



Analysis of legislation related to disaster risk reduction in South Africa

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About this report

This report was commissioned by the IFRC and prepared by Tracy Humby, IFRC consultant. It is one of several case studies the IFRC is undertaking to learn about how legislation can support (or impede) disaster risk reduction, particularly at the community level. For more information about the project and various case studies as they become available, please visit our website at <http://www.ifrc.org/idrl>.

About the IDRL Programme

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Executive Summary

While South Africa is subject to a wide variety of natural and human-induced hazards, the three that occur most frequently – floods, droughts and fires – are all associated with water, its excess or its lack. South Africa is a water-stressed country and lack of sufficient water is the most significant resource constraint on development. Climate change projections over the next 50 years, moreover, predict that the western parts of the country will become drier and the eastern parts wetter, with an increase in temperatures in the interior and increased frequency of extreme weather events.

South Africa has been a constitutional democracy since 1994 following years of divisive, racially-based apartheid rule. Whilst democratic rule is now in its eighteenth year, the effects of the previous regime linger in the form of significant levels of poverty and inequality, which decreases the ability of certain communities to anticipate, cope with, resist and recover from a natural threat.

The adoption of the 1996 Constitution initiated far-reaching changes to governance structures. In particular, it constituted government in terms of national, provincial and municipal “spheres” which are inter-dependent and inter-related. The reconfiguration of the municipal sphere of government – which comprises metropolitan municipalities, district municipalities and local municipalities – was potentially the most far-reaching. The Constitution together with a new suite of local government legislation introduced deep and complicated institutional changes (including amalgamation of existing municipalities), but also required a paradigm shift whereby the local sphere of government would be responsible for the social and economic development of local communities in addition to the provision of “traditional” local government services. The decentralization of disaster risk reduction initiatives fits well with this notion of “developmental” local government.

The post-1994 period has been marked by extensive legislative reform and development. This has encompassed the enactment of the Disaster Management Act 57 of 2002 (DMA), which entered into force on 1 April 2004, and the more detailed National Disaster Management Framework (NDMF), which was promulgated in April 2005. These instruments are complemented by a range of disaster-specific (relating to fires, mine health and safety and sporting and cultural events) and disaster-associated (relating to environmental impact assessment, water resources, agricultural resources and mineral resources) legislation. Chapter 3 provides a comprehensive overview of these policy and legislative instruments.

Disaster risk reduction (DRR) is a central focus of the DMA for “disaster management” is defined as meaning “a continuous and integrated multi-sectoral, multi-disciplinary process of planning and implementation of measures aimed at: (a) preventing or reducing the risk of disasters; (b) mitigating the severity or consequences of disasters; (c) emergency preparedness; (d) a rapid and effect response to disasters; and (e) post disaster recovery and rehabilitation.” With this in mind, the Act establishes an elaborate institutional, policy development and strategic planning framework for disaster

management in addition to providing for the classification and declaration of disasters and addressing the funding of post-disaster recovery and rehabilitation.

This review seeks to assess the design and implementation of the DMA against a number of criteria derived from the Hyogo Framework for Action. Chief among these is the extent to which the Act, in the context of other disaster-specific and disaster-related legislation, is having a beneficial impact at community level, or has potential for such beneficial impact. As such, the review considers (i) whether the assignment of institutional responsibility for key aspects of a disaster risk reduction focus (encompassing national coordination of disaster risk reduction, hazard monitoring and risk mapping, communication and declaration of disasters, control of land uses, responsibility for provision of physical infrastructure for disaster risk reduction, and integration with climate change adaptation) is clear and optimal for community-level impacts; and (ii) whether the Act promotes and facilitates community involvement in disaster risk reduction by providing adequate incentives and disincentives toward reducing disaster risks, encouraging community information, education and participation in disaster risk reduction, promoting community involvement in decision-making, and facilitating the work of community-based organizations. It also identifies outstanding issues and gaps in the policy and legislative framework.

Chapter 4 sets out the findings of the review in respect of these criteria while Chapter 5 articulates the key conclusions, which are briefly summarized below.

Assignment of institutional responsibility

National coordination of DRR

- The DMA establishes three key institutions responsible for national policy and operational coordination of disaster management, being the Intergovernmental Committee on Disaster Management (ICDM), and the National Disaster Management Advisory Forum (NDMAF) respectively. The municipal sphere of government, being the sphere of government most closely situated to actual communities is, however, under-represented on both committees. While there is good representation of non-state disaster management role-players on the NDMAF, in general the institutions represented are larger, national organizations – and not smaller, “grass-roots” organizations that represent particular communities.
- Even though this is not required in terms of the Act, the various provinces have established similar co-ordinating structures at a provincial level which allow for greater representation of the municipal sphere of government as well as smaller non-governmental, community- and faith-based organizations.
- The National Disaster Management Centre (NDMC) which, in terms of the Act, assumes a key co-ordinating, promotional and facilitative role in relation to DRR has been established. One of the key instruments through which the NDMC must execute its role is the Disaster Management Information System (DMIS). The DMIS can serve as a common information portal for government officials, other disaster management role-players and communities in implementing DRR initiatives. However, its establishment has been dogged by technical, conceptual and capacity problems.

Hazard monitoring and risk mapping

- The DMA and NDMF assign responsibility for hazard monitoring and risk mapping (in terms of the nomenclature of these instruments, “disaster risk assessment” and

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“disaster management planning”) exhaustively to all spheres of government and all relevant organs of state within each sphere. The various disaster management frameworks and plans which need to be prepared have a clear community-level impact in that the DMA prescribes the inclusion of detail regarding at-risk and vulnerable communities. There appears, however, to be a low level of compliance on the part of metropolitan, district and local municipalities in the preparation of such plans.

- The legal obligations the DMA establishes regarding disaster management planning are possibly counter-productive for at least the following reasons: (i) The DMA fails to reflect the phased approach to the development of disaster management plans reflected in the NDMF (Level 1, 2 and 3 plans); (ii) the integration between integrated development planning (IDP) as prescribed in terms of municipal legislation and disaster management planning has not been fully-explored; (iii) integration between disaster management planning and other sectoral strategic planning instruments has not been considered; and (iv) the DMA establishes a hierarchy amongst the various national/provincial/municipal frameworks and plans which allows institutions lower in the hierarchy to justify their inaction to prepare a disaster management plan on the basis that plans higher in the disaster management planning hierarchy have not yet been prepared.
- Responsibilities for annual reporting on disaster management are not being complied with at all levels. A better way of legislating for reflective learning on disaster risk reduction and response needs to be developed.

Communication and declaration of disasters

- The DMA's distinction between the functions of classifying and declaring disasters – and the assignment of institutional responsibility for these functions to the NDMC and political head of the relevant sphere of government respectively – appears to be generating a lot of confusion. It also fails to indicate the sequence of responsibilities relating to the assessment of a pending disastrous event (which assessment focuses on whether the relevant sphere of government has the necessary capacity to cope with the disaster).
- The need to ensure clear channels of communication regarding the transmission of early warnings to role-players and, thereafter, to affected communities does not appear to be adequately addressed in the policy or legislative framework pertaining to disaster management.

