



# **POLICY BRIEF**

Department of Environmental Science, Rhodes University

Integrating Climate Change Adaptation (CCA) and Disaster Risk Reduction (DRR) for greater local level resilience: lessons from a multi-stakeholder think-tank

Taryn Pereira, Sheona Shackleton and Felix Kwabena Donkor

Dept of Environmental Science, Rhodes University, Grahamstown 6140, South Africa

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### **KEY POLICY MESSAGES**

- 1. The extreme weather events that have dominated the news in 2017 are what we can expect to see under climate change. Drought, storms, fires and floods will become more frequent and more intense, giving rise to the expression 'the new normal'.
- 2. Climate change and weather events cannot cause disasters in isolation. A disaster occurs when extreme weather events collide with impoverished communities, dysfunctional governance and poorly maintained infrastructure.
- 3. There are two spheres of discourse dealing with the response to extreme hydro-meteorological events Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA). There is overlap in the theory and policy dimensions of DRR and CCA, but little actual integration of decision making, governance and practice, especially at the local level.
- 4. The bureaucratic challenge of defining and declaring a 'disaster' often leaves the most vulnerable either without much needed support or support that comes too late.
- 5. Technical fixes and emergency responses are not enough on their own, and sometimes make things worse
- 6. Building resilience and preparing adequately for climate related disasters requires transdisciplinary, trans-institutional, trans-sectoral approaches, that clearly identify the synergies between CCA and DRR.

#### BOX I

#### Disaster

In South Africa's Disaster Management Act of 2002, a disaster is defined as 'a progressive or sudden, widespread or localised, natural or human-caused occurrence which -

a) causes or threatens to cause -

- i) death, injury or disease;
- ii) damage to property, infrastructure or the environment;

iii) disruption of the life of a community; and

 b) is of a magnitude that exceeds the ability of those affected by the disaster to cope with its effects using only their own resources' (Disaster ManagementAct, 2002).

#### Disaster risk management (DRM)

"Disaster risk management is the application of disaster risk reduction policies and strategies to prevent new disaster risk, reduce existing disaster risk and manage residual risk, contributing to the strengthening of resilience and reduction of disaster losses" (UNISDR 2017).

#### Disaster risk reduction (DRR)

"Disaster risk reduction is aimed at preventing new and reducing existing disaster risk and managing residual risk, all of which contribute to strengthening resilience and therefore to the achievement of sustainable development. DRR is the policy objective of disaster risk management, and its goals and objectives are defined in disaster risk reduction strategies and plans" (UNISDR 2017).



#### BOX 2

#### Climate change adaptation (CCA)

"The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effects" (IPCC 2014).

### I. BACKGROUND

The last few years have seen one of the most severe droughts in recent times in the southern African region, and news headlines are increasingly full of warnings about heavy storms, fires and floods. There is no doubt that extreme hydro-meteorological events, and their multiple and potentially disastrous impacts, are at the forefront of the public consciousness at the present time and are one of the key concerns regarding the impacts of climate change in the region. While the links between extreme climate events, disaster risk reduction (DRR - see Box 1) and climate change adaptation (CCA - see Box 2) are recognised in the South African Climate Change White Paper, this is not the case for the whole region. Furthermore, even if there is national recognition of the need to synergise these two spheres of endeavour, this does not always trickle down to effective policy, planning and implementation at the local level.

The fragmented approach to DRR and CCA results in coordination challenges for government departments, and leads to a lack of efficiency and effectiveness in preparing for and responding to extreme weather events (Kelman et al.2015).

To help address these issues, in May 2017 the Department of Environmental Science in partnership with the Adaptation Network and the National Department of Environmental Affairs (DEA) organised and hosted a multistakeholder think-tank, where the aim was to further the conversation regarding how to better link CCA and DRR in policy, practice and research. The think-tank included a diverse set of participants, including representatives from the National and Provincial Department of Environmental Affairs, the National Disaster Management Centre, GIZ, Amathole District Municipality, Chris Hani District Municipality, Buffalo City, Stenden College, University of the Witwatersrand, University of Cape Town, Rhodes University, the uMngeni Resilience Project, South African National Biodiversity Institute (SANBI), NGOs, community members, students and the private sector.

