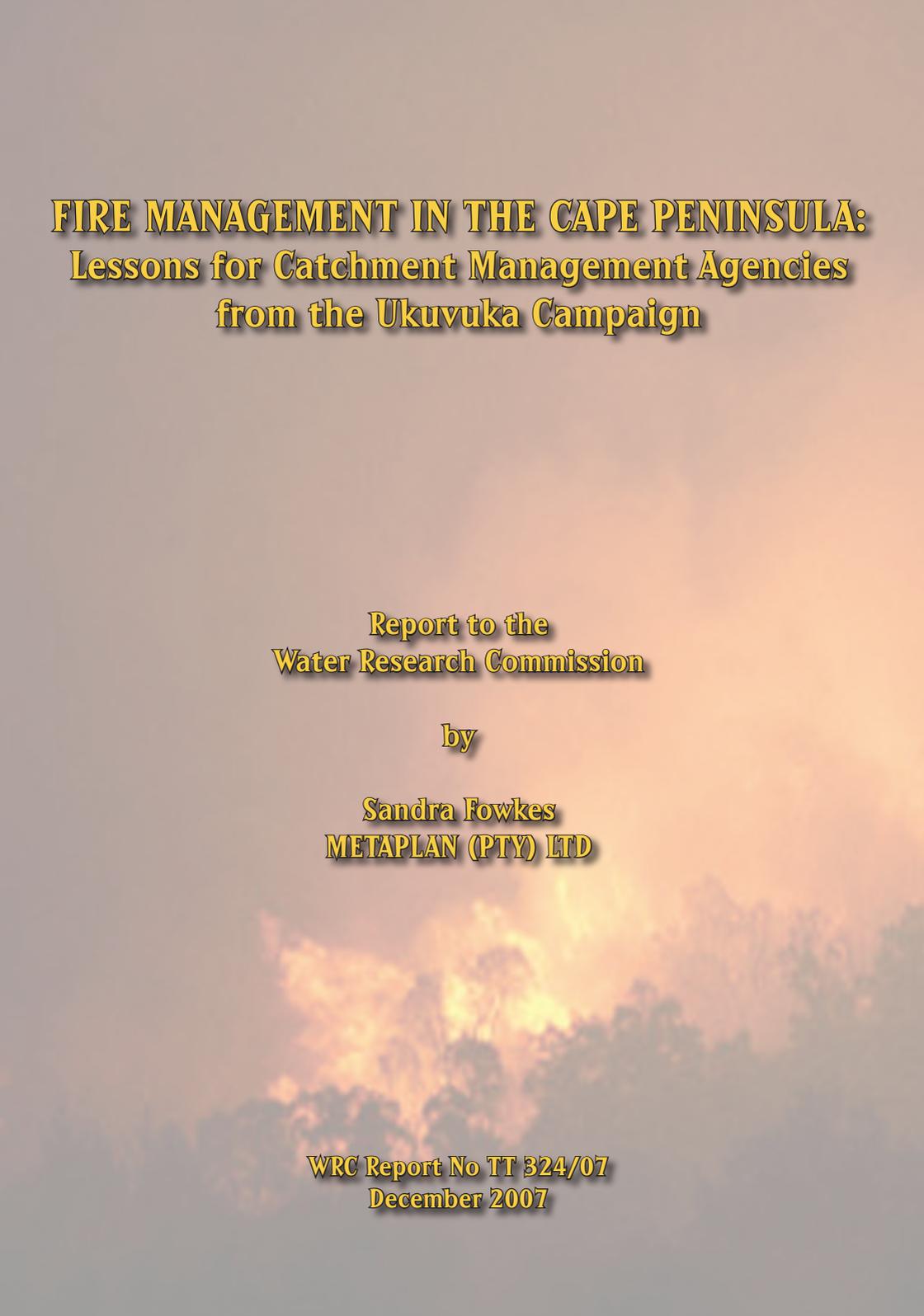


**FIRE MANAGEMENT
IN THE CAPE PENINSULA:
Lessons for Catchment Management
Agencies from the Ukuvuka Campaign**

Sandra Fowkes



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**FIRE MANAGEMENT IN THE CAPE PENINSULA:
Lessons for Catchment Management Agencies
from the Ukuvuka Campaign**

**Report to the
Water Research Commission**

by

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If South Africans are to successfully manage our natural resources, we will need to work together. For several reasons, such collective action has not been common practice in the past. To make it the accepted way in the future, requires a change in the behaviour of institutions and individuals. However, changing behaviour is not easy. This brochure tells some stories about how individuals and institutions changed their behaviour around a particular project focus – fire prevention. The purpose of the brochure is to give ideas to those involved in collective action related to water resources management to help them in their task of forming functioning Catchment Management Agencies (CMAs).

