less complex and our case study has shown that the construction of such a scheme can bring groups of community members together. Investment in these schemes are low and require minimum financial investment. Rather, labour and know-how become important both of which are commodities that can be traded amongst neighbours and community members. Usually such a scheme can only provide water for a small number of people in the immediate vicinity of the well. Also, these wells are not perceived to be ideal especially with regards to the structure itself, as they pose a danger for children specifically, and to those who consume water from them. This is because they are not protected and that exposes them to a number of harmful things such as insects and other toxic pollutants which can pose a threat to human health. However, there are examples from other areas where, if managed effectively this danger can be mitigated.

Type 3: Schemes who seek to utilise established water sources and infrastructure

The final type of scheme we have identified are those who seek to make use of already established water infrastructure or water sources. We see this in communities where there are large agricultural water schemes within their area and these communities are seeking to also benefit from this water. In the case of our examples, the communities are looking for water, both for household use and agricultural purposes. Through their participation in complex governance processes, such as Water User Associations, the communities are able to start to influence the decision-making regarding this water, but also to utilise the influence and capacity of the association to their own advantage and beneficiation. Often in these cases, the communities were left without formal water provision and they are currently diversifying their water provision options. However, the main goal is to eventually be able to utilise the water from the large established water scheme. As our case studies have shown, knowledge is essential specifically in terms of formal processes and understanding how the allocation of water works. Also, the infrastructure is highly technical and requires huge financial investment beyond the scope of one community. Here communities are seeking the help of outside investors. Strong leadership is required that seeks support and beneficiation for the community as a whole.

We also include another example of a community water scheme under this heading. The case study of Hartbeespoort is quite different to the others, as the main driver for the scheme is not about water for household consumption (though some communities do draw water from here). As such one may argue that it does not fall entirely within the scope of this study. However, it is a very good example of a community water scheme that seeks to protect the quality of water, and not only the quantity of water. Here we see and utter failure on the part of government to manage the water, and where the community has had to step up and invest in the water themselves.

6.2.2 Needs articulated by the communities with regards to the water scheme and water provision in general

Lastly, our case study analysis reveals that there are a number of needs articulated by the communities with regards to the water scheme and water provision in general. We describe these needs in terms of three categories: 1) Community needs in terms of less complex water schemes; 2) Community needs in terms of water schemes with minimal infrastructure; and, 3) Community needs in terms of communities engaging with large water scheme and WUAs.

Community needs in terms of less complex water schemes

In general communities take the initiative to find alternative means of getting water. However, taking the initiative is only the first step of many in order to assure sustainable access to water. For example, communities indicated that they need government to support them by teaching them how to get water safely form the well. While their own make-shift infrastructure often do the job – they feel that there might be better, and more sufficient ways of doing it.

Another need articulated by communities who utilise less complex water schemes is that they require advice and support on how to diversify their water sources. In a number of cases the current water source dries up and then communities are left stranded without any water. Other sources of water may be available but the community either do not know about them, or they do not have the knowledge and know-how to harness them, or lastly, it just may be too expensive. Communities who make use of less complex water systems often find water quality a serious challenge. The water they use most of have to be collected and stored which poses additional risks to the community. As such these communities have asked for support in this regard, whether it be through knowledge, or more sophisticated systems. For example, in the case of hand-dug wells and springs people seek help with ways of protecting the source from vandalism and pollution.

Lastly, women are in many cases responsible for providing water by having to walk long distances, often in the dark with heavy loads. Communities therefore argue that the success of these schemes will minimise the risks that women get exposed to when they go fetch water.

Community needs in terms of water schemes with minimal infrastructure

Probably the most important need from communities who utilise water schemes with minimal infrastructure is the maintenance and upkeep of the infrastructure. Infrastructure such as pipes, water tanks and specifically water pumps become huge investments for these communities. As such security of the infrastructure is also a worry. Moreover, not all of the community understands the continuous investment that needs to be made in order for these systems to keep running.

Knowledge and information with regards to the infrastructure and sustainability is an important need articulated by communities. In addition, provision for knowledge transfer needs to be made. We noted that in many communities it is older people who have come up with plans, and/or are managing the upkeep of these systems. It is therefore important that the knowledge they have gained over the years are transferred to others so as to ensure sustainable upkeep of the infrastructure.

Harnessing the potential of undergroundwater resources has also been articulated as an important need in some communities. Specifically, communities who used to have active

boreholes, but whose boreholes dried up, require assistance to rejuvenate these systems in a sustainable way.

Community needs in terms of communities engaging with large water scheme and WUAs

Communities who are engaging with large water schemes and WUAs have articulated their priority need as, knowledge. The knowledge required to fully utilise the opportunities available through such a scheme or association is essential, and not readily available. Moreover, despite already receiving help from the WUA our case study respondents noted how difficult it has been to work with and get the support from government. They note there is no co-operation or synergy between the different departments which cause communities to lose hope and become despondent.

Many of the communities who are now involved with larger water schemes and WUAs are emerging farmers. These farmers require support and capacity development at a large and continuous scale. This capacity development does not only need to come from government. Our Vaalharts WUA respondents noted how valuable capacity development has been through local agriculture industry, and technology suppliers.

Our case study communities have also noted that financial investment in maintenance and upgrading of systems is invaluable for the success of these emerging farmers. Many feel that the government made promises through the land restitution process for example, but do not provide the support needed for these communities to make a success of their endeavours. In the case of the Vaalharts WUA, there is a clear and articulated sense of community that has developed around the common need for water. However, in order for the emerging farmers to truly benefit, more water needs to be allocated and licences needs to be approved. This needs to be underpinned by financial investment.

In conclusion, all the communities we have spoken to have exhibited frustration with the support they are getting from government in general. From knowledge sharing and capacity development, to investment and the keeping of promises. Many feel that while they are supplying water or maintaining water resources themselves, ultimately it is the government who is responsible to provide them with water. Surprisingly, many of the communities do not demand municipal reticulated water. Some have only requested that they receive a modicum of support for the current system they have in place.

Lastly, an important question that arose pertains to payment for water. In general, most communities in our case study pool are not well-off communities (bar one or two). But this does not mean they do not understand the financial investment one needs to make to get a sustainable supply of water. In many cases families or groups of neighbours pool their resources together in order to implement their scheme. We also have examples of whole villages contributing to their water scheme. Of course this does not mean that there are no disputes – it does however point to a willingness to invest in something that is needed and considered essential for survival.

Section 7. Enabling environment framework for community water management schemes

In this, the final section of this report, we present an enabling framework for CBWMS in terms of securing access to water. In Section Two of this report we took a look at what learning can be gained with regards to communities and their management of water. The literature showed that while there are many down-fall to communities managing their own water, there are also many benefits. One of the main findings from this section is that communities cannot do this on their own in the long term. Section Three and Four of this report provides contextual information regarding South Africa and a chronological overview of legal and institutional issues leading up to the current situation regarding secure and reliable access to water for communities. This section shows that the current policy and legal instruments have come quite a way, and have been tested over many years. While some work well in enshrining the rights of people, others not so well. However, it is important to note that while there are still many problems, specifically the issues this report deals with regarding CBWMS, our water legislation has been lauded internationally for its forward thinking.

Section Five takes a deeper look into specific legislation and the way in which people's rights to water are made provision for. It highlights that there is a clear intention to provide access to water through the enactment and implementation of the legislation. However, despite this right, this is not always translated into reality. Here we see how well intentioned policy becomes subject to context and interpretation. Certainly the idea of progressive realisation of rights is a significant issue that needs further investigation, as it clearly reveals ambiguity that provides the government, but municipalities in particular, a way of avoiding legal recourse for not fulfilling their mandate to the people of South Africa. Section Five also shows that there are however opportunities for CBWMS to provide water to their communities within the letter of the law. Yet, this requires substantial support and guidance. We also see this need for support and guidance in Section Six, where we present the findings from our case studies. Analysis from our case studies shows that while communities are able to work solutions for themselves, these are not ideal if done so without support of government, or outside of the institutional framework of government.

This leads us to Section Seven, the enabling framework for CBWMS. Given the history, the legal system, the dismal municipal support currently, as well as the developmental context within which CBWMS are operating in, it is clear that more needs to be done to help them. In fact, plainly said, more needs to be done by municipalities to make good on the rights of communities that are enshrined in the Constitution, to have access to good and reliable water in a sustainable way. We argue that the legislation is there, yet within the ambit of progressive realisation of rights, as well as the dire financial and institutional challenges faced by many municipalities in South Africa, and particularly those in rural areas where many communities are struggling with water, legislation alone is not, and has not been, enough to push municipalities into action.