Control of land use and responsibility for provision of physical infrastructure for disaster risk reduction

- Existing land use planning legislation is outdated both in terms of its alignment with the post-1994 reconfiguration of the municipal sphere of government, and the Hyogo principles on DRR. Moreover, even where the existing legislation does provide for DRR-related rules it is poorly understood and implemented. Poor land use planning decisions made in the past and the current shortage of housing in urban areas (which leads to so-called “land invasions”) are two of the key challenges in the sphere of land use regulation.
- There is no general obligation on local government to physically prepare for disasters. Whilst disaster-specific and disaster-related legislation do establish a number of specific duties in this regard, there are at least three important omissions, relating to: (i) the duty of public landowners to construct and maintain firebreaks; (ii) the

legal obligations on municipalities to provide and maintain storm water management systems, and (iii) the legal obligations of different national government departments to provide physical infrastructure to prevent, mitigate and treat acid mine drainage (AMD).

Integration with climate change adaptation

Disaster risk management has been recognized as a particular sector in South Africa's latest policy document on climate change, pointing to an initial level of integration.

Community-level promotion and facilitation

- Communities are a central focus in the disaster management and disaster-related legislation through, amongst others, the requirement to identify communities most vulnerable to particular hazards in processes of disaster management planning; community consultation in undertaking risk assessments; and consultation with communities through their representation on the NDMAF, PDMAFs and MDMAFs. However these innovative legislative provisions do not appear to have generated many instances of best practice.
- While the DMA provides that provincial and municipal disaster management frameworks/plans may identify incentives that will promote disaster risk reduction amongst communities, specific incentives/disincentives must largely still be identified and implemented.
- While the integration of DRR into school curricula has been poor, significant strides have been made by certain centres (most notably the African Centre for Disaster Studies at North-West University and the Disaster Mitigation for Sustainable Livelihoods Programme at the University of Cape Town) in developing tertiary-level training in disaster management.
- Community-level involvement in decision-making takes place through the representation of municipalities on the ICDM and provincial co-ordination structures, the NDMAF as well as the provincial and municipal advisory forums. While the DMA includes references to the use of indigenous knowledge in processes of disaster risk assessment and disaster management planning, in terms of the NDMF and some of the provincial disaster management frameworks indigenous knowledge appears to be used in a very limited sense to determine the frequency and intensity of hazardous events whereas it could play a greater role in better understanding communities' perceptions, responses and actions to such events.
- The DMA could specify the allocation of roles between state and non-state disaster management role-players in greater detail, and provide – in a generic way – for innovative but binding mutual assistance agreements between the state and community organizations.

Outstanding issues and gaps in the legal framework and/or its implementation

- The chief legislative omission in the DMA is the misalignment between responsibility for disaster management (which falls heavily on the municipal sphere), and the weight and focus accorded to the national and provincial spheres particularly in terms of representation on the ICDM and NDMAF, the preparation of disaster management plans, and the financing of disaster management.

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- The promulgation of the Land Use Management Bill is urgently required to bring greater clarity to the function of land use management in South Africa. However, this also serves as an opportunity to integrate disaster risk reduction principles into land development more broadly.
- While the legislative frameworks for water and other natural resources is well-developed, the policy and legislation dealing with the natural disaster that affects South Africa most frequently – drought – appears to be both outdated and under-developed.
- The unintended consequences of certain regulatory frameworks – for instance, the clash between communities taking responsibility for DRR initiatives and then being confronted with the need to undertake a full-fledged EIA in terms of environmental management legislation – have not been considered.
- There is a need to align the Fire Brigade Services Act, 1987 with the dramatic spatial extension of the responsibility of local fire brigade services that has come about as a result of local government reform in South Africa.
- Whilst there has been significant policy development on climate change in South Africa, there is very little integration of climate change considerations into existing laws.

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Abbreviations

AMD	Acid Mine Drainage
BUSA	Business Unity South Africa
CARA	Conservation of Agricultural Resources Act
CMA	Catchment Management Agency
CoGTA	Co-operative Governance and Traditional Affairs
DMA	Disaster Management Act
DMIS	Disaster Management Information System
DRR	Disaster Risk Reduction
DWAE	Department of Water and Environmental Affairs
EIA	Environmental Impact Assessment
IDP	Integrated Development Plan
ICDM	Intergovernmental Committee on Disaster Management
KPA	Key Performance Area
LUMB	Land Use Management Bill
MDMC	Municipal Disaster Management Centre
MEC	Member of Executive Council
MFMA	Municipal Finance Management Act
MSA	Local Government: Municipal Systems Act
NDMAF	National Disaster Management Advisory Forum
NDMF	National Disaster Management Framework
NDMC	National Disaster Management Centre
NEMA	National Environmental Management Act
NVFFA	National Veld and Forest Fire Act
NWA	National Water Act
PDMC	Provincial Disaster Management Centre
PFMA	Provincial Finance Management Act
SAIA	South African Insurance Association
SALGA	South African Local Government Association
SAPS	South African Police Services
SAESI	South African Emergency Services Institute
SSREA	Safety at Sports and Recreational Events Act
TAU	Transvaal Agricultural Union
WoF	Working on Fire Programme
WUA	Water User Association



Analysis of legislation related to disaster risk reduction in South Africa

Chapter 1

Background

Background to the project

In 2005, states, development and humanitarian organizations and other stakeholders adopted the Hyogo Framework for Action, setting a series of priorities for global action to reduce disaster risk. The Framework articulated the following five Priorities for Action:

- Ensure that disaster risk reduction is a national and local priority with a strong institutional basis for implementation.
- Identify, assess and monitor disaster risks and enhance early warning.
- Use knowledge, innovation and education to build a culture of safety and resilience at all levels.
- Reduce the underlying risk factors.
- Strengthen disaster preparedness for effective response at all levels.

The adoption of supportive legislation is most strongly implicated in the first of these actions, but undergirds many of the other actions as well. Since 2005, a number of countries have adopted or begun to consider adopting new laws, policies and institutional arrangements for disaster risk reduction. At the Second Global Platform for Disaster Risk Reduction in 2009, however, participants concluded that “there was still a pressing need to build institutions, including legal frameworks, to sustain disaster risk reduction action as an ongoing concern,” and noted that “several countries stressed the need for technical assistance, to help grow their capacities.” While a great deal of information and resources have been developed to share best practices about DRR generally, specific information about what legislation can (and cannot) accomplish has remained limited.

In response, the International Federation of Red Cross and Red Crescent Societies (IFRC) is undertaking a series of case studies to examine the strengths and perceived gaps in the current laws of disaster-prone countries whose governments, National Societies and civil society organizations are active in the field of risk reduction. The South Africa case study presented in this report is part of this series.