In January 2000, wild fires ravaged the southern parts of Cape Town's Cape Peninsula mountain chain. Some 60 homes and buildings were damaged or destroyed, and 30% of the National Park in the heart of the city was burnt. The crisis spawned a four-year campaign – initially known as Ukuvuka: Operation Firestop – to fast track collective action to address the threat of fire and its consequences.

Many of the lessons learned during this multi-stakeholder, multi-issue campaign have special relevance to the management of water resources in South Africa, particularly for the successful formation and operation of Catchment Management Agencies.

Ideas for Catchment Management Agencies: Some Lessons from Ukuvuka

FIRST SPARKS

Reflecting on the January 2000 blazes, it was realized that the emergency response to the fires was hampered by the lack of co-ordination between various agencies involved in fighting the fires, incomplete radio communication coverage, and ignorance on the part of the public on how to react appropriately to fires. Indeed, overall co-ordination of predicting, preventing, managing and extinguishing wild fires, as envisaged by the new Veld and Forest Fires Act, was completely inadequate.

In addition, the scale and intensity of the fires was heightened by the fuel load due to dense stands of invasive alien plants – such as acacias, hakeas and pines – coupled with environmental conditions that were conducive to fire. Unusually low rainfall during the previous winter, followed by strong summer winds and high temperatures, made the Cape Peninsula's vegetation dry and highly flammable.

Not only were fires in the mountains a concern but the on-going fires started in the densely populated informal settlements of the Cape Flats left hundreds of people – and all too often, thousands – destitute. Frequently started as a result of careless behaviour, these fires destroyed scores of closely spaced dwellings before they could be brought under control. While the flames were fanned by strong winds, fire-fighting efforts were hampered by the lack of piped water and road access for fire tenders.

Ukuvuka is a Xhosa word meaning 'to awaken' or 'to rise up'

Clearly, a means of bringing diverse groups together to respond to fire-related problems was needed. Within 10 days of the January 2000 mountain fires being extinguished, the then Minister of Water Affairs and Forestry, Ronnie Kasrils, and his special advisor and National Leader of Working for Water, Dr Guy Preston, had assembled a broad set of partners, obtained funding commitments, and drafted a business plan for a short-term initiative to address the issue of fires in Cape Town's mountains and informal settlements. The Ukuvuka Operation Firestop Campaign had begun.

COMMON GROUND

The last of Ukuvuka's 10 objectives was to develop a role model for how similar public-private partnerships could be run in other areas and the Ukuvuka Campaign has already been a role model for the country-wide programme, Working on Fire. This document aims to explore how the lessons learned from Ukuvuka – set up in response to a crisis in

fire management – can also be applied to water management in South Africa. Although the fields of fire and water management would seem to have little in common, they do in fact have very similar needs.

The National Water Policy of 1997 noted that the government's largely inaccessible, exclusionary approach to water management during the apartheid years needed to change to reflect the new principles and vision for democratic South Africa. The Department of Water Affairs and Forestry was

Actions needed	
Water	Fire
Strive to prevent water shortages, floods and pollution through integrated catchment management, rather than reacting to crisis scenarios	Strive to prevent fires through proactive integrated management, rather than only reacting to fire events
Improve co-ordination between agencies responsible for the quantity and quality of water resources for human use and the ecological reserve	Improve co-ordination between agencies predicting, preventing, managing and controlling fires and their after-effects
Facilitate public participation in water management	Facilitate public participation in fire management
Educate the public for example about the role of invasive alien vegetation in reducing water supplies and river flows	Educate the public about the role of invasive alien vegetation in increasing the risk and intensity of fires
Raise public awareness about the need for wise water use, preventing pollution, and maintaining the ecological health of aquatic ecosystems	Raise public awareness about the need to control invasive alien vegetation on an ongoing basis, maintain firebreaks, and respond to fires appropriately
Ensure that awareness-raising is backed up by prosecution for ignoring legal requirements relating to water usage, pollution or altering aquatic habitat	Ensure that awareness-raising is backed up by prosecution for failure to comply with legal requirements for fire prevention and control
Provide social development opportunities for poor, disadvantaged communities through alien-clearing, habitat restoration and monitoring programmes	Provide social development opportunities for poor, disadvantaged communities through alien-clearing and firebreak-cutting programmes

tasked with adopting an integrated approach to water management, with co-operation amongst different spheres of government, sectors and relevant stakeholders.