In the face of such a breakdown in not only services, but also trust and agency, it might be difficult to even know where to begin to rebuild. The enabling environmental framework we have developed provides different elements that may act as the building blocks to rectifying the situation. These elements can support and facilitate the successful delivery of water to people as well as ensure the uptake of responsibility by those institutions whose, in essence, mandate it is to provide water to the people. Therefore, the enabling environmental framework

provides a model, consisting of different of elements that have to be in place in order for CBWMS to be successful.

What follows is a discussion of the different elements that make up the enabling framework. We then move on to illustrate through applying the enabling framework to two of our case study areas, how the enabling framework can assist in uncovering the gaps and needs, as well as identifying those areas that need further assistance.

As noted earlier, the enabling environment framework for CBWMS consists of a number of elements. Some of these elements are located specifically within the control of the municipality, while others are located outside the control of the municipality. During the project this distinction became clear, as both municipalities and communities have a role to play. Below we present a description of these elements.

Table 6. Elements directly within the control of the community residents – inputs to the Enabling Environmental Framework.

Elements directly within the control of the community residents	
Elements	**Description**
Value of local knowledge	Many of the current schemes have been implemented by residents using their own knowledge of the area and system. This is valuable knowledge that should not be ignored as it is contextually relevant. Moreover, as reliance on local knowledge increases so also do community agency.
Accountability	Many CBWMS were proven to be successful because people showed they were accountable. Accountability is therefore essential not only in terms of the actual infrastructure but more importantly in terms of money and investments made to the system.
Succession planning	There is a general trend that one or two people are the 'owners' of the CBWMS, and more often than not they are elderly. If these schemes were to survive succession planning in terms of the management is essential.
Peer-to-peer learning	Residents noted that they learned a lot from other communities who also have their own CBWMS. This is therefore an important source of knowledge that should be taken account of and encouraged.
Transparent leadership	Leadership in terms of the CBWMS has to be transparent with no hidden hierarchies involved.
Seek training, information and knowledge	For the long term success of CBWMS there has to be a culture of actively seeking more information, knowledge and training. While local knowledge is valuable and useful, there is other information that is essential for the success of such schemes.
Healthy power relationships	Community leadership or traditional leadership structures have to stand apart from the CBWMS leadership. A healthy CBWMS is a system in which people take part on equal footing and benefit on equal footing.

Elements directly within the control of the community residents	
Elements	**Description**
Ownership in terms of resource and scheme	Community residents have to take up ownership of the scheme. While these schemes and their beneficiaries may receive support, community ownership is essential. This does not negate or replace the responsibility that is integral to the position of municipalities as WSPs. What it may point to is a more collaborative relationship in terms of ownership that goes beyond the mere tangible such as ownership of infrastructure.
Compatibility between resource and scheme	It is essential that the CBWMS also takes into consideration the resource (ecological systems) in which it is located. This includes compatibility between the infrastructure and method utilized by the scheme. This cross cuts with training and knowledge for example where people may know a lot about their local context but not about the broader system at catchment level.
Contribution to bottom-up flow of information	An essential component to a successful CBWMS is to make sure information flows from the community and their experiences back up the knowledge value chain to decision makers and other institutions or organisations that can provide support.
Healthy relationship with local government	Often the relationship between community and local government have broken down due to poor resource or infrastructure provision – specifically if local demands have not been met. Despite this the channels of information sharing have to remain open.
Development of personal agency in terms of resource and scheme	All members need to develop a measure of personal agency in terms of the scheme and the resource. In many instances it is one or two people who are taking up the challenge and responsibility, however this does not make for a sustainable scheme. The CBWMS have to become more than one or two people's responsibility and become part of the communal responsibility.

There are also some elements that are outside the direct control of the village residents. There are a number of role players within this sphere that have a more or lesser role than they can play. Obviously government (local, regional and national) has a major role to play.

Table 7. Elements outside the control of the community residents – inputs to the Enabling Environmental Framework

Elements outside the control of the community residents	
Elements	**Description**
Mechanism to take-up bottom-up information	If communities are able to share locally context rich information with authorities and support organisations there has to me some sort of mechanism that is able to take-up the information and develop actions based on it. Such a mechanism will ensure contextually relevant solutions.
Develop accessible channels of information	There is a lot of information available. Some of this information is difficult to find if you do not have some information already, have access to the internet (thus also data) and/or have access to transport to a municipal or Department of Water and Sanitation office.
Create dedicated funding streams for CBWMS	Funding has proven to be a major stumbling block for CBWMS, especially at the start and also during in order to support infrastructure. Dedicated funding streams for CBWMS will assist in sustainable long term schemes, in addition such funding stream can including built in checks and balances that can help communities with monitoring and evaluation of their own CBWMS. There are a number of knowledge and information issues related to this, specifically: knowledge about where to find out about funding opportunities are needed; networks through which funding can be sourced need to be established; knowledge about how to apply for funding need to be made more available; and, knowledge about how to manage funding also need to be more accessible (cross cuts with targeted support for CBWMS, and community factors such as leadership transparency).
Supporting legislation	While some legislation does support the implementation of CBWMS, others do not. This may be due to different policies and legislation that do not speak to one another – for example legal and policy parameters around the financing of CBWMS through mechanisms at local municipal level.
Capable advisory and extension services	Often village residents noted that they have no local support from government. Capable advisory and extension services with good knowledge of CBWMS is instrumental in sustainable CBWMS.
Targeted support for CBWMS	CBWMS and the community needs in terms of support associated with this has to be clear and targeted with CBWMS specifically in focus. Understandably there are a multitude of issues that need attention and support, however CBWMS deals with an extremely important issue, namely water provision, which is also a constitutional right.

Elements outside the control of the community residents	
Elements	**Description**
Contextually relevant land-use planning	Land use planning that is contextually relevant is essential to the sustainability of any CBWMS – this cross cuts with other factors such as knowledge and information that flows upstream and downstream between communities and government. Contextually relevant land-use planning can then take into consideration local needs and can therefore also take advantage of local knowledge.
Training geared towards CBWMS	Training geared specifically towards addressing issues for CBWMS is needed.
Diversification of funding and support streams	Funding especially at the start of a CBWMS is essential. As communities become more self-sufficient in the CBWMS, large scale funding can lessen, however some investment might still be needed for operations and maintenance. As such different funding streams from different sources are needed.
Provide access to high-level technical knowledge and support	While local knowledge is valuable and essential for local up-take and contextual relevance, sustainable CBWMS need to be supported by high level technical knowledge from time to time.
Logistics support to assist communities	Communities might also require logistic support for their CBWMS. For example, access to electricity to power pumps.
Top-down flow of information that can be accessed by community	Contextually relevant information flowing from the community to other intuitions is essential, however information flowing back down is also. Communities are in need of good, solid information that can assist them with their CBWMS. This information can be about a variety of issues, for example some issues noted by communities are: government plans and timelines, technical information, and water health information.
Accountability to take up flow of information from community	As part of the mechanism to take-up local information as shared by communities, there also has to be accountability by the institution, municipality or government department to which this information where given, to develop actions based on this information.
Fostering strong partnerships and networks with CBWMS	A one of the reasons CBWMS fail is when there are no partnerships or networks to support community members in their CBWMS. Strong partnerships and networks can aid communities, especially in the setup of sustainable CBWMS from the start as well as operations and maintenance throughout.
Succession planning regarding relationships and networks with communities	Consistency and continuity in terms of relationships between community and their partners are essential. A large part of this is to ensure that when individuals leave

Elements outside the control of the community residents	
Elements	**Description**
	the institutions or organisation, the relationship and network is still in place with limited risk to the community.

7.1 Applying the framework factors to two case studies

The philosophy behind the framework is based on the evidence that in many cases communities, and its members, become solely responsible for the success of their initiative to provide access to water. What our research has shown is that such projects are successful if several factors are present. Some of these elements are under the community's direct control while others are not, such as municipal arrangements. It is our contention that local government institutional arrangements can and must fill the governance void. Considering this, local government is '… at the heart of the [country's] democratic system' (Mufamadi cited in Parnell *et al*., 2002) because it is the government sphere 'closest' to citizens (Zybrands, 2011; Meissner, 2015; Meissner *et al*., 2018).

Based on this argument, we can conclude that local government should fill the void community-owned water supply schemes face. This is particularly apt considering the financial and institutional sustainability of the projects. We should, therefore, ask if other elements are present that could enable communities to implement their own water supply schemes in the absence of local government structures and arrangements.

Our discussion of the case studies in terms of the enabling framework will focus on the second sphere and will report on a desktop investigation to ascertain which of the elements are present in two municipalities in the Eastern Cape and Limpopo. The cases are the Tshamashango Springs water supply scheme in the Vhembe District Municipality, Limpopo Province, and the Mdleleni and Setloboko family water schemes in the Joe Gqabi District Municipality, Eastern Cape Province. Since the latter two cases are situated in same local municipality, we will discuss them in concert with each other. That said, we will investigate and report on the enabling factors present and/or absent in both district municipalities.