The case studies focus in particular on how existing legislation can lead to concrete results at the community level, for example through fostering community participation, supporting education, ensuring implementation of building codes and land management rules and facilitating the work of community-based institutions. The case studies are not designed to be exhaustive or prescriptive. Instead, through a brief period of research and consultations, they aim to illustrate some of the best practices and outstanding issues. In 2010-11, 5 case studies are being carried out in various parts of the world. South Africa, which has had dedicated disaster management legislation in place since 2002 and a well-developed disaster management policy framework, was chosen, in collaboration with the South African Red Cross Society, as one of the case studies.

The key research questions addressed in this study can be summarized as follows:

- What are the most important laws, regulations, rules and policies of South Africa relevant to disaster risk reduction (DRR) (e.g. disaster management laws; building and land-use management laws; environmental management and protection laws; drought, flood and fire management laws)?
- To what extent do these legislative instruments establish institutional clarity as regards national coordination of disaster risk reduction, hazard monitoring and risk mapping, communication and declaration of disasters, control of land uses, responsibility for provision of physical infrastructure for disaster risk reduction, and

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integration with climate change adaptation? To what degree do these assignments of institutional responsibility consider impacts at community level?

- As currently implemented, do existing laws:
 - Provide adequate incentives and disincentives toward reducing disaster risks?
 - Encourage community information, education and participation in disaster risk reduction?
 - Promote community involvement in decision-making?
 - Facilitate the work of community-based organizations?
 - Serve as models of best practices that might be shared with other countries?
- Are there outstanding issues or gaps in the legal framework for DRR in South Africa or in its implementation?

Methodology

Initial work on this project was undertaken during July 2011, but the study period could only commence in earnest over a 4-week period in September 2011. Given the short time-frame it could not – and does not – attempt to be a comprehensive study of all the legal and institutional frameworks of relevance to DRR in South Africa, or a comprehensive analysis of the state of implementation of the generic, disaster-specific or disaster-related pieces of legislation discussed in the report. At best it provides an overview and analysis of the legal framework with specific examples illustrating successes or challenges in implementation. A specific effort has also been made to illustrate the complicated social dynamics that underlie successful implementation of a disaster management regulatory framework. The research involved desk research of the relevant policies and laws, reports and minutes; consultations with stakeholders; and recent research on the application of disaster risk science in South Africa. As regards the latter, the project benefited from accessing a number of excellent and broad-ranging research reports completed during 2010 and 2011 (listed in Annex B) which considerably expanded the reach of the project's overview of implementation.

Analysis of legislation related to disaster risk reduction in South Africa

Chapter 2

Overview of the disaster
risk profile of South Africa

Overview of the disaster risk profile of South Africa

South Africa is situated at the southernmost tip of Africa and shares borders with Namibia, Botswana, Zimbabwe, Mozambique, the Kingdom of Swaziland and Lesotho. It comprises an area of approximately 1 218 000 km² and has 2985 km of coastline, with the Atlantic ocean to the west and the Indian ocean to the east. The surface is divided into two major physiographic features: the interior plateau, and the land between the plateau and the coast (extending from the west to the north-east coast). The boundary between these two areas is known as the Great Escarpment, the most prominent and continuous range of mountains in South Africa varying in height from 1 500m above sea level in the south-west to 3 482m in the Drakensberg. South Africa has a low level of precipitation with an average rainfall per annum of 497 mm (well below the world average of 860 mm), high spatial climatic variability (the country has six rainfall regions with higher rainfall on the east coast, becoming increasingly arid toward the west), high temporal climatic variability with distinct seasonal rainfall patterns, and high rates of evaporation. The climate is typically warm and dry with winter temperatures rarely falling below 0 degrees C and summer maxima frequently above 35 degrees C. Soils are generally thin and moderately fertile. The country encompasses a range of vegetation types classified into 7 biomes with high levels of biodiversity.¹ The country's geographical positioning and features make it especially vulnerable to the vagaries of El Niño/La Niña-induced events. Climate change is regarded as a key emerging environmental issue as South Africa is located in one of the regions most susceptible and vulnerable to this phenomenon. Projected climate changes over the next 50 years are that the western parts of the country will become drier, certain areas will experience shorter rainfall seasons and that air temperatures, particularly in the interior, will rise. In addition to sea level rise, the intensity and frequency of extreme weather events, floods and droughts may also increase.²

Political Map of South Africa – DEAT: State of the Environment Report³



The country is divided into nine provinces and 367 magisterial districts. According to the latest available statistics, South Africa has a population of 50.59 million with Gauteng, the smallest province, accommodating the largest percentage of the population (11.3 million people or 22.4 per cent). Kwa-Zulu Natal is the second-most densely-populated province with 10.8 million people (21.4 per cent). The Eastern Cape and

¹ Information on South Africa's geophysical features obtained from the State of the Environment Report – About South Africa, at <http://www.ngo.grida.no/soesa/nsoer/general/about.htm> (consulted 15 September 2011).

² State of the Environment, Department of Environmental Affairs – Climate Change, at <http://soer.deat.gov.za/519.html> (consulted 15 September 2011).

³ Ibid, note 1 above.

Limpopo provinces are experiencing a net out-migration of people, whilst the Western Cape and Gauteng are estimated to receive a net inflow of migrants.⁴ This indexes an urbanizing state with an urbanization level of approximately 56 per cent heavily weighted in favour of the latter two provinces. The Northern Cape and the Free State are also more urbanised than rural, while the converse applies in respect of the Eastern Cape, Kwazulu-Natal, Limpopo, Mpumalanga and the North West province.⁵

South Africa faces a wide-range of natural and human-induced hazards that could potentially lead to disaster events. These include droughts, floods and dam failures, urban and rural fires, mining-induced earthquakes and sinkholes, epidemics, large-scale transportation accidents, and spillages of hazardous waste.⁶ New forms of disaster are also emerging in the form of water shortages and acid mine drainage (AMD). In terms of traditional natural disasters,⁷ between 1980 and 2010 there were 77 disaster events, killing 1 869 people but affecting more than 18 million. On average, about half a million people per annum in South Africa are affected by natural disasters at a cost of \$109 486 to the fiscus.⁸ The most frequently-occurring natural disasters are (in order of frequency) floods and storm events, droughts and fires. Although floods are more deadly (accounting for 57.1 per cent of people killed by disaster type) and also more costly in terms of estimated economic damages, droughts are by far the most wide-ranging in their felt effects (accounting for 94.7 per cent of people affected by disasters).⁹

Floods

Recent flood events include the February 2000 floods over the north-eastern parts of the country¹⁰, the December 2004/January 2005 floods along the garden route,¹¹ and most recently the widespread December 2010/January 2011 floods which resulted in a national state of disaster being declared in 7 provinces and 28 district municipalities.¹²

⁴ Information on population statistics obtained from Statistics South Africa, Statistical Release P0302 – Mid-year population estimates, 2011, at <http://www.statssa.gov.za/publications/P0302/P03022011.pdf> (consulted 15 September 2011).

⁵ Tanya Farber *Contemporary Issues in South Africa: A toolkit for journalists*, at www.osf.org.za (consulted 15 September 2011).

⁶ South Africa, Green Paper on Disaster Management (1998) Part 4.