In terms of the National Water Act of 1998, this is to be achieved through the formation of Catchment Management Agencies for each of the 19 water management areas delineated in South Africa. The purpose of establishing Catchment Management Agencies is to delegate water resource management to the regional or catchment level, and to involve local communities. CMAs will be responsible for the protection, conservation, development, management and control of water resources in their catchment area.

A catchment management agency is a statutory body, established by a government notice. It is governed by a Board appointed by the Minister of Water Affairs and Forestry,

and must represent all stakeholders and their interests in the water management area. This collective action requires a different way of behaving from the way water resources were managed in the past. Short-term partnership initiatives can be used to test, demonstrate and develop the new behaviours and so fast-track the change to the new way envisaged by the National Water Act.

The case studies presented in boxes highlight some of the lessons from Ukuvuka that could be applied by those wanting to promote collective action in water resource management.

FLICKERING FLAMES

The Santam Cape Argus Ukuvuka Operation Firestop Campaign was established as a Trust. Policy was set by a Board composed of relevant representation from national, pro-

Changing Individual Behaviour

– The Carrot AND the Big Stick

Ukuvuka conducted an extensive communications campaign to alert the Cape Town public to the fire risk posed by invasive alien plants, and to encourage people to remove such plants from their properties. Communications tools included street posters, radio and print advertising and editorial, public meetings, and a telephone 'hotline' for technical advice.

In addition, an oversize matchbox labelled "Matches are not the only threat to our mountains" was delivered to each of the about 4000 households bordering on the peninsula's natural areas. Inside each matchbox was an information booklet on the top 10 alien plants and another on citizens' rights and responsibilities related to invasive alien plants, as well as an invitation to public information sessions.

Many landowners voluntarily took the initiative to clear the undesirable vegetation from their properties. Inevitably there were those who ignored all the messages sent to them.

Once Ukuvuka was satisfied that no landowner could claim ignorance about the problems posed by invasive alien vegetation, or about their legal respon-

sibilities in this regard, the first steps towards prosecution were taken. Ukuvuka worked with the Deputy Minister of Justice and Constitutional Affairs - an Ukuvuka Board member - to convene meetings with all the role players needed to initiate prosecution. The first properties to be targeted were in a catchment heavily infested by invasive alien plants, where local and national government had already invested significant resources to remove the invaders.

Legal letters that set out the consequences of negligence were sent to those targeted for prosecution. Landowners were informed that in terms of the National Veld and Forest Fire Act they could be held responsible for any damages resulting from fires originating from their property. These developments received considerable media attention, and by October 2005 alien-clearing operations were under way on 6 of the 8 targeted properties. The fact that prosecutions were initiated sent a message that the authorities were serious and that individual landowners had to change their behaviour and clear their properties of invading alien vegetation or face the consequences.

vincial and local government, NGOs and the major funders, which included the private sector. The Trustees were drawn from the funders. Policy implementation was guided by a Steering Committee and advised by a Technical Committee, both composed of representatives of the various mandated entities involved in fire management. At the outset, the funding pledged totalled R67.5 million, and by the end of Ukuvuka's four-year lifespan the actual amount made available was R63.5 million.

Ukuvuka was then staffed by a team of full-

time personnel, led by a Campaign Manager who reported to the Chair of the Steering Committee. Other specialist advisory sub-committees were established to support the Steering Committee as required.

The design of Ukuvuka was largely based on DWAF's innovative poverty-relief programme, Working for Water, which links drives to address environmental problems to means of delivering developmental benefits, thereby contributing to social justice and transformation agendas.

Collective Action for Fire Management

The National Veld and Forest Fires Act, which was promulgated in 1998, provided for the creation of Fire Protection Associations, although the chapter relating to these was only made law in 2004.

Fire Protection Associations are committees – the formation and activities of which are based upon democratic principles – made up of landowners in a defined area. Participation of private landowners is voluntary, but the Act requires state or parastatal landowners or managers to be members.

From the outset, one of Ukuvuka's 10 objectives was "to establish and implement a fire-management plan of operation" and one of the tasks within this objective was to "help ensure the co-ordination of fire protection through on-going support for the Fire Protection Association, and appropriate linkages".