7.1.1 Enabling and constraining factors

As already mentioned, this investigation reports on the elements outside the direct control of the community and answers the question which district municipal institutions are in place or absent to enable the elements that we identified in the outer circle. We will first report on the Joe Gqabi District Municipality before moving on to the Vhembe District Municipality. We then present the narrative in table format so the reader is able to quickly view which enabling factors or present of absent.

Joe Gqabi District Municipality

Table 8 outlines the present or absent enabling and constraining factors in the Joe Gqabi District Municipality that relate to the Mdleleni and Setloboko family water operations. Both these schemes serve one household each.

Table 8. Enabling and constraining factors present in the Joe Gqabi District Municipality

Element	Present	Information
Bottom-up information uptake mechanism	✓	'A person who desires a temporary supply of water … must apply to the Municipality for such service' (Joe Gqabi District Municipality, 2015).
Top-down information flow mechanisms	✓	The municipality's Water and Sanitation Services By-laws state that the 'Municipality may install a communal water services work for the provision of water services to several consumers at a location the Municipality deems appropriate, provided that the consumers to whom water services will be provided through that water services work have been consulted in respect of the level of service, tariff that will be payable and location of the work' (Joe Gqabi District Municipality, 2015).
Accessible channels of information		Although we were able to consult several documents published by the district municipality with information related to water supply, it is quite difficult to ascertain from these sources whether communities that own and manage their schemes can access these information sources. We have access to the Internet via a fibre Wi-Fi service. We doubt whether rural communities in the municipality has access to such services and by default the Internet and information.
Dedicated funding streams for community-based water management schemes		In the area of water and sanitation, direct allocations for this function is included in the budget and these allocations are to cover the implementation of the indigent policy for water and sanitation (IDP, 2016).
Supporting legislation		The municipality's Water and Sanitation Services By-laws state that the 'Municipality may install a communal water services work for the provision of water services to several consumers at a location the Municipality deems appropriate …' (Joe Gqabi District Municipality, 2015). In accordance with its by-laws the JGDM is providing services by means of three levels of service. They are Basic, Intermediate and Full Service Levels. Basic level of service refers to where the community accessing water through communal standpipe situated at a maximum distance of 200 metres from the furthest homestead and the basic level of service for sanitation is a ventilated improved pit latrine. The intermediate level of service consists of yard connections and a flush toilet. The full level of service refers to house connections (IDP, 2016). That said, the supporting legislation contained in the by-laws, deals with formal water services provisioning as outlined above, and not community-owned water supply schemes.
Targeted support		See the information pertaining to 'supporting legislation'.
Contextually relevant land-use planning		According to the Mayor of the Municipality, Councillor Z.I. Dumzela, in 2015, the municipality has implemented spring water protection programmes in the Elundini and Senqu Local Municipalities (Dumzela, 2015). Even so, Mvula Trust implemented this programme from August 2013 to July 2014 (Mvula Trust, 2016).
Training for community members		Road Maintenance within Joe Gqabi is done through EPWP principles focusing on labour intensive strategies. In the District area, most government Departments implement EPWP and some of the programmes include community health workers (IDP, 2016).
Diversified funding and support streams		Budgets have been set aside for communication related issues such as implementation of communication strategy, media and publicity to disseminate information as well as for events and Imbizo's. These

Element	Present	Information
		assist in community participation as information enables interaction and engagement. Public participation is seen as an essential part of good governance and as such is included in the activities and plans in that area of the IDP (IDP, 2016). The District municipality has an indigent assistance policy because of the level of unemployment and subsequent poverty in the municipal area; there are households, which are unable to pay for normal municipal services. The Municipality has therefore adopted this indigence management policy to ensure that these households have access to at least basic municipal services (IDP, 2016).
High-level technical knowledge and support	✓	The district municipality has the technical capacity to deliver infrastructure services through the Technical Services Department (IDP, 2016).
Logistical support to assist communities		We couldn't find any evidence of logistical support to assist communities other than what the water and sanitation by-laws and IDP states above.
Accountability for the uptake of community generated information		The district municipality's 2015/16 integrated development plan indicates that '… communication between the WSA [water services authority] [Joe Gqabi District Municipality] as a planner and other sector departments is not adequate. Coordinated planning that would enable the WSA to plan for additional water demand is limited. For an improved outcome, this would take all stakeholders, led by the WSA, to cooperate and be proactive in communication [sic.] their plans to each other (IDP, 2016).
Networks and partnerships		See the line dealing with 'Accountability for the uptake of community generated information'.
Networks and partnership succession planning		See the line dealing with 'Accountability for the uptake of community generated information'.

From Table 8, we notice that only three of 12 enabling factors are present in the Joe Gqabi District Municipality: bottom-up information uptake, top-down information flows and high-level technical knowledge and support. Even so, this does not mean that these elements enable the necessary support for communities to initiate their own water supply schemes. The municipality's by-laws, or structures of rule, concretise these mechanisms and elements enabling a mandatory function on the part of the municipality to implement information uptake, flows and technical knowledge and support at communal level. These structures of rule are not necessarily available to the municipality's residents since they live in a rural area, where Internet connections are likely to be rare. Said differently, community members might not have knowledge of such structures of rule since they do not have access to information held by the municipality. Put more eloquently, it is likely that community members do not know about the by-laws because of restricted access to the information. Also, should a person or community '… desires a temporary supply of water …' (Joe Gqabi District Municipality, 2015), they need to approach the municipality. This is as far as bottom-up information uptake goes. It, therefore, depends on the person or community to approach the municipality, and not the other way around. Furthermore, the community reliant on the Mdleleni and Setloboko water supply schemes indicated during the interviews that they had no support from government and outside organisation(s) to supply them with water. The reason for this is not clear in the interview. Even so, after investigating the schemes geographical location on Google Maps, we noticed that the community is situated in a rural area, far from any town or other human

settlement with ‘sophisticated’ and well-developed infrastructure. This could account as one of the factors for receiving no support from the municipality, since the vast distance from where the municipal offices are situated in Barkly East to the community water scheme makes is difficult for municipal officials and community members to make direct contact. According to Google Maps, the distance between the scheme and Barkly East is about 212 kilometres, with an estimated travelling time of 2 hours and 45 minutes by road (Figure 24). Be that as it may, the two water supply projects are located in the Elundini Local Municipality, with office situated in Maclear, some 85 kilometres or 1 hour 20 minutes’ drive away. Be that as it may, the district municipality is water service authority and not the local municipality, which necessitates community members to get come in contact with municipal officials in Barkly East and not Maclear.

What is more, the municipality may implement water services where it deems appropriate. It is, therefore, still the municipality’s discretion where such a water supply project may be located. Said differently, should a person or community approach the municipality to supply it with water, which would be a temporary arrangement, it is still up to the municipality to decide on the scheme’s site, sustainability and viability. Therefore, the community will not ultimately decide where and when the water supply project will be implemented; it is the municipality’s prerogative. Considering this, an authority void exists on the part of the municipality in that its by-laws restricts its modus operandi and, in effect, take governance away from communities in dire straits regarding precarious water supplies.

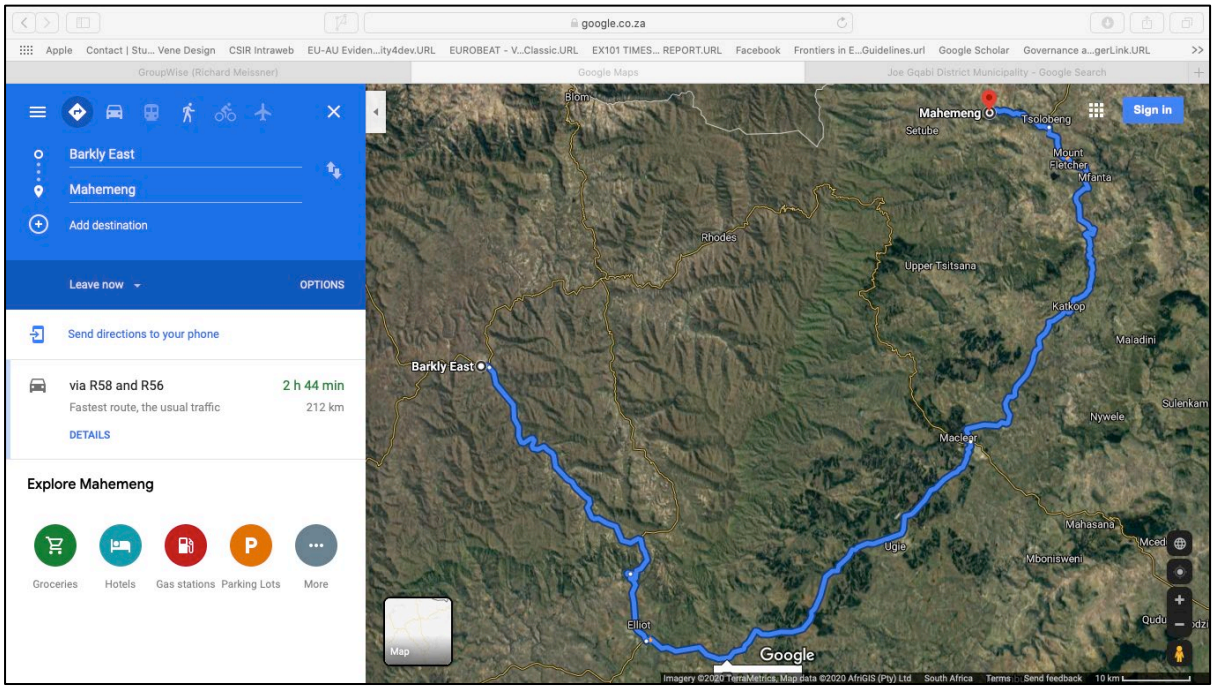


Figure 24: Distance between the Mdleleni and Setloboko family water supply schemes to Barkly East