⁷ Given the limited scope of the study, this report does not further consider epidemics (notably, in South Africa this would include the high prevalence of HIV/Aids which currently infects approximately 10.6 per cent of the population) but focuses on natural hazards.

⁸ Prevention Web, South Africa – Disaster Statistics, at <http://www.preventionweb.net/english/countries/statistics/?cid=160> (consulted 15 September 2011). The data displayed on this site does not imply national endorsement.

⁹ Ibid.

¹⁰ Heavy rain and floods were experienced in Limpopo Province, Mpumalanga and Gauteng during the first half of February 2000. Estimates of structural damage were in the region of R 1 billion (excluding crop spoilage and losses) with more than 50 flood-related deaths. See South African Weather Service, Heavy rain and floods over North-Eastern South Africa: 4 – 14 February 2000, at <http://old.weathersa.co.za/Pressroom/2000/2000Feb4to14HeavyRain&Floods.jsp> (consulted 16 September 2011). For an account of the impact of this flood event at community level see S.K. Mquba & C. Vogel 'Living with environmental risks and change in Alexandra township' (2004) 86(1) *South African Geographical Journal* 30 – 38.

¹¹ Johann Tempelhoff et al 'The December 2004 – January 2005 floods in the Garden Route region of the Southern Cape, South Africa' (2009) 2(2) *Journal of Disaster Risk Studies* 93 – 112. Interestingly, this flood event was not declared a disaster at provincial or local level, even though the Eden District Municipality was severely affected, arguably beyond its ability to cope. Estimates in government circles suggested that rehabilitation would cost R25 million (Tempelhoff et al, 2009: 95). This issue is addressed in the findings section below.

¹² International Federation of Red Cross and Red Crescent Societies – South Africa: Floods, at www.ifrc.org (consulted 16 September 2011).

Overview of the disaster risk profile of South Africa

South Africa experiences both regional and wide-area floods, which are regarded as more of a national responsibility, and so-called “flash floods” which impact more at the level of local authorities. In either case flooding disrupts critical services such as communication systems, potable water supply, access along selected streets and roads, power supply and sewage services in addition to causing loss of life and widespread economic damage. The measures to prevent and mitigate flood damage are structural and non-structural in nature. Structural measures are physical measures such as the construction of flood attenuation dams, river draining works such as levees and urban storm water management systems. Non-structural measures are aimed at changing patterns of behaviour and entail, for instance, the introduction and enforcement of sensible land-use practices on floodplains, prohibition of development or settlement within the 1:100 year floodline of water resources, flood warning systems and flood preparedness and contingency planning.¹³ In South Africa, non-structural measures are at times particularly difficult to implement because of rapid urbanization and the density of makeshift housing in the many informal settlements which surround major urban centres.¹⁴

Droughts

Regular droughts, in the sense of a shortage of precipitation over an extended period, are a normal part of the climate in South Africa. All parts of South Africa, bar the south-western and southern regions, rely on summer rainfall which normally falls in the period from October to March. As a result, most crops can only be grown during this season and the recharging of water resources is confined to these crucial six months. Between July 1960 and June 2004 there were 8 summer-rainfall seasons where rainfall for affected areas was less than 80 per cent of normal (a deficit of 25 per cent is usually regarded as a severe meteorological drought, but shortfalls of 20 per cent may cause crop and water shortfalls).¹⁵ Between 1921 and 2003 the 8 most severe droughts at the 6-month timescale for the summer rainfall season in South Africa occurred in 1926, 1933, 1945, 1949, 1952, 1970, 1983 and 1992.¹⁶ Another severe drought season was experienced at the start of 2007 and again, particularly in the Eastern Cape, in 2010.¹⁷

When drought conditions occur in swift succession there is insufficient time for both natural resources and the economy to recover. Droughts affect South Africa’s food security while the knock-on effect of crop failures include rural-urban migration, farm lay-offs and closures and increasing indebtedness in the agricultural sector. Because droughts are also frequently accompanied by higher temperatures and rates of evapotranspiration, they are also positively correlated with devastating veld fires which may destroy large areas of grazing, commercial timber and orchards.¹⁸

¹³ Green Paper, note 6 above.

¹⁴ In Alexandra Township, for instance, which lies adjacent to the high-income node of Sandton in the metropolitan municipality of Johannesburg, an estimated 350 000 people live on an area of land 800 ha in extent, with a resulting population density of 34 000 people per square kilometre (roughly 3.4 people every 10m²). See Mquba & Vogel (note 10 above), at 31.

¹⁵ Water and Energy Conservation Systems – What kind of droughts does South Africa experience?, at <http://www.watersafe.co.za/2010/09/06/what-kind-of-droughts-does-south-africa-experience/> (consulted 17 September 2011).

¹⁶ Mathieu Rouault & Yves Richard ‘Intensity and spatial extension of drought in South Africa at different timescales’ (2003) 29(4) *Water SA* 489.

¹⁷ NASA Images – Drought in Southern Africa, at <http://www.nasaimages.org/luna/servlet/detail/nasaNAS~10~10~73639~179096:Drought-in-Southern-Africa> (consulted 17 September 2011).

¹⁸ Water and Energy Conservation Systems (note 15 above).

Drought relief in the past primarily took the form of subsidies to meet the financial losses of the white commercial farming sector and its creditors. The *Green Paper on Disaster Management*, however, recognized that the state could not continue “to bail out farmers like it did in the past” and encouraged the farming community to accept variability and adapt to it as a normal part of farm management. Mitigation measures to be implemented in this regard included improving early warning systems, developing a communication and information strategy linked to communities (especially small-scale farmers), investigating financial incentives to encourage farmers to save after good seasons (in addition to the possibility of subsidized insurance), and ensuring supplies of water in poorer and deep rural areas before a drought hits.¹⁹

Fires

Fire is a natural and beneficial disturbance of vegetation structure and composition in most South African ecosystems, catalyzing nutrient recycling and distribution. Nevertheless, substantial “unwanted” (unwarranted and uncontrolled) burning also occurs – and in 90 per cent of cases these are caused by human negligence.²⁰ As noted above, South Africa’s generally sunny, dry climate increases the fire risk of particular areas, and this is exacerbated by an escalating occurrence of extensive infestations of invasive alien species, fire risks associated with commercial forestry and agriculture, and increasing proximity between the urban development perimeter and naturally fire-prone systems.²¹ In the urban areas prevention and mitigation measures are primarily implemented through building and construction regulations. Emergency response is led by urban fire brigade services, though in recent years – with the changing institutional landscape of local government, the surface areas for which fire services are responsible has been increased, arguably beyond their capacity to cope. In the rural areas, risk reduction is accomplished by either removing the source of the firebrand (such as prohibitions on burning in certain areas or at certain times) or removing the fuel it may ignite (such as the construction of firebreaks, controlling and maintaining fire-prone invasive alien plants and removing fuel load).²² Emergency response, however, tends to be considerably weaker than in the urban areas.²³

Emerging hazards – water shortages and acid mine drainage

The lack of water is South Africa’s most limiting resource – and this in the face of a constitutionally-driven imperative to rectify the inequalities created by the system of apartheid and to provide access to sufficient water for an increasing population.²⁴ The reality, however, is that South Africa is facing, if not already experiencing, a water supply crisis driven both by increasing quantitative demands and decreasing quality.²⁵

¹⁹ Green Paper (note 6 above), part 4.1.