While the City of Cape Town would have formed a Fire Protection Association in time, Ukuvuka was

able to speed up the process through its focused attention, funding, and the skills and experience of both its in-house staff and contracted experts. Three public meetings were held to facilitate public participation, and disadvantaged communities were afforded economic opportunities through firebreak-cutting and alien-clearing work.

The inaugural meeting of the Fire Protection Association took place on 26 June 2002. A consultant was subsequently appointed to prepare the Veld Fire Management Plan, and agreements were negotiated with private landowners, the City of Cape Town and the Table Mountain National Park.

In July 2004, documentation for the registration of the Cape Peninsula Fire Protection Association, as required by the Act, was submitted, and in October of that year the Association was registered. Its 37 members own or manage 30 918 ha, with the Table Mountain National Park making up 24 400 ha of this.

BURNING BRIGHT

In the early days of Ukuvuka's existence, there were considerable and understandable reservations about the initiative amongst the agencies involved. The Ukuvuka team regularly repeated the message that they were there to "work themselves out of a job". Levels of co-operation increased over time, as it became apparent that Ukuvuka was not a threat to established roles and responsibilities but could provide much-needed support.

Ultimately, Ukuvuka was appreciated as a neutral forum for discussing the issues of concern. More importantly it became a testing ground for new approaches without fear of censure in the event of failure. It provided a "safe space", human resources and finance

for innovation. As an independent body unfettered by red tape but working in the context of robust governance, it was able to fast-track ways of enhancing service delivery related to fire management.

GLOWING EMBERS

By the end of its four-year lifespan, Ukuvuka had helped achieve some notable successes in changing the behaviour of institutions and individuals. These included:

- a shift in emphasis of the fire-fighting agencies from fire suppression to fire prevention
- a range of interventions to lessen the severity of fires in informal settlements
- increased public awareness of the causes of fire, means of prevention and actions to



TESTING NEW APPROACHES

A suggestion by a City of Cape Town fire manager to use helicopters to “water-bomb” fires in informal settlements was met with considerable scepticism from many of his colleagues. Attacking a fire within 20 minutes of it starting greatly improves the chances of successful control. Water-bombing is commonly used to assist in fighting mountain fires. However, there were concerns about the public and political reaction to an initiative that dumped 3 tons of water on poverty-stricken, marginalized communities. Given the lack of successful alternatives, the fire manager was keen to test the approach and explored the idea with Ukuvuka.

Ukuvuka not only had the human and financial resources to set up a test quickly, but – more importantly – was not risk-averse, as finding out what would NOT work was as important to Ukuvuka as establishing what DID work. Two tests conducted during 2003 demonstrated the potential of the approach, but internal resistance meant that it was another 18 months before helicopters were used to control a particularly vicious “shack fire”. Sadly, the helicopters were called in too late to make a real difference.

Today, aerial delivery of fire retardants, coupled with the use of infra-red cameras for early detection of fires, is more frequently used in controlling fires in informal settlements.

Without the “safe space” and the negotiation of a “willing suspension of disbelief” provided by Ukuvuka to test the very different fire fighting approach, such a controversial approach is very unlikely ever to have been used.

Changing organisational culture – Stop, drop and roll!

Over a period of 150 years, the Cape Town fire service had a proud and successful tradition of fire suppression. In March 2001, two junior fire officers approached Ukuvuka with a request for funding to pilot an approach that focused on proactive fire prevention rather than reactive fire suppression.

The fire and life safety education project was aimed at the citizens of Cape Town, particularly the youth. With R5000 from Ukuvuka and a successful performance of their entertaining fire-awareness show at the annual Navy festival in April, the two set their sights on a larger stage – the City of Cape Town’s annual Youth Environmental School (YES), held in the first week of June.

An old fire engine – dubbed “Noddy” – was converted to a brightly painted, music-filled focus for “edutainment” sessions designed to communicate messages like “stop, drop and roll” and “crawl low

under smoke and go, go, go”. By the end of YES week, nearly 10 000 children had been exposed to these Fire and Life Safety messages.

The evaluation of the project nearly a year later indicated that the messages and new behaviours had been successfully absorbed by the majority of the children. In the meantime more fire officers had completed the training to put across fire and life safety messages and were volunteering their off-duty time to take these messages throughout the city.



As the momentum around the project gathered, a presentation was made to key decision makers in the fire services. A measure of the eventual success was that 23 posts for Fire and Life Safety officers were

created and with this the culture and tradition of fire suppression shifted to also include fire prevention initiatives. The demonstration of what could be done in the “safe space” provided by Ukuvuka assisted the fire services to incorporate a different way of carrying out their work in dealing with fire in Cape Town.