A variety of methodologies such as workshops, panel discussions and presentations, with an emphasis on discussion and dialogue, were used. The diversity of stakeholder representation provided for inputs from different perspectives. Several current and recent case studies of DRR and CCA in action (particularly the current drought) were discussed. A skilled facilitator moderated the discussions, and every effort was made to encourage cross-pollination of ideas and views. Participants appreciated the opportunity to share and learn from different perspectives, and felt empowered by the novel ideas and new networks that were forged.



### **KEY MESSAGES UNPACKED**

1. The extreme weather events that have dominated the news in 2017 are what we can expect to see under climate change. Drought, storms, fires and floods will become more frequent and more intense, giving rise to the expression 'the new normal'.

The Western Cape is currently in the grip of the worst drought in 100 years, and it seems very likely that the City of Cape Town will run out of available surface water in the summer of 2018. The Western Cape was declared a disaster area in May 2017 due to the drought, as was Makana Municipality, where Grahamstown is situated. In June 2017 Knysna and other towns along the Garden Route suffered from devastating fires, fanned by gale force winds, and Knysna was also declared a disaster area following these fires. The increased frequency and intensity of drought, storms, fires and floods are entirely consistent with climate change projections for the region (DEA 2014). Global headlines have been dominated by news of wildfires (in Portugal, USA), heat waves (Central Europe) and a series of devastating hurricanes (Caribbean, USA). Episodic events like fires and floods remain somewhat unpredictable in terms of when they will occur and the extent of their impact; but the drought situation in the Western Cape is being called 'the new normal' (City of Cape Town 2017), emphasizing the need to adapt at a broad scale to a changed climate.

2. Weather events cannot cause disasters in isolation. A disaster occurs when extreme weather events collide with impoverished communities, dysfunctional governance and poorly maintained infrastructure.

Extreme events such as drought, floods, fire and storms hit poorer communities hardest. Poverty prevents people from being able to prepare adequately for disasters; for example by building their homes differently, recovering losses after a disaster, changing their livelihood practices or moving somewhere new. DRR, CCA and poverty reduction are completely interconnected.

"Efforts to reduce disaster risk and poverty go hand in hand. Because disasters impoverish so many, disaster risk management is inseparable from poverty reduction policy, and vice versa. As climate change magnifies natural hazards, and because protection of infrastructure alone cannot eliminate risk, a more resilient population has never been more critical to breaking the cycle of disaster- induced poverty" (Hallegate et al. 2017).

Disaster risk is a combination of an area's physical exposure to hazards and its social vulnerability (Gahman & Thongs 2017). Recent extreme events such as the mudslide and flooding in Sierra Leone, hurricanes in USA and the Caribbean, floods in Asia, and earthquakes in Mexico all point to one common denominator - the scale of such disasters are much greater when people, infrastructure and communities are vulnerable (Kelman 2017).

People become more vulnerable in the absence of requisite information, capacity, social support or financial ability to cope with environmental hazards such as floods and drought. Preparation for and recovery from disasters requires warning, relief and rehabilitation support from government, and rapid communication and coordination between different spheres of government. When this is lacking, the impacts of the disaster are greater and much more difficult to recover from. When infrastructural systems such as access roads, storm water drains, and emergency vehicle fleets are under-maintained or insufficient, this also increases the hazards associated with extreme weather events. All of these are challenges faced by municipalities in the southern African region.



3. There are two spheres of discourse dealing with the response to extreme hydro-meteorological events, namely Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA). There is overlap in the theory and practice of DRR and CCA, but very little actual integration of decision making, governance and practice, especially at the local level.

Both DRR and CCA face significant challenges already, in terms of capacity, political buy-in and implementation in a context of deep structural inequality. The added imperative to integrate across government departments and institutional functions is a big ask. However, the lack of integration leads to inefficiencies and lost opportunities for emergent learning.