²⁰ Working on Fire – Introduction, at http://www.workingonfire.org/ifm_introduction.php (consulted 17 September 2011). In recent weeks and months there have been a series of devastating wildfires in the North West Province and Free State.

²¹ Ibid.

²² Working on Fire – Fire Prevention, at <http://www.workingonfire.org/fireprevention.php> (consulted 17 September 2011).

²³ Green Paper (note 6 above), part 4.1.3.

²⁴ Section 27(1)(b) of the South African Constitution provides that everyone has the right of access to sufficient water.

²⁵ Council for Scientific and Industrial Research A CSIR *Perspective on Water in South Africa* (2010), at http://www.csir.co.za/nre/docs/CSIR%20Perspective%20on%20Water_2010.PDF (consulted 17 September 2011). The statistics quoted in this paragraph are all drawn from the CSIR report.

Overview of the disaster risk profile of South Africa

The total available yield of surface runoff is 13 277 million m³/a. For the year 2000 the total water use requirements were already 12 871 m³/a and 10 of the countries' water management areas could not fulfil demand. While the country's groundwater appears to be under-utilized, experts caution that this should not be seen as an additional water resource but one that is integrally connected to the hydrological cycle. When groundwater is over-extracted the overflow of water into rivers and wetlands is negatively impacted. Moreover, groundwater is the only source of water for 300 towns and over 65 per cent of South Africa's population. The water quality of both surface and groundwater resources has declined as a result of increased pollution caused by industry, urbanization, deforestation, mining, agriculture and power generation. Despite a laudable water policy and legal framework (outlined in chapter 3 below), outdated and inadequate water treatment and sewage treatment plant infrastructure and unskilled operators are exacerbating this problem.

South Africa, therefore, faces the growing threat of water shortages in particular localities which may be exacerbated by drought or occur even in the absence of drought. In December 2010, for instance, the town of Beaufort West, crippled by drought, faced a potable water supply crisis as the Gamka dam ran completely dry. A total of 8 000 households were without water altogether. RSG (a local radio station), the disaster management unit of the local municipality and the local agricultural community launched the "Bottles for Beaufort" project which called upon members of the public and people travelling through the town to drop off sealed 5 litre containers of water.²⁶ Ironically, the residents of relatively well-watered KwaZulu-Natal are also facing a water shortage crisis. The shortage is affecting residents of eThekweni (Durban) as well as other towns in the province. An official from the eThekweni water department stated that the water shortage is so serious that the city must consider imposing a moratorium on any major developments until larger and more stable supplies of water are available. There are plans to build three desalinization plants along the coast as well as a new dam, but there is lack of agreement about which sphere of government should carry the costs of these projects.²⁷ There are indications, therefore, that, in the future, water shortages may need to be dealt with in terms of a disaster risk reduction and/or an emergency response framework.

A related emerging hazard in the populous province of Gauteng is the problem of acid mine drainage (AMD).²⁸ Home to the richest gold and uranium deposits in the world, the province is undergirded by a myriad of underground tunnels and voids caused by more than a century of deep-level gold mining which have slowly filled, or are filling, with water, as marginal mines close and the pumping operations that kept water out of the underground works ceases. In accordance with well-known and researched chemical and geochemical reactions between the mine rock strata, wastes and oxygen, the water becomes acidic, characterized by elevated concentrations of salts, heavy metals and (in some areas) radio nuclides. AMD threatens both ground- and surface-water sources: It contaminates groundwater as it moves upward toward the surface and, having decanted, causes severe environmental and safety impacts on the receiving water environment and downstream communities. Of the three basins that underlie

²⁶ South African Broadcasting Corporation (SABC) – Bottles for Beaufort West, at http://www.sabc.co.za/wps/portal/SABC/SABCARTICLE?id=55f9be0044feaf7691c0d30633af6cd1&page_from=PRESS (consulted 17 September 2011).

²⁷ KZN crisis may slow development – 2011/05/16, at <http://www.l2b.co.za/Global/News/Article/Article.asp?ID=6592> (consulted 17 September 2011).

²⁸ Report to the Inter-Ministerial Committee on Acid Mine Drainage *Mine Water Management in the Witwatersrand Gold Fields with Special Emphasis on Acid Mine Drainage* (December 2010).

the Witwatersrand, the Western Basin started decanting in September 2002, while the Central (underlying parts of Johannesburg, including parts of the central business district) and Eastern Basin (Springs-Nigel) area are slowly filling. Whilst the flooding of the Western Basin has occurred largely in peri-urban areas to the north of Krugersdorp and Randfontein, the flooding of the Central Basin will occur within a highly urbanized area. The filling of the underground workings simultaneously increases the risk of seismic events. The problem has been known since at least the mid-1990s but a comprehensive response to the issue has only taken shape in 2011 with a budgetary allocation of R225 million to address the hazard²⁹ and the appointment of the Trans-Caledon Tunnel Authority to carry out the work. Given the urgency of the situation, these waterworks will now be constructed in terms of an “emergency” provision of the National Water Act 36 of 1998 (outlined below) which precludes the need for public participation in the process of obtaining authorization for the project.³⁰ The potential for AMD generation from coal-mining in the northeast regions of the country is even greater than that currently being experienced on the Witwatersrand.

Risk and vulnerability – DRR in context

South Africa is regarded as an emerging or developing economy which, since the advent of democratic transition, has faced the challenge of reintegrating into the world economy. While this integration has also exposed the country to global business cycles, prudent monetary and fiscal policies, a flexible exchange rate and sound supervision of financial institutions has assisted South Africa weather the worst of global financial storms.³¹ In addition to these macroeconomic achievements, significant progress has been made toward making South Africa a more just and inclusive society. Access has expanded to primary and secondary education, formal housing, primary health-care, electricity and water.³² Nevertheless, widespread poverty and extreme inequality persist. While the current GDP per capita of almost R50 000 per annum indexes South Africa as an upper middle-income country, this income is unevenly distributed, with 48 per cent of people living on less than \$2 a day or R524 a month.³³ According to a national survey, the Gini co-efficient³⁴ was 0.67 in 2005 – indicating a high level of inequality. Substantial differences in average incomes by race groups remain, with the majority of poor households being black.³⁵ Notwithstanding the fact that the South African government spends about 6 per cent of GDP on education, the quality of public education for black children remains poor, with literacy and numeracy tests low by both African

²⁹ Sowetan Live – Housing and Municipal Budget, at <http://www.sowetanlive.co.za/news/2011/02/23/housing-municipal-budget> (consulted 17 September 2011).

³⁰ Information presented at a meeting of the section 5 Human Rights Commission Committee on Acid Mine Drainage on 13 September 2011 attended by the Project Researcher.

³¹ International Monetary Fund – IMF Executive Board concludes 2011 Article IV consultation with South Africa, at <http://www.imf.org/external/np/sec/pn/2011/pn11115.htm> (consulted 18 September 2011).