Regarding high-level technical knowledge and support, the Municipal Manger indicated in the Municipality’s 2016 IDP that:

> ‘With regard to addressing water and sanitation service delivery backlogs within the District, there are various projects and programmes that started during the last term of Council which are continuing going forward. These are large scale projects such as bucket eradication, potable water and sanitation provision, bulk water and sanitation infrastructure maintenance and upgrades, and rural sanitation and rural water provision interventions’ (Joe Gqabi District Municipality, 2016).

This indicates a focus on large-scale schemes and not on ones like the family water supply projects. All-in-all, the community water supply schemes are left to their own devices when it comes to institutional and knowledge support. As noted above, a factor contributing to this conclusion is the geographical remoteness of the schemes from any large town or city. Within the Mount Fletcher area there is also no operating water user association or irrigation board that could lend such support to the community members.

Vhembe District Municipality

Table 9 outlines the present and absent enabling and constraining factors that in the Vhembe District Municipality relating to the Tshamashango Springs water supply scheme. The spring serves the Lutomboni Village situated 60 kilometres north of Makhado.

Table 9. Enabling and constraining factors present in the Vhembe District Municipality

Element	Present	Information
Bottom-up information uptake mechanism	✓	In his 2019/20 overview of the budget speech, the Municipal Manager of Thulamela Local Municipality, Councillor H.E. Maluleke indicated that: ‘We have engaged stakeholders in rigorous consultation processes throughout the development of the 2019/20 IDP Review and had visited all nodal areas to engage our communities thoroughly. We have collected the Community Needs and the document reflects the challenges that our community face. The Needs of the community are colossal as compared to financial resources’ (Thulamela Local Municipality, 2019).
Top-down information flow mechanisms	✓	The district municipality is both the water services authority and provider (Vhembe District Municipality, 2016). Every water service authority has a duty to all consumers or potential consumers in its area of jurisdiction to progressively ensure efficient, affordable, economical and sustainable access to water services (Vhembe District Municipality, 2016). Vhembe District is a Water Service Authority and Provider. The district purchase bulk raw water from the Department of Water Affairs, then process or clean the water for reticulation. The goal of Vhembe District Municipality WSA is to supply every household with an adequate and reliable water supply and to manage the water supply services in an affordable, equitable and sustainable manner (Vhembe District Municipality, 2016). There is a huge water and sanitation backlog in the area … A large number of households already have access to water; however upgrading, resource extension, operation and maintenance as well as refurbishment needs are immense. Infrastructure upgrading and refurbishment are the major problem: project like Tshifudi groundwater upgrading, Makhado-Tshikota sewer reticulation

Element	Present	Information
		refurbishment, Albasini water works refurbishment, upgrading of Valdezia electric power station, Vondo Water Works refurbishment (Filters), Malamulele Water Works refurbishment of Lagoon/filters, refreshment of Musina water abstraction and reticulation, upgrading of bulk pipeline to Mtititi/Halahala/Altein and surrounding villages (Vhembe District Municipality, 2016).
Accessible channels of information		We could not find any evidence of accessible channels of communication apart from e-mail addresses on the Thulamela Local Municipality's website where citizens can forward their accounts, electricity, refuse and waste removal, roads and service delivery queries to (Thulamela Local Municipality, 2020).
Dedicated funding streams for community-based water management schemes		The municipality notes in its 2016 IDP that it has insufficient funds to cover all dry areas (Vhembe District Municipality, 2016) with boreholes with the aim of groundwater abstraction.
Supporting legislation		We were unable to access and review the municipality's acts and by-laws to ascertain whether appropriate legislation is in place.
Targeted support		No accessible evidence.
Contextually relevant land-use planning		No accessible evidence.
Training for community members		No accessible evidence.
Diversified funding and support streams		No accessible evidence.
High-level technical knowledge and support	✓	The municipality has technical services in place to manage water quality, provide water demand and management services and operate, maintain water and sanitation infrastructure and manage water service planning (Vhembe District Municipality, 2016).
Logistical support to assist communities		No accessible evidence.
Accountability for the uptake of community generated information		No accessible evidence.
Networks and partnerships		No accessible evidence.
Networks and partnership succession planning		No accessible evidence.

From Table 9, we notice that the same enabling factors are in place in Vhembe that in Joe Gqabi and the same conclusions hold for the both municipalities. Even so, after reviewing the Vhembe District Municipality's IDP, several unique issues service.

The municipality notes in its 2016 IDP a few opportunities related directly to water, namely: potential to generate revenue through water sales, the availability of raw water sources, water catchments and dams. This IDP covers the period 2017/18-2021-2022 (Vhembe District Municipality, 2016). Considering these opportunities, the municipality has access to surface and groundwater resources, which could generate revenue for the local government, under ideal conditions. However, municipal water managers and other practitioners in the research community investigating water resource management, consider factors that could impede the

municipality to generate revenue from water sales. These relate to infrastructure development. In the case of a community-owned water supply scheme, that had been constructed not using public funding, chances are that the scheme, such as a borehole, does not have a water meter. Metering is essential to measure the volumes of water abstracted over a period to calculate the sale of water, which, by default translate into revenue generation for the municipality. With respect to payment of water services, the 2016 IDP, furthermore, notes that the municipality has a problem whereby municipal officials and councillors do not pay their water bills (Vhembe District Municipality, 2016). With a non-payment culture among municipal officials, chances are that community members might follow their example and not pay for water services, translating into cascading revenue loss.

Additionally, the municipality acknowledges that it has a slow response rate to water supply complaints (Vhembe District Municipality, 2016). In a situation where a rural community is faces inadequate water supply, there are few options available to such a community. It can, firstly, request a water tanker service from the municipality or it can, secondly, look after its own water security by self-supplying water from a nearby source. It would appear as if the second option applies to the Tshamashango Springs water supply scheme. Considering the water tanker service, the municipality acknowledges in its IDP that its water tankers do not have meters (Vhembe District Municipality, 2016).

Another aspect that water resource practitioners need to consider is the fact that the municipality purchases raw water from the Department of Human Settlements, Water and Sanitation (DHSWS) and distributes it to consumers after purification to recover costs related to such a service (Vhembe District Municipality, 2016). In the case of the Tshamashango Springs water supply scheme, we can ask whether the municipality incurred such costs, from buying the raw water, purifying it and distributing it to the community depended thereon. From the case study, it appears as if the community carried all the costs. Considering that there is no meter installed, which entity should recover the cost of the water: DHSWS or Vhembe? This is an important consideration, since DHSWS is the custodian of South Africa's surface and groundwater resources. Since the community utilises groundwater, technically DHSWS has to recover the cost of the water the community uses.

According to interviews conducted by the team, the villagers from Lutomboni Village had never received any municipal water, this after numerous requests over the years. This indicates that the municipality has no bottom-up information uptake system in place. What is in place though, according to the Municipal Manager, is stakeholder engagement but does not seem to be effective enough to cater for communal water needs (see Table 8). The district municipality also places a premium on water tariffs and was, in 2016, '… in the process of developing [a] Water Cost Recovery strategy…' (Vhembe District Municipality, 2016). Even so, we could not locate this strategy for desktop analysis purposes. In the 2016 IDP, the district municipality also notes that: 'Challenges are insufficient funding to procure enough water meters and its accessories contributing to water meter connection backlog, unmetered household connections, illegal water connection, delay in water meter installation, dilapidated water infrastructure and meters, water loss and street taps damages' (Vhembe District Municipality, 2016). This does not only indicate inadequate metering from water sources like the Tshamashango springs; the municipality focuses attention on water supplies through formal connections through which it supplies residents with potable water bought from DHSWS and, by doing so, generate much needed revenue.