# Table 1: Some of the differences and commonalities between DRR and CCA

DISASTER RISK REDUCTION	CLIMATE CHANGE ADAPTATION
DRR has been a government function at multiple spheres of government for a long time and so it has deeply embedded processes and practices	Although CCA has a lot of policy support at the international and national scale, it is a relatively new mandate for local government and integration into municipal planning remains weak (Spires et al. 2014).
Traditionally, the emphasis has been on post disaster relief, i.e. rescue and rehabilitation. The discourse has moved on to emphasize the need for a more pro-active approach and resilience building. But in practice DRR remains very reactive in most municipalities.	CCA is a very current and rapidly evolving field. State of the art approaches to CCA emphasise the importance of building resilience, social justice, and anticipatory adaptive capacity.
Warning systems rely on information from the South African weather service (in RSA).	Although climate models are increasingly sophisticated, there remains a high degree of uncertainty at the localized scale. Early warning systems are also seen as core to CCA.
Funding for disaster response in South Africa comes from the National Treasury, and classification of disasters and subsequent disbursement of disaster relief money is managed by the National Disaster Management Centre.	Funding comes from international donors, and sometimes from dedicated intergovernmental pools, e.g. the UN's Adaptation Fund.

# 4. The bureaucratic challenge of defining and declaring a 'disaster' often leaves the most vulnerable either without much needed support or support that comes too late.

For an event to be declared either a local, provincial or national disaster, the National Disaster Management Centre must assess whether it meets the criteria of being a disaster (see Box I) - i.e., whether it poses a significant threat to life, property or infrastructure, and whether the relevant sphere of government is incapable of dealing with it on their own, with their existing legislation and budget. The officials present at the think-tank shared that there is often a tension between municipal or provincial disaster managers, and the National Disaster Management Centre (NDMC). On the one hand, the NDMC is perceived as taking a long time to make a decision, meaning the resources for responding to the disaster sometimes only become available months after the disaster occurs. On the other hand, NDMC is wary of declaring a disaster if they feel that the local authorities should have planned better, or learnt from previous disasters - as articulated in the NDMC's 'Explanatory Note on Classification, Declaration and Extension of a State of Disaster': ... a situation is created where often, the only purpose to declare a state of disaster is to access grant funding... The declaration of a state of disaster is not a prerequisite for the effective management of that disaster' (NDMC 2016).

In addition to this tension is the fact that, often, vulnerable communities are severely affected by extreme weather events but these are not declared or treated as disasters. Since disasters are often measured in terms of financial losses, damage to informal housing or low cost housing often does not meet the criteria of disaster, meaning those affected do not receive much help to recover. This further erodes vulnerable households' ability to respond in the future.

If the concept of resilience was foregrounded in DRR/ DRM, as it is in CCA, these challenges related to limited criteria for defining disasters could be addressed. Therefore this is one area where the integration of DRR and CCA could be deeply beneficial.

#### 5. Technical fixes and emergency responses are not enough on their own, and sometimes make things worse.

When a state of disaster is declared, a situation of rapid response is triggered. The state of disaster allows for the speedy release of funds, rapid deployment of resources, granting special powers to the Municipal Manager, the Premier and other relevant officials, and the expediting or waiving of tender procedures and other procedures such as EIAs (NDMC 2016). The state of disaster lasts for three months, after which the NDMC must decide whether or not to extend the declaration. These special circumstances and sense of pressure to respond rapidly is understandable, given the need for emergency relief following a disaster. However, it also leads to a situation where technical solutions are favoured over holistic, 'soft' solutions. In the drought in 2009/10 in Eden District Municipality, hundreds of millions of rands were spent on building desalination plants, for which the EIAs were fast tracked. For a tiny fraction of the cost of the desalination plants, water demand management approaches such as leak fixing and awareness raising were able to save almost as much water as the desalination plants could provide (Pereira 2011).