- be taken in response to fire
- the demonstration of political will and legal competence to institute prosecution against landowners whose negligence created a fire hazard for neighbours
- the development of independent small businesses providing alien-clearing services to government, parastatal and private landowners
- planning guidelines included in the City’s procedures designed to manage fire risk and post-fire stormwater impact
- an extensive system of firebreaks across tracts of public, private or parastatal land
- the creation of a multi-party Fire Protection Association for the area.



Fire Protection Associations prepare fire breaks to protect those living on the urban edge

Prior to Ukuvuka's closure in June 2004, the Department of Water Affairs and Forestry established a new programme – known as Working on Fire – which has been able to build upon the ideas piloted in Ukuvuka for implementation at a national level.

CRITICAL SUCCESS FACTORS

The Ukuvuka Campaign cannot be precisely replicated, given that its existence was dependent on a particular context, time and sequence of events. However, many of the lessons learned through Ukuvuka are transferable to other sectors. The following critical success factors, for example, would be highly applicable to aiding the successful formation and operation of Catchment Management Agencies (CMA).

Shared commitment to change

The ultimate purpose of an Ukuvuka-type initiative is to catalyse change, the need for which might arise, for example, due to a crisis situation or new legislation. A collaborative initiative such as this can help bring together disparate stakeholders to address an issue of common concern. In practical terms a CMA might set

up a short-term Ukuvuka-type initiative around one specific problematic issue to test out different ways to work together to solve the problem. At the same time, however, if change is to occur in the institutions that will inherit the outcomes, they must ensure that the objectives of the initiative are in line with the priorities identified through their formal mandate.

Champions

At the outset, committed champions with access to technical skills and political leverage are invaluable in helping to establish an Ukuvuka-type initiative. At a later stage, internal champions drawn from those participating in the initiative are vital in ensuring that the outcomes are mainstreamed into their own institutions.

Political support and robust governance

A high level of political support amongst key decision makers is important in ensuring that the initiative is effective, and its outcomes are accepted for wider implementation. Governance structures should be robust, while allowing for responsive and flexible decision making to support innovation and action.

Strategic communication

A communications strategy identifying specific objectives, target groups, and the most appropriate tools to reach these target groups should be designed in the early stages of the initiative. The involvement of a media partner will help ensure the success of any public awareness campaign.

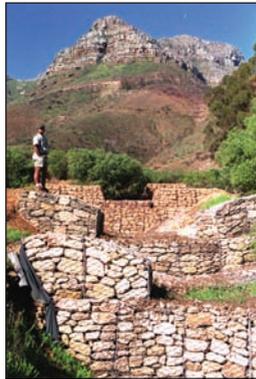
Contracts

Clear contracts or agreements between the collaborating partners on their respective roles

Living on the edge

The after-effects of the January 2000 fires presented as much of a threat as the searing flames. The fires denuded the mountain slopes and watercourses of stabilising vegetation, resulting in increased soil erosion that caused slippage and flooding in some areas. Further damage to property and infrastructure was only prevented by the prompt installation of silt traps and other measures. Fortunately, the subsequent winter rains were also later and lighter than normal.

Clearly, better planning was needed to prevent these post-fire problems and also address factors that had exacerbated the severity of the fires and hampered fire-fighting efforts. For this reason, 1% of Ukuvuka's total budget was allocated to developing policies and controls for managing fire risk and stormwater in the urban/natural interface.



Many of the insights obtained were incorporated into the City of Cape Town's strategies and by-laws, as well as its Urban Edge study undertaken as part of the Metropolitan Spatial Development Framework. Ukuvuka's involvement as an external body with a common concern helped to bridge the 'silos' of the City of Cape Town's Planning, Emergency Services and Stormwater Management line functions.

and responsibilities should be finalised as early in the process as possible. In the initial stages, it is important to be realistic about what can be achieved and to take care not to promise more than can be delivered.

Teamwork

A small team made up of dedicated, multi-skilled staff with the correct blend of skills, passion, and willingness to innovate and take risks – coupled with strong but flexible leadership – is a critical success factor in the implementation of an Ukuvuka-type initiative.

SUMMARY

In summary, collaboration between partners in an Ukuvuka-type initiative can make available significant additional resources – such as funding, skills, innovation and passion, as well as political will and support – for addressing an issue of common concern. It can play an important role in facilitating the implementation of policies and laws, fast-tracking organisational learning, and enhancing the drive for service delivery, while insulating the partner organisations from the risks associated with developing new solutions to old problems.