Considering all these factors, one needs to question whether the municipality has a vested interest in community water supply schemes since these do not generate much needed income for the local government. Furthermore, the community indicated that they carried the cost for a piped water reticulation system from the springs to the village. In the context of CBWMS, one should also ask whether it would have been helpful for the municipality to contribute to the capital costs of the installation, and then hand it over to the community.

As is the case with the Mdleleni and Setloboko family water supply schemes, the Tshamashango springs project is situated in a rural area with the largest town, Louis Trichardt some 60 kilometres to the south-west. This means that there are no other institutions such as a water user association of irrigation board that could assist the community with institutional and technical know-how. The Weipe Irrigation Scheme, situated on the banks of the Limpopo River, is situated 164 kilometres to the north-west.

7.2 The Enabling Environmental Framework

Examining the different factors in terms of our case studies revealed that there are spheres of influence that cuts across the two different types of factors. The spheres of influence correlate to issues relating to how people behave, issues relating to knowledge, and issues relating to a system of institutions and supporting instruments. These three spheres have been identified as essential areas of concern for the sustainability of the CBWMS

Figure 25. Three spheres of influence are essential in the enabling framework

Figure 26 provides a summary of each of the factors and the spheres of influence they fall under.

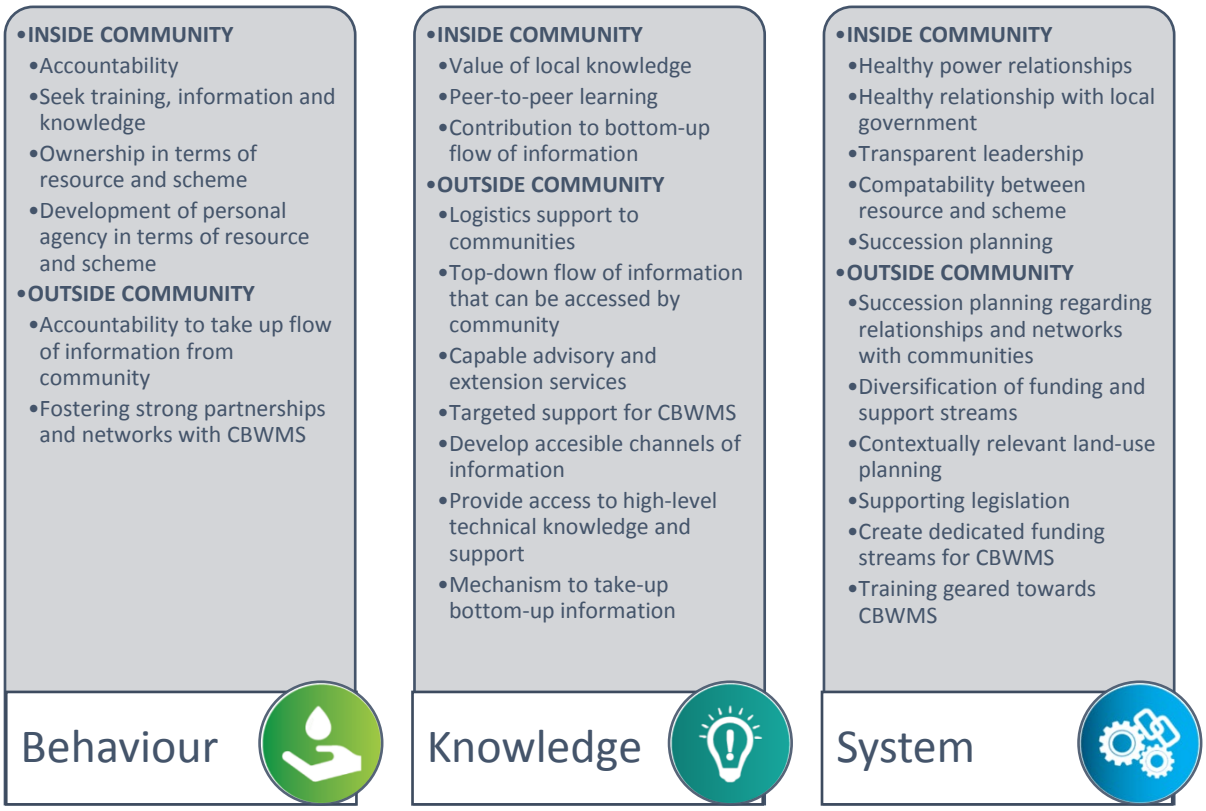


Figure 26. Summary of the factors that make up the Enabling Framework.

Taken together then, we have developed an enabling environmental framework that can support both municipalities and communities alike. Figure 27 presents the complete framework. One can clearly see the elements are separated into those within the control and those outside of the control of the communities. The different colours correspond to the different spheres of influence as discussed earlier (see also Figure 26).

Figure 27. Enabling Environment Framework for Sustainable Community-Based Water Management Scheme

7.3 Conclusion

Upon reflection of the research and information presented in this document, there is a clear correlation between the needs of communities, the inability of the municipality to fulfil those needs and the resultant actions taken by communities to fill those needs for themselves (or as much as they are able to). There should be no question that constitutionally water supply and sanitation services are the responsibility of municipalities as WSPs. However, given the state and decreased capacity of municipalities, as well as the actions by communities, it is equally clear that this constitutional responsibility is not being fulfilled.

Our research has shown that the problem is one that is larger than merely buying and supplying more infrastructure, or employing more capable people. Intangibles such as trust relationships, increasing and decreasing agency of communities and officials, and shifting power relationships points to a more holistic solution or approach that is required. The report by Goldman et al. (2013) has already pointed to this. Their suggestion of a community-based

partnership provides important basis upon which the Enabling Framework we have developed is built as it points to a relationship that is required in order to begin to solve these issues.

Our Enabling Framework in the first instance works from the assumption that there are policies and process already in place. And, we have seen that this is the case through our own assessment of the policies and legislation, the way in which officials speak about constraints, as well as our attempt at applying the Framework in two of our case studies. For example, as we have shown, frameworks and policy documents such as the Water Supply and Sanitation Policy White Paper of 1994, the 1998 White Paper on Local Government, and Municipal Service Partnerships White Paper of 2000 recognises CBOs as ideal organisations or units to provide options for the delivery of municipal services in rural communities. The Department of Water and Sanitation's guidelines of 2001 on CBOs as water services providers' also stipulate that WSAs can enter into a joint venture with a CBO to form a CBWSP. The Municipal Systems Act of 2000 also makes provision for CBOs to enter into an agreement with the municipality to provide municipal services, including water services.

Our Enabling Framework also takes cognisance of the evidence from our research that points to a high level of agency with communities themselves. We have seen that communities can and do take things into their own hands, however this does not mean that they are ignorant of the responsibility that still lies at the feet of the municipality. At the same time however one should not deny them the opportunity to engender high levels of agency, but still within the scope of the policies already in place.

An important aspect to bringing all of this together however, is that a sustainable solution requires collaboration, with different roles that should be taken up and fulfilled by both communities and officials. Our Enabling Framework makes explicit these roles and opportunities to support such a collaborative relationship. It does so by focussing on enabling actions on both sides, community and municipality in order to realise the intent of the policies that are already in place.

Section 8. Section 8: Learning and recommendations

In this section we present the learning we have gained from our research and case studies. In addition, we provide insights in the form of possible recommendations and interventions for consideration.

8.1 Learning and recommendations from literature:

Certainly one of the most important points that can be learned from literature on the subject of communities managing their own water is that this phenomenon is not new, and certainly not limited to South Africa. Studies show that there are a number of positives to be gained for communities to get involved in managing, or at least partially managing, their own water. The following are pro's that have emerged from literature:

1) The provision of water to people are often times fraught with politics and conflict. Literature shows that in the face of such conflict there is a greater vested interest on the part of communities to come to a resolution if they are part of the management process.
2) Local traditional knowledge or traditional ecological knowledge have been proven to be uniquely useful in understanding water resources of particular areas, as well as the changes of those sources over time.
3) Studies of communities who manage or co-manage their own water resources and water provision show that water becomes an integral part to the way in which networks and community relationships are formed and maintained.
4) Since communities are the people who are mostly the closest in proximity to their own water resources, they are ideally situated to become part of monitoring processes which are often difficult to get right, especially for those in deeply rural areas.

One of the ways authorities and communities have tried to bring communities into the management and decision-making process around water resources, is through water committees. These water committees are usually made up of community members from different sections of the community. The efficacy of water committees has been shown to vary depending on a number of factors. From literature on different studies and examples, we see there are a number of reasons that have emerged around why community management of water in many cases do fail:

1) *Assumptions regarding community cohesion*: Often there is an assumption that there is a natural community cohesion, which is more often than not, not the case. This assumption often stems from misguided perceptions around the character of rural communities especially, due to their close proximity to nature or their natural surroundings. As a result, issues such as hierarchy, political agendas and power relationships are often overlooked. In addition, weak community leadership is often one of the causes for the lack of a cohesive community. One of the outcomes of this is that decisions are often taken without everyone being in agreement or even aware of the decision and its implications.