³² National Planning Commission – Diagnostic Overview, at [www.npconline.co.za/MediaLib/Downloads/Home/Tabs/Diagnostic/Diagnostic Overview.pdf](http://www.npconline.co.za/MediaLib/Downloads/Home/Tabs/Diagnostic/Diagnostic%20Overview.pdf) (consulted 18 September 2011).

³³ Ibid, at 9.

³⁴ A measure of inequality in a state where a score of 0 equals absolute equality and a score of 1 equals absolute inequality.

³⁵ National Planning Commission (note 32 above), at 9.

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and international standards.³⁶ Unemployment is high (at around 23 per cent) and the country's health outcomes are poor by world standards.³⁷ These factors are reflected in South Africa's Human Development Index (HDI) value (a composite index measuring average achievement in the three basic areas of long and healthy life, knowledge and a decent standard of living) which has fallen marginally from a high of 0.63 in 1994 to 0.59 where it has remained since 2006. It is therefore ranked at the lower end of the human development index, positioned at 110 out of 169 countries.³⁸

These factors compound the vulnerability of particular groups in South Africa – their ability to anticipate, cope with, resist and recover from a natural threat. This in turn increases the risk that the probability of a natural hazard occurring and culminating in physical, financial and social losses will occur. The question of identifying those most vulnerable or most at risk, differentiating levels of vulnerability in a community, and finding appropriate frameworks, methods and data to explore and explain vulnerability is difficult and is often better articulated at a local scale.³⁹ The complex range of factors that constitute vulnerability, however, makes such groups less empowered to participate in disaster risk reduction initiatives, in addition to making them needier of emergency response.

³⁶ Ibid, at 14. In this regard, the general secretary of the Congress of SA Trade Unions (COSATU), Zwelinzima Vavi, recently stated that calling the South African education system a crisis was an understatement, it is 'a catastrophe'. He noted that apartheid fault-lines remained firmly in place, with children of the poor still receiving inferior education. Of pupils who enrolled in grade one in 1998, 64 per cent dropped out before reaching matric. Of the matric class, only 60 per cent passed. See 'Vavi: Education a catastrophe', at <http://www.timeslive.co.za/local/2011/09/28/vavi-education-a-catastrophe> (consulted 29 September 2011).

³⁷ South Africa has 0.6 per cent of the world's population, but 17 per cent of the world's HIV infections and 11 per cent of the world's tuberculosis cases; the death rate from violence and road accidents is almost double the global average (at 158 per 100 000 population); infant and maternal mortality rates are higher than other middle-income countries, and lifestyle diseases such as diabetes and heart disease are rising sharply. National Planning Commission (note 32 above), at 20.

³⁸ United Nations Development Program, Human Development Report (2010) – International Human Development Indicators, at <http://hdr.undp.org/en/data/explorer/> (consulted 18 September 2011).

³⁹ Mgquba & Vogel (note 10 above), at 31.

Analysis of legislation related to disaster risk reduction in South Africa

Chapter 3

Legislative framework for disaster risk reduction

Legislative and governance structure

South Africa has a well-developed suite of disaster management policy and legislation, as well as other laws relevant to disaster risk reduction (DRR).⁴⁰ Almost all of these instruments have been developed since 1994, which marks the point at which South Africa became a constitutional democracy. The 1996 Constitution of the Republic of South Africa not only articulates a number of fundamental rights which bind the legislature, the executive, the judiciary and all organs of state,⁴¹ but establishes a blueprint for the structure of governance. The design choices regarding governance in the Constitution constitute the backdrop against which all governance structures in post-1994 legislation must be understood.

The Constitution affirms the separation of powers by allocating state power amongst legislative, executive and judicial branches of state power. More importantly, however, it constitutes national, provincial and local “spheres” of government.⁴² These “spheres” are intended to be “distinctive, interdependent and inter-related” and all thus have both legislative and executive competencies. At a national level, laws are made by Parliament and executed by members of the Cabinet (Ministers). At a provincial level, provincial legislation may be made by provincial legislatures and executed by members of the provincial executive council (MECs) while, at a local level, municipal councils have executive authority in respect of certain matters and the power to make by-laws for the effective administration of such.

There are two ways in which the Constitution guides the working together of this complicated division of state power. Firstly, all spheres of government must observe and adhere to the principles of co-operative government set out in the Constitution’s chapter 3. This chapter articulates standards relating to the need for trust, integrity and respect between the different spheres, but also affirms a collective duty on the part of each sphere of government and all organs of state within each sphere to “secure the well-being of the people of the Republic.”⁴³

Secondly, it defines a number of “functional areas” of state competence and allocates these among the three different spheres of government in Schedule 4 (areas of concurrent national and provincial competence) and Schedule 5 (areas of exclusive provincial competence) respectively.⁴⁴ Each Schedule is in turn divided into a Part A and a Part B. In both cases, the lists in Part B are also regarded as “local government matters” over which the local sphere of government has administrative powers and the power to develop by-laws. “Disaster management” is listed as a functional area in Part A of Schedule 4, meaning that while both the national and provincial spheres of government are competent to develop and execute laws within this area, strictly speaking it is not a local government matter. However, section 156(4) of the Constitution states that national and provincial governments *must* assign to a municipality the administration of a matter listed in Part A of either Schedules 4 or 5 if that matter would most effectively be administered locally, and the municipality has the capacity to administer it.

⁴⁰ South African legislation and case law is available on the open access platform provided by the Southern African Institute for Legal Information – see <http://www.saflii.org.za>. A list of legislation relevant to DRR is provided in Annex C.

⁴¹ Section 8(1), Constitution. The Bill of Rights is contained in Chapter 2.

⁴² Section 40(1), Constitution. The national sphere of government is outlined in chapters 4, 5, and 8. Chapter 6 details the legislative and executive structures of provincial government, while chapter 7 similarly deals with local government.

⁴³ Section 41(1)(b), Constitution.

⁴⁴ Matters not listed in either Schedules 4 and 5 are regarded as areas of national competence.

Further, the local government matters listed in Part B of Schedule 4 include a number of functional areas closely related to either DRR or emergency response, namely building regulations, fire-fighting services, municipal planning, storm-water management systems, and water and sanitation services.