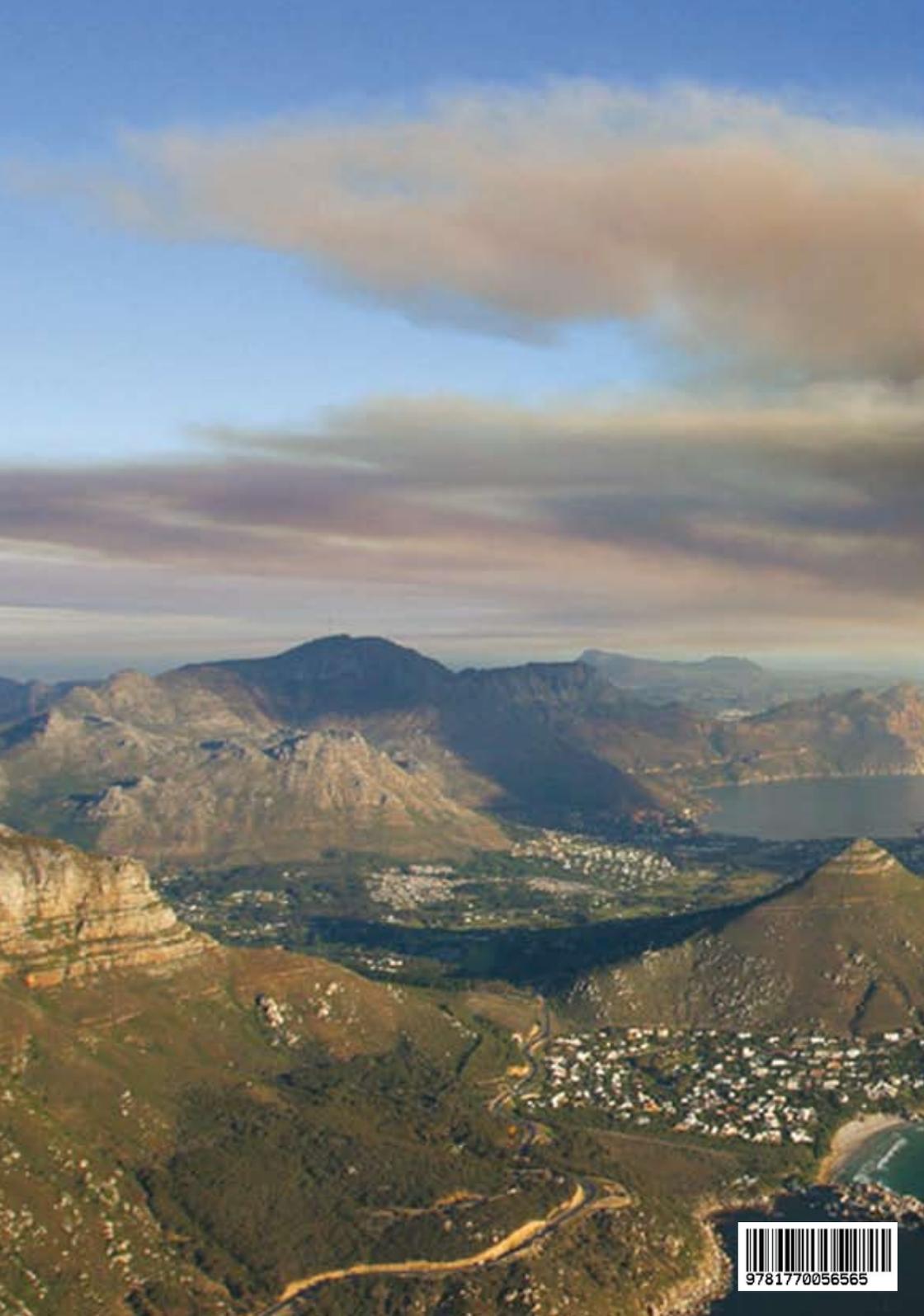
The lessons learned during the Ukuvuka Campaign can be particularly useful in the transition to Catchment Management Agencies, tasked with managing water resources through co-operative governance and collective action.

Note: Should any reader wish to pursue the Ukuvuka Campaign in greater detail the following documents are available on the website of the Water Research Commission (www.wrc.org.za).

Appendix A Ukuvuka Business plan

Appendix B The text of the final report on the 4 year Ukuvuka campaign

Appendix C Partnering



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