2) *Issues with management*: The management of these schemes are often times found to be below par. This has been observed to be due to a lack of critical skills, in particular project management; lack of communication between the community and the committee; and, limited actual committee power and control over community members' actions and behaviour – for example with regards to payment for water.

Lastly, a lack of experience, agency and skills have caused water committees to be overcome by the eventual complexity of the systems that they are supposed to manage, and they have been unable to adequately negotiate and conclude agreements with institutions and other communities outside their own.

3) *Money and resources*: Evidence from studies show that a lack of control of money and resources become an important stumbling block for community management of water through water committees. Not only is it difficult to get community members to contribute money towards the scheme, examples from literature shows that good fiscal practices are often not the norm. Water committees find it difficult to keep books, show transparency in spending, and budget. Moreover, water committees, especially in rural areas find it difficult to access support and external sources of funding.

4) *Beneficiation*: Due to irregularities within management structures as well as internal members' personal agendas and motivations, it has been found that in some cases not all community members benefit in the same way from the water management system. It has also been found that the level of service provided by water committees are particularly low and sub-standard especially in relation to ensuring good quality and quantity of water.

5) *Outside support*: While communities and their water committees need the support from organisations, institutions and structures outside of the community, there have been cases reported where this 'outside support' can create high levels of interference, such as political interference, thus causing unnecessary conflict. However, learning from literature has shown that often those whose very job it is to support these water committees, such as municipalities in South Africa, do not live up to their mandate culminating in a vicious cycle of communities resorting to their own devices.

6) *Life cycle of a water implementation project*: Water implementation projects where communities are involved are often abandoned after two to three years post construction phase (if that long). Literature has showed that there are different phases of such life cycle which requires different inputs, networks and relationships and different stakeholders taking up responsibility.

Literature and studies have also shown that there are a number of important principles that has to be considered and implemented (in the least) if communities are to play a role in their own water management:

8) Communities have to be given a voice in making decisions regarding their own water;
9) Mobilisation of innovation from communities should happen from the very start of the endeavour and not only in the use phase;
10) Recognising (on both community and authority side) that communities has co or complete ownership of scheme; and the responsibility that goes along with it;
11) Different stakeholder input and support is required through the different phases of the intervention and through its life cycle;
12) Co or complete ownership requires commitment on the community's side to take up their portion of responsibility in terms of operations and management of the scheme and its infrastructure;
13) Researchers and implementers of such schemes have to learn from the past, and build on the past to create greater odd for success; and,

14) In order for communities to be able to operate within the boundaries of the law so as to ensure accountability and transparency a review of key governances processes, structures, policy and legislation is needed in South Africa.

8.2 Learning and recommendations from legislation and policy

The following table provides a summary discussion of the legislative and policy learning and recommendations emanating from our research. Note that we provide possible interventions actions for each policy or legislation. Emphasis should be placed on 'possible interventions' as all of these will have to be considered, reviewed and tested within the broader legislative frameworks of the country, the governance arrangements of the state, and the viability of implementation.

LEGISLATION/ POLICY	DETAIL	CONTEXT
Constitution of South Africa Section 27	Section 27(1)(b) of the Constitution guarantees everyone **the right of access** to sufficient water, and requires that the state take reasonable and other measures within its available resources to ensure the progressive realisation of the right.	The Constitution makes provision for the right to have 'access' to water. Out of this provision, communities can expect that their Water Services Authority (WSA) to take reasonable measures to realise it. But a precedent has been set where "reasonable measures" is defined in terms of the concept of progressive realisation of those rights. This means that there will be a waiting period for the realisation of these rights.
	RECOMMENDATIONS IN TERMS OF CBWM While the right to access has been established, many communities still struggle with reliable access to water. <u>Possible intervention:</u> Close the loophole that has been created – demand clarity be provided on "reasonable measures", and a reasonable timeline associated with "progressive realisation" of rights. *Note – this will strengthen the burden of the mandate to provide water on those responsible, but implementation will still be paramount to success.*	
LEGISLATION/ POLICY	**DETAIL**	**CONTEXT**
National Water Act (Act 36 of 1998) Section 4 Schedule 1	The National Water Act ensures that the nation's water resources are protected, used, developed, conserved, managed and controlled. Section 4 highlights water for domestic use – and stipulates in particular "reasonable domestic use" Following from this, Schedule 1 relates to the	Schedule 1 makes specific reference to the following in terms of water use that is significant for CBWMS: • Water use is specified for a single household use only – thus own use only. • Serves to support the use of water for subsistence farmers – thus not for commercial farming

	permissible use of water and **specifies reasonable use by household members of a water resource** they have lawful access to.	• Makes provision for the water of animals that are kept for household use – thus not for commercial use such as feedlots – and has to be within grazing capacity of the land. • Stipulates 'lawful' use of the resource – thus one has to lawfully have access to the resource in order for you to make use of the water.
	RECOMMENDATIONS IN TERMS OF CBWM 1) Schedule 1 water use is ideal for households providing water for themselves, and where there is subsistence agriculture. <u>Possible intervention:</u> Create an opportunity within Schedule 1 water use for groups of households to pool resources in order to provide water to more than one household. *Note – Success will hinge on an enabling environment that speaks to their particular context. Also, this will not solve the problem for villages/communities as a whole and might reinforce water hierarchies.* 2) Any entitlement provided under Schedule 1 does not override any other law, ordinance, bylaw or regulation, and is subject to any limitation or prohibition thereunder. However, Schedule 1 does make provision for the use of water from any water resource in 'emergency situations' (characterised as use for human consumption and firefighting). NOTE: the term 'emergency situation' is not defined. <u>Possible intervention:</u> Elevate Schedule 1 water use – specifically where other laws' limitations and prohibitions deny households and communities their own efforts to secure access to water. Also – declare an 'emergency situation' in those communities where households are struggling with lawful access to water.	
LEGISLATION/ POLICY	**DETAIL**	**CONTEXT**
Water Services Act (No. 108 of 1997) Section 3 and 11	Section 3 of the Water Services Act (No. 108 of 1997) interprets Section 27 of the Constitution by stipulating that everyone has the right of access to water and basic sanitation, relevant state institutions must take reasonable measures to realise these rights, and that relevant authorities must provide measures to realise these rights	The Act makes it clear that a WSA has to nominate specific water service providers for an area, and that no person may use another water service provider that has not been nominated as such by the WSA. In many cases (though not all), the WSA is a municipality. Current research shows that municipalities across South Africa are struggling to perform optimally which has a cascading effect on service delivery, in particular the provision of water and sanitation.

	Section 11(1) of the Water Services Act puts forth that all Water Services Authorities are duty bound to "progressively ensure" affordable, economical and sustainable access to water services.	
	RECOMMENDATIONS IN TERMS OF CBWM 1) Responsibility is placed at the door of the WSA, which often takes the form of the municipality, to nominate alternative institutions as water services providers. Here the capacity and capability of the WSA (or municipality) to go through the nomination process becomes a significant enabler or disabler in terms of communities being able to fulfil the role of providing water. <u>Possible intervention:</u> Build capacity through training and providing an enabling environment for WSAs, and specifically municipalities who are WSAs, to streamline and optimize this process. *Note – Opportunity for communities to operate as water services providers are created under this Act (discussed further down), however swift and successful implementation of the procedures are required. Up to now ineptitude of municipalities to fulfil this role has been, and will be if not remedied, a major obstacle*. <u>Possible intervention:</u> Nominate or create an alternative body of authority to take on the burden of responsibility so that municipalities who are WSAs do not become a blockage in the process.	
LEGISLATION/ POLICY	**DETAIL**	**CONTEXT**
Water Services Act (No. 108 of 1997) Section 19	Section 19 of the Water Services Act makes provision for municipalities to provide water themselves or alternatively contract such services out to other Water Services Providers (WSPs), or lastly, enter into a joint venture with another water services institution to provide the services. The Water Services Act makes provision for four different water services authorities, namely: (i) water services providers (ii) water services intermediaries, (iii) water boards, and (iv) water services committees.	Two of the four identified WSAs have significance for CBWM: 1) Water services providers: Municipalities often take on the role as a WSP, however **this role may also be performed by other institutions such as water boards, community-based organisations,** etc. WSPs assume the operational responsibility of providing water services to consumers. 2) Water Services Committees: The **committees may be established by the Minister** to provide services related to water and sanitation to people in a specific area.