A suite of additional national legislation further defines the structure and systems of the local sphere of government in greater detail and is pertinent to the discussion of community-based DRR in this report. In line with the Constitution, the Local Government: Municipal Structures Act 117 of 1998 provides for three categories of municipality: Category A municipalities must be established for South Africa's major economic and social urban centres (the "metropolitan" municipalities) whilst other areas have a combination of category B and C municipalities. Category B municipalities are established for the smaller urban centres (the "local" municipalities), while category C municipalities are established for particular districts (the "district" municipalities) which cover the entire region of South Africa. A number of local municipalities may fall within the jurisdiction of a district municipality. There are currently 8 metropolitan municipalities,⁴⁵ 46 district municipalities and 231 local municipalities in South Africa.⁴⁶

Whilst the Public Finance Management Act 1 of 1999 (PFMA) regulates the financial management of the national and provincial spheres of government, the Local Government: Municipal Finance Management Act 56 of 2003 (MFMA) deals with the financial affairs of municipalities. The Local Government: Municipal Systems Act 32 of 2000 (MSA), in turn, regulates the internal working of municipalities by setting out the core principles, mechanisms and processes considered necessary to enable municipalities to move progressively toward the social and economic advancement of local communities. Key to this objective is the process of integrated development planning. Within a prescribed period after the start of its elected term, each municipal council must adopt a single, inclusive and strategic plan for the development of the municipality (§ 25, MSA). An integrated development plan (IDP) must set out the council's vision for the long-term development of the municipality and include an assessment of the existing level of development, the council's development priorities and objectives for its elected term and its development strategies. A financial plan, including a three-year budget projection, must be included. Significantly, for purposes of this report, an IDP must include "applicable disaster management plans" (§ 26(g), MSA).

It is important to emphasize that the suite of local government legislation outlined above required a radical and far-reaching overhaul of local government structures in South Africa. Local authorities had formerly been at the coalface of apartheid planning, with different structures for urban and rural areas, self-governing territories and the so-called independent homelands.⁴⁷ The new suite of legislation thus not only introduced deep and complicated institutional changes (including amalgamation of existing municipalities), but required a paradigm shift whereby the local sphere of government is responsible for the social and economic development of local communities in addi-

⁴⁵ For the major urban centres of Tshwane (Pretoria), Johannesburg, Ekurhuleni, Cape Town, Nelson Mandela Bay (Port Elizabeth), eThekweni (Durban), Mangaung (Bloemfontein) and Buffalo City (East London). The metropolitan and district municipalities cover the entire surface area of South Africa, meaning that one or more local municipalities will always fall within the jurisdiction of a district municipality.

⁴⁶ African Centre for Disaster Studies (2011) *Disaster Risk Management Status Assessment at Municipalities in South Africa* Commissioned by the South African Local Government Association (SALGA) at 12 (hereinafter 'SALGA Report').

⁴⁷ Jeannie van Wyk (2007) 'The impact of development on the environment as part and parcel of integrated development planning?' 11(2) *Law, Democracy and Development* 57 at 71.

Legislative framework for disaster risk reduction

tion to the provision of “traditional” local government services.⁴⁸ An evaluation of the performance of municipalities must bear the sweeping nature of these changes in mind.

Against this backdrop, South Africa’s legislative landscape relating to disaster management essentially comprises three tiers. There is firstly a well-developed set of policies and laws dealing specifically with disaster management as a generic functional area. Secondly, there are statutes dealing with specific types of disaster, including fires, mining accidents and crowd control at sports and recreational events. Finally, there are laws and policies relating to the environment, the management of water resources, the conservation of agricultural resources, building and construction, and land-use planning which have specific provisions relating to disaster risk reduction, response and rehabilitation. An overview of each regulatory tier follows.

Generic disaster management policy and legislation

The centrepiece of the South Africa government’s legislative response to disaster management is the Disaster Management Act 57 of 2002 (DMA), which repealed the former Civil Protection Act 67 of 1977. In order to implement the DMA, a National Disaster Management Framework (NDMF) was promulgated in April 2005.⁴⁹ A few months later, draft Disaster Management Regulations were published for public comment⁵⁰ but were not taken further until December 2010 when the Disaster Management Volunteer Regulations were promulgated.⁵¹ Although they have concurrent legislative and executive competence in respect of disaster management, none of the provinces to date has enacted dedicated disaster management legislation. A few district municipalities, however, have passed disaster management by-laws.⁵²

Disaster Management Act of 2002 and Regulations

Essentially, the focus of the DMA is four-fold: It establishes an elaborate institutional framework for disaster management; it entrenches a detailed policy development and strategic planning framework for disaster management; it provides for the classification and declaration of disasters; and it addresses the funding of post-disaster recovery and rehabilitation. It also deals with disaster management volunteers and a few other ancillary matters. Hence, the DMA has a strong disaster prevention, reduction and mitigation focus in addition to providing for emergency preparedness, rapid and effective response and post-disaster recovery. A brief overview of each of these focuses follows as necessary contextual information for the findings outlined in Chapter 4.

Whilst international developments (such as the UN General Assembly’s declaration of 1990-99 as the International Decade for Natural Disaster Reduction) played a role in the South African’s government’s decision to overhaul its approach to disaster

⁴⁸ Pycroft, Christopher (1998) ‘Integrated development planning or strategic paralysis? Municipal development during the local government transition and beyond’ 15(2) *Development Southern Africa* 151 at 154.

⁴⁹ General Notice 654 *Government Gazette* 27534 of 29 April 2005.

⁵⁰ General Notice 1689 *Government Gazette* 27991 of 9 September 2005.

⁵¹ GNR 1215 *Government Gazette* 33882 of 17 December 2010.

⁵² These include the Cacadu District Municipality Disaster Management By-laws (GN 216 *Eastern Cape Gazette* 1629 of 27 November 2006); the Alfred Nzo District Municipality Disaster Management By-laws (GN 35 *Eastern Cape Gazette* 2045 of 23 January 2009); the Amathole District Municipality Disaster Management By-laws (GN 64 *Eastern Cape Gazette* 2378 of 9 June 2010) and the Nelson Mandela Metropolitan Municipality Disaster Management By-laws (GN 172 *Eastern Cape Provincial Gazette Extraordinary* 1803 of 30 November, 2008).

management, the June 1994 floods on the Cape Flats⁵³ served as the catalyst for action. This event led to a Cabinet resolution to assess South Africa's ability to deal with risk reduction and disaster management and, ultimately, the establishment of an inter-ministerial committee on disaster management⁵⁴ which spearheaded the development of both a Green Paper (1998) and then a White Paper on Disaster Management (1999).⁵⁵ The DMA itself was adopted on 30 December 2002 and entered into force on 1 April 2004.

Discussions to amend the DMA were recently initiated by the National Disaster Management Centre (NDMC) which sits under the auspices of the Department of Co-operative Government and Traditional Affairs (CoGTA).⁵⁶ Where relevant, issues raised during the discussions surrounding this process are indicated in this section and in the analysis in Chapter 4.

The first of such issues has been that the DMA's strong DRR focus is not necessarily evident from the title of the Act, which some argue has stronger associations with emergency response and relief than with risk preparedness. The definition of "disaster management" in the Act, however clearly establishes that DRR is a central focus of the legislation since it must be taken to mean "a continuous and integrated multi-sectoral, multi-disciplinary process of planning and implementation of measures aimed at: (a) preventing or reducing the risk of disasters; (b) mitigating the severity or consequences of disasters; (c) emergency preparedness; (d) a rapid and effect response to disasters; and (e) post disaster recovery and rehabilitation" (§ 1, DMA).

A "disaster" in turn is defined to mean "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; or (iii) disruption of the life of the community; and (b) is of a magnitude that exceeds the ability of those affected by the disaster to cope with its effect using only their own resources" (§ 1, DMA).