There also needs to be a balance between drawing on long institutional memories for dealing with disasters, and accepting that the frequency and intensity of extreme weather events are growing and will be more severe in the future due to climate change. During the severe South African drought in the early 1990's, the National Consultative Forum on Drought was formed, which was a collective multi-stakeholder platform for co-operative governance, incorporating multiple perspectives and interrogating the drought and learning responses (Vogel 2017). During the current drought (2016/17), none of the lessons or approaches from this earlier experience are being drawn upon (Vogel 2017). Ideally, these past experiences should be combined with state of the art climate change information and adaptation practices.

The building of resilience requires longer term, participatory and holistic approaches, rather than purely technical approaches, in order to address all of the underlying structural vulnerabilities in our society (Mercer 2010).

#### 6. Building resilience and preparing adequately for climate related disasters requires transdisciplinary, transinstitutional, trans-sectoral approaches, that clearly identify the synergies between CCA and DRR.

'Weak governance at the national and sub-national level is a critical constraint to effective and equitable resilience and adaptation planning' (Fraser & Kirbyshire 2017). Silos of action and technical fixes are not appropriate. Reflexive, reflective, politically astute learning approaches are required to deal with the emergent issues and to build an enabling environment for better integration. Careful facilitation of participatory community based approaches are critical to building resilience at the household and community scale. The 'landscape approach' to DRR is one such approach, emphasizing the need for interdisciplinary, cross-sectoral and holistic programs that place communities at the centre (CARE Netherlands and Wetlands International 2017). Research has shown how multi-sectoral, decentralized approaches can also have a positive impact on some of the informal yet influential political dynamics at play in communities, such as local corruption and cronyism (Fraser & Kirbyshire 2017). Citizens need to be involved, kept aware and their agency recognized by local authorities as it has been shown that volunteer groups, whether formalised or spontaneous, play a crucial role in responding to and mitigating the impacts of disasters (Twigg & Mosel 2017).They need to be acknowledged and included in formal planning.

Examples of integrated DRR and CCA practices include 1) improved early warning systems, taking state of the art climate models into account; 2) climate proofed human settlements; 3) climate resilient agriculture and other livelihood practices; 4) transdisciplinary approaches to allow for reflective expansive learning as we adapt to 'the new normal'; and 5) building social capital, networks and volunteer groups and helping to provide multiple safety nets.

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### KEY RESEARCH AND IMPLEMENTATION ISSUES EMERGING FROM A SHORT SURVEY ADMINISTERED AT THE THINK-TANK

Collected and compiled by **Owen Becker** (Manager, Disaster Management, Buffalo City Metropolitan Municipality) at the Adaptation Think Tank

#### UNDERSTANDING POLITICAL BARRIERS TO ACTION

Research on the political and administrative roles, responsibilities and functions related to CCA and DRR is necessary, to alleviate the obstacle of inefficient bureaucracy and contradictory or overlapping mandates.

# LEGAL FRAMEWORK FOR INTEGRATION OF CLIMATE CHANGE ADAPTATION AND DISASTER RISK REDUCTION IN PLANNING PROCESSES

There is a need to address the current gaps in legislation on disaster risk reduction in development, and to integrate DRR and CCA into all provincial and municipal planning.

# TRANSDISCIPLINARY APPROACHES TO DRR AND CCA

Research is required on multi stakeholder transdisciplinary approaches to building resilience climate change adaptation and disaster risk reduction. This is a fundamental principle of the Disaster Management Act, 2002. In spite of well documented guidelines in the Policy Framework for Disaster Risk Management in South Africa (2005) this does not occur. Transdisciplinary learning networks should be established for ongoing reflexive learning.

# CENTRAL CONSIDERATION OF EXISTING SOCIAL AND ECOLOGICAL CHALLENGES IN DRR AND CCA

Existing social, economic and environmental issues must be addressed when exploring responses to climate change and disaster risk. Transformation in its broadest sense must be central if resilience is to be achieved.

# BUILDING RESILIENCE ON LOCAL KNOWLEDGE

When working in communities it is imperative that existing knowledge and practice is evaluated to establish current strengths and weaknesses. Interventions must aim to build on existing strengths and improve any weaknesses. The focus must be with the community, for the community, by the community. Do not break down or undermine what is working.