	RECOMMENDATIONS IN TERMS OF CBWM 1) An important aspect to entering into a contract with a private water service provider is that a WSA may only do so after it has considered all other known public sector water services providers and who are willing and capable of performing this service. In addition, if a water service provider is not the same as the water services authority, then it requires approval by the water services authority Possible intervention: Eliminate the hierarchy created in favour of 'other known public WSPs'. Allow other types of WSPs to be considered on equal footing. *Note – The important role that WSAs still play here, and such also municipalities.* 2) Water services committees have a history rooted in the 1997 Water Act, and while included in the current legislation, consensus seem to be that they are obsolete. Possible intervention: Explore the fully reinstatement of water services committees. Make provision for communities to utilise this avenue as a way to operate as a WSP. *Note – In order for a water services committee to be constituted, the inhabitants of that particular area must request its establishment and the relevant municipality must agree before the Minister can approve. With the reinstatement of the water services committees, communities will still require a vast amount of agency as well as an enabling environment in order to take advantage of the opportunity provided by the committee.*	
LEGISLATION/ POLICY	**DETAIL**	**CONTEXT**
Water Services Act (No. 108 of 1997) Section 19 CBOs as WSPs	Provision is made under the mantle of WSPs for community-based organisation to take up the role and serve as a WSP. Water Supply and Sanitation Policy White Paper of 1994, the 1998 White Paper on Local Government, and Municipal Service Partnerships White Paper of 2000 recognises Community-Based Organisations (CBOs) as a possible option for the delivery of municipal services in rural communities.	A CBO (in the context of the water sector) is a NGO within a community, providing water services to that community. The mandate for service provision stems from the municipality as well as from the community. The role of the CBO is to act in the overall interest of the community. Requirements (White Paper on Municipal Service Partnerships, 2000) that need to be complied with before a CBO can be appointed as a municipal service provider: • CBOs need to adopt a formal constitution • CBOs need to adopt a code of good practice consistent with those set out the Minister

		• CBOs need to be registered in terms of the Non-Profit Organisations Act.
	RECOMMENDATIONS IN TERMS OF CBWM 1) The DWSs guidelines of 2001 on CBOs as water services providers' stipulate that WSAs can enter into a joint venture with a CBO to form a community-based water services provider (CBWSP). The requirements set out for communities to form and act as CBOs are however onerous. The requirements of adopting a formal constitution, a code of good practice, and to be registered in terms of the Non-Profit Organisations Act requires a high level of agency. <u>Possible intervention:</u> Reassess the requirements for communities to become CBOs. In addition, create targeted support for CBWMs so that they are able to achieve the set requirements. *Note – success of this intervention will still be contingent on the municipality as a WSA to appoint the CBO as a WSP. If municipalities as WSA continue in that role, and continue to perform poorly, then CBOs as WSPs will not be a sustainable solution.*	
LEGISLATION/ POLICY	**DETAIL**	**CONTEXT**
Local Government Municipal Systems Act (No. 32 of 2000) Section 78-84	This Act was promulgated to provide for the core principles, mechanisms and processes that are necessary to enable municipalities to move progressively towards the social and economic upliftment of communities.	The Municipal Systems Act makes provision for CBOs to enter into an agreement with the municipality to provide municipal services, including water. In order for this to happen: • The procedures that have to be followed, outlined in Sections 78-84, are extremely onerous. • They were designed principally to address proposals for the introduction of private service providers into municipalities, which was and remains a controversial concept. • As a consequence, it is unlikely that a community-based service provider could successfully comply with them; indeed, requirements for procedures such as competitive bidding (Section 83) are arguably inappropriate for a community-based scheme.

	RECOMMENDATIONS IN TERMS OF CBWM 1) The procedures outlined in Section 78-84 are arguably not conducive for community organisations such as CBOs or Water Services Committees to successfully comply with them. <u>Possible intervention:</u> Reassess the necessity for community-based service providers to comply with procedures stipulated in Sections 78-84. Consider creating different levels or requirements and criteria for compliance by community-based service providers versus private services providers. 2) Different assessments suggest that the issue comes in with the qualification of an institution providing a "municipal service" (specifically Section 78). This can be circumvented if the community partners with the municipality rather than taking on the role of a municipal service provider. <u>Possible intervention:</u> Create the role of 'municipal partner' for communities. A municipal partner will be a community who, with the WSA (read municipality) provides water (including processes and infrastructure associated with water provision) to itself. Define roles and responsibilities, as well as governance structures and requirements for such a role. *Note – this will require agency on the part of the community, commitment to high level of service on the part of the municipality as well as an enabling environment to support such an endeavor. Many of the proposed actions relating to the Water Services Act will still be required in support of such a partnership.*	
LEGISLATION/ POLICY	**DETAIL**	**CONTEXT**
	RECOMMENDATIONS IN TERMS OF CBWM 1) While the Act provides in detail for the establishment of public-private partnerships, there is no mention of funding for activities undertaken by a local community with the agreement of the municipality.	

	Possible intervention: Revise the stipulations within the Act to create a funding mechanism to support local communities who enter into agreements with a municipality. 2) The Act also does not require any disclosure of how funds from the equitable share are allocated. Yet these are the transfers that, in terms of the Constitution, are intended to enable local government to provide basic services, such as water. This significantly limits the establishment of a structured and transparent process to disburse a share of equitable revenue funds for the purposes intended. Possible intervention: Revue the Act to include and strengthen disclosure of funds to ensure equitable share allocation. Create dedicated mechanisms for monitoring of this funds distribution.

While many of these interventions are practically doable, and may create more opportunities for CBWMs to establish themselves and operate within the law, our research with communities and municipal officials have clearly indicated that without an enabling environment to support such interventions, the interventions may not succeed in its goal. Moreover, without serious review of municipalities and their caliber of service and performance, a reassessment of the role they play and can play in the future, and a realistic plan to develop capacity, eradicate personal agendas and strengthen municipal processes, communities might very possibly find themselves in the same position with regards to access to reliable potable water in the next 10 years to come. Figure 28 provides a summary illustrating the current legislative opportunities for residents and communities in terms of self-supply, as well as possible interventions (as discussed in the tables above).

It is also important to take note of the restrictions placed upon national government departments to intervene. For example, according to DWS officials in our focused discussion, there is no mechanism for DWS currently to intervene in the management of affairs at municipal level. As such this severely inhibits the ability of the DWS to make changes. Currently all that they realistically are allowed to do is to provide guidance through the sharing of information, engagement and transfer of best practice methods.

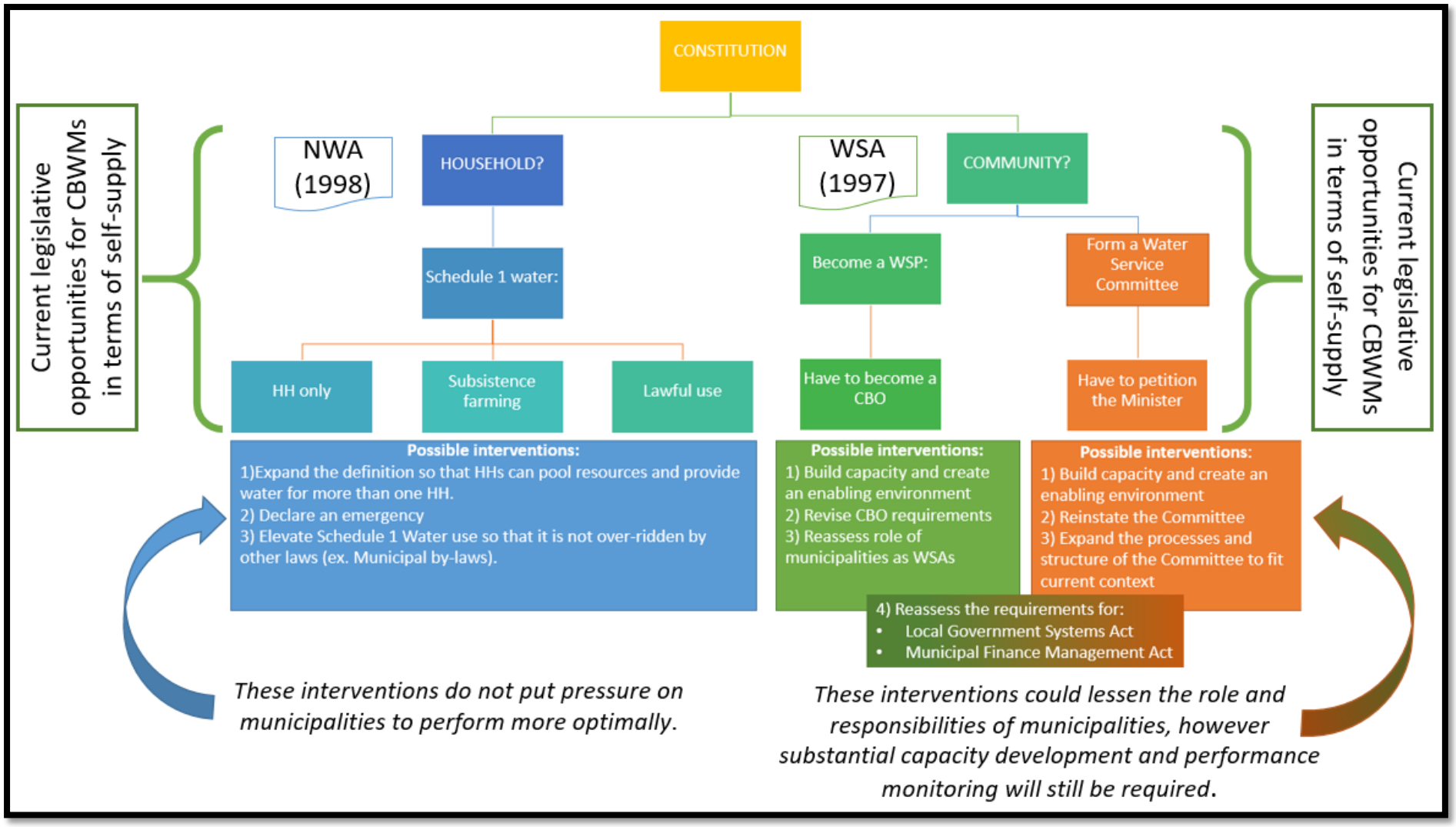


Figure 28. Summary graphic illustrating the current legislative opportunities for residents and communities in terms of self-supply, as well as possible interventions.

8.3 Learning and recommendations from our case studies

1) Need overshadows agency – communities might not have enough agency to engage governance processes, the need to find and supply water will drive them to be innovative.

    - Communities have agency – in absence of municipal water we need to harness this agency in our efforts to assist them with water self-supply

2) Despite the fact that communities may not have all the skills and technical knowledge, they innovate to create systems and schemes. They however readily acknowledge that they require the help and support.

    - Communities require advice and support on:
        - Water quality
        - Appropriate infrastructure
        - Navigating governance processes
        - Accessing finances
        - Diversification of water sources.

3) Women often bear the brunt of collecting water for the household. Even in villages where there is some sort of system in place where water is collected through a gravitational flow, water still needs to collected. This burden falls mostly to women, adding to their triple burden.

    - Communities need support to implement sustainable systems that bring water closer to homesteads to lessen the burden on women and girl children.

4) Many community members provide their own money and other resources for the development of water schemes. Sustainable funding for infrastructure is a major stumbling block for communities.

    - Require legislation that help makes provision for self-supply by communities, without taking away from the pressure on municipalities to fulfill their mandate
        - Do we take another look at what is there and adapt?
        - Do we create new legislation?

8.4 Learning and recommendations from research with municipalities

1. Remedy MIG funding instrument implementation

    - Municipal officials we engaged with noted that the distribution of MIG funding is flawed.

2. Eliminate the space that has been created for political motivations and agendas to influence funding.

    - Municipal officials note that projects are not getting approved due to political motivations and agendas. In addition, funding is not allocated according to need, but according to these political agendas.
    - Why is this happening – what factors are supporting these kinds of actions?

- What mechanisms are in place to ensure that this kind of political interference does not happen?

3. Support required by municipal officials to navigate governance processes
    - Such as budget allocation – moving from ad hoc support to structured and planned support
    - Municipal officials noted that they are unable to navigate the budget allocation process.
    - What mechanisms are currently in place or can be put in place to assist municipalities with budgeting?

4. Support municipalities with crafting suitable bylaws where needed
    - Municipal officials note that municipal bylaws are often some of the greatest impediments to municipal officials being able to help communities who engage in CBWM.

5) Enable municipalities to fulfill their mandate
    - We know that there is good water legislation and policy in South Africa, that if implemented should provide adequate water to people in South Africa. However, our research has shown that many of the problems with community water supply stems from the inability of municipalities to fulfill the mandate set by the SA Constitution and our legislation.

8.5 Learning and recommendations from developing and testing our enabling environment framework

1. Create support to access important information
    - What support is in place to help communities access important information relating to water?
    - For example, in terms of logistics, technical knowledge, funding support, land-use planning, and water-use licenses.
    - Is the current support realistic in its application (accessible, user-friendly, contextually relevant)?

2. Create mechanisms to ensure that issues and concerns from communities are fed-up the governance value chain
    - Is there any way that accountability can be ensured (on part of municipalities) to take-up the flow of information from communities?

3. Create targeted support for CBWMs
    - For example: Has DWS been able to foster any strong partnerships or networks with CBWMs?

4. Provide municipalities with targeted help to support communities
    - Especially those communities in deeply rural areas, and those without access to municipal water

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Section 10. Appendix 1

Community-based water management schemes

Name of community and scheme: _____

Local Municipality: _____

District Municipality: _____

	Question	Further notes
1	What factors gave rise to the development of the community-owned water supply scheme?	Here we are looking at the context from within which the community developed their scheme
2	Before this scheme – what did the water provision look like? Did anyone else provide water? Was it successful? Why – What happened?	We are trying to see what the situation was before they started the scheme.
3	How did the scheme start? Were the community the initiators?	Links to agency
4	If the scheme was started by the community – where did they get the knowledge from? Is it one person, or a few people? What happens if these people are no longer there?	Link to local knowledge and the locus of knowledge in communities.
5	If the scheme was co-imitated by NGO and community has there been any transfer of knowledge?	Links to the sustainability of the scheme.

6	Do the community own the water system or facility?	Links to agency and power
7	Do the community have overall responsibility for its operation and maintenance?	Links to agency and power
8	What is the nature of the scheme?	Describe the scheme – what does it provide. **Are we allowed to take any pictures?**
9	How long has it been operational?	
10	Has the nature of the scheme changed over time? IF yes – how? If no – Why not?	Lit suggest that over time schemes such as these become too complicated for communities on their own to manage. Thus probe for changes – what did it look like in the beginning, what does it look like now?
11	Has there been problems with security and upkeep? For example vandalism, etc. Who takes responsibility?	Establishing uptake and responsibility by community at large not only 'managers' of scheme. Here also probe for voluntary help from community re upkeep
12	Do households contribute anything to the scheme – either in kind or monetary? What do they contribute???	Links to uptake, ownership and governance.

13	How does the governance (management) of the scheme work? How do they make decisions? Who is a part of the management – women, men, youth?	Lit suggest that those who manage scheme like this get disillusioned as community members do not have good uptake thus it is left to a few people to always take up the challenge – probe for this.
14	What would the community like to see government do to help them? For example – who in government should be helping?	Speaks to perceptions of communities re role of government.
15	Who should be paying for a system like this? How much do you think will community members want to pay – or be able to pay???	Need to understand perceptions re payment and financial support
16	Does the scheme get any support from any organisation outside of the community? How are they being supported?	
17	Which of these are more acceptable, and why? Rank in order of preference (1= most acceptable 6= least acceptable) Shallow, hand-dug wells with water from hand pump or even simple buckets _____ Deeper groundwater, with hand pumps or motor driven pumps _____ Natural springs _____ Small surface dams, water from which would require treatment _____ River abstraction, water from which would require treatment _____ Bulk supply source that would need to be reticulated to and within the community _____	Please ask why these are acceptable or not. We need to understand what they prefer in terms of water provision

Section 11. Appendix 2

CSIR Ethical Clearance

CSIR Research Ethics Committee
PO Box 395 Pretoria 0001 South Africa
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Email:R&DEthics@csir.co.za

25 November 2019

Dear: **Dr Ryneth Mbhele**

Approval of Protocol: **Legal and institutional barriers to community owned water supply schemes**

This is to confirm that your protocol reviewed by the CSIR REC has been approved. The reference number of this research project is **Ref: 295/2019.**

This approval is granted under the condition that:

1. The researcher remains within the procedures and protocols indicated in the proposal, as well as the additions made to the procedures and protocols as indicated in the responses submitted to the questions of the REC, particularly in terms of any undertakings made and guarantees given.
2. The researcher notes that **any deviations to the approved project/protocol must be submitted to the REC for approval before implementation**.
3. The researcher remains within the parameters of any applicable national legislation, institutional guidelines and scientific standards relevant to the specific field of research.
4. This approval is **valid for one calendar year from the date of this letter**.
5. The researcher submit bi-annual progress reports to the REC
6. The researcher immediately alert the REC of any adverse events that have occurred during the course of the study, as well as the actions that were taken to immediately respond to these events.
7. The researcher alert the REC of any new or unexpected ethical issues that emerged during the course of the study, and how these ethical issues were addressed. If unsure how to respond to these unexpected or new ethical issues as they emerge, the researcher should immediately consult with the REC for advice.
8. The researcher submit a short report to the REC on completion of the research in which it is indicated (i) that the research has been completed; (ii) if any new or unexpected ethical issues emerged during the course of the study; and if so, (iii) how these ethical issues were addressed.

We wish you all of the best with your research project.

Kind regards,

Prof David Jacobs

(CSIR REC Chairperson)

Ms Brenda Mapunya

(CSIR REC Secretariat)