Institutional framework for disaster management

Turning first to the institutional framework for disaster management, the DMA requires the President to establish an **Intergovernmental Committee on Disaster Management (ICDM)** comprising Cabinet Members involved in disaster management, the MECs of each province involved in disaster management, and members of municipal councils, selected by the South African Local Government Association (SALGA) (§ 4, DMA). This inter-governmental structure is tasked with giving effect to the principles of co-operative government in Chapter 3 of the Constitution, reporting to Cabinet on the coordination of disaster management among the spheres of government, and generally advising Cabinet on issues relating to disaster management and the establishment of the NDMF.

In addition to the ICDM, the DMA establishes **disaster management centres** within each sphere of governance: The **National Disaster Management Centre (NDMC)** at the

⁵³ University of Cape Town, Monday Paper Archives – Disaster mitigation initiatives come to the fore, at <http://www.uct.ac.za/print/mondaypaper/archives/?id=3564> (consulted 29 September 2011).

⁵⁴ The inter-ministerial committee comprised Ministers responsible for the following portfolios: Water Affairs and Forestry; Agriculture and Land Affairs; Finance; Defence; Safety and Security; and Public Works. The committee was chaired by the Minister for Provincial Affairs and Constitutional Development.

⁵⁵ Green Paper, note 6 above, at 11.

⁵⁶ Conversation with Ms Ané Bruwer, Executive Manager Disaster Management Legislation, Policy and Enforcement, NDMC.

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national level, forms part of and functions within the Department of CoGTA (§ 8, DMA); provincial disaster management centres (PDMCs) must be established by each of the nine provinces to form part of and to function within a department designated by the provincial Premier – ordinarily this is the department responsible for local government (§ 29, DMA); and municipal disaster management centres (MDMCs) must be established by each metropolitan and district municipality (§ 43, DMA). Local municipalities are not required to establish disaster management centres but may operate a centre in partnership with a district municipality. A district municipality may only establish an MDMC after consultation with the local municipalities in its area (§ 43(2), DMA). The disaster management centres within each sphere play a variety of co-ordination, monitoring and promotional functions, which are outlined in the findings in greater detail. Significantly, the DMA explicitly requires that these centres will give guidance to organs of state, the private sector, non-governmental organizations, communities and individuals to assess and prevent or reduce the risk of disasters and to promote formal and informal initiatives that encourage risk-avoidance behaviour (§§ 20, 33, 47, DMA).

The last significant pillar of the institutional framework is the **advisory forums**. These serve as institutional spaces for consultation and coordination between state officials from all three spheres of government and a potential long list of disaster management role-players in civil society including representatives of organized business; the Chamber of Mines; organized labour; the insurance industry; organized agriculture; traditional leaders; religious and welfare organizations; medical, paramedical and hospital organizations; the disaster management profession; relevant non-governmental and inter-governmental organizations and relief agencies; statutory bodies regulating safety standards in particular industries; institutions of higher education or institutions that can provide scientific and technological advice; and disaster management experts. While the **National Disaster Management Advisory Forum (NDMAF)** must be established (§ 5, DMA), the DMA affords a discretion to the provincial and municipal spheres of government to establish Provincial Disaster Management Advisory Forums (PDMAFs) and Municipal Disaster Management Advisory Forums (MDMAFs) for each province and each metropolitan and district municipality respectively (§§ 37, 51, DMA). The potential representation of civil society disaster management role-players on these fora is the same as the national level.

Proposals relating to the development of disaster risk management policy or legislation must first be submitted to the NDMC for consideration, before being submitted to the NDMAF and, thereafter, the ICDM (§ 1.1.2 NDMF).

Policy development and strategic planning framework

The DMA focuses extensively on policy development and strategic planning through the preparation of **disaster management frameworks** and **disaster management plans**. Disaster management frameworks have to be prepared for the national sphere, for each province and for each metropolitan area or district. The frameworks provide policy direction for the disaster management function. All municipalities (metropolitan, district and local) and each relevant state organ *within* each sphere must also prepare a disaster management plan which translates the policy into an implementation strategy; i.e. at a national level, the Minister must prescribe the NDMF (§ 6, DMA) and each national organ of state indicated in this framework must prepare a disaster management plan which sets out the manner in which DRR and emergency response will be

mainstreamed into its operations⁵⁷ (§ 25(1), DMA). At a provincial level, each province must establish and implement a disaster management framework for the province as a whole (§§ 28, 39, DMA)⁵⁸ while each provincial organ of state indicated in the national or provincial disaster management framework must prepare a disaster management plan (§ 38, DMA). At a municipal level, each metropolitan and district municipality must establish and implement a framework for disaster management in the area of the municipality (§ 42, DMA) and each municipality (i.e. including local municipalities) must prepare a disaster management plan that should form a part of its integrated development plan as required by the Local Government: Municipal Systems Act 3 of 2000 (§ 53, DMA). Additionally, each municipal entity indicated in the relevant provincial or municipal disaster management framework must prepare a disaster management plan that mainstreams disaster management into its operations similarly to the manner required of national and provincial organs of state (§ 52, DMA). The content of the NDMF, provincial disaster management plans (PDMPs) and municipal disaster management plans (MDMPs) are prescribed by the DMA (§§ 7, 39(2) and s 53(2)).

The DMA establishes a hierarchy and interconnectedness amongst all these frameworks and plans: Provincial disaster management frameworks must be consistent with the NDMF (§ 28(2), DMA), while metropolitan/district disaster management frameworks must be consistent with both the NDMF and the provincial disaster management framework for the province concerned (§ 42(3), DMA). Disaster management plans of national and provincial organs of state and municipal entities must be aligned with the relevant national, provincial and/or municipal disaster management frameworks, while (local) municipal disaster management plans must be consistent with the relevant metropolitan/district disaster management framework (§ 53(1), DMA). An initial problem with this elaborate hierarchy is that it sets up “passivities”: If, for instance, a province fails to develop its disaster management framework/plan it provides a reason for both the organs of state and the municipalities within that province to wait or to “pass the buck” in the preparation of their own plans.⁵⁹ This is significant because, as outlined below, the preparation of such plans is integral to the functions of hazard monitoring, risk mapping, community empowerment and community incentives amongst others. For legislative drafters, the difficulty is thus how to avoid the problem of setting up

⁵⁷ The DMA in this regard provides that the disaster management plan must set out the way in which the concept and principles of disaster management are to be applied by the national organ of state within its functional area; the organ’s roles and responsibilities in terms of the NDMF; its roles and responsibilities regarding emergency response and post-disaster recovery and rehabilitation; its capacity to fulfil its roles and responsibilities; particulars of its disaster management strategies; and contingency strategies and emergency procedures in the event of a disaster, including measures to finance those strategies (§ 25(1)(a), DMA).

⁵⁸ Because § 25 of the DMA refers to the development of a ‘framework’ while § 39 refers to a ‘plan’ it is not entirely clear from the legislation, whether the obligation to establish a provincial disaster management framework is discharged by the preparation of the provincial disaster management plan, or whether these are two separate instruments. If one has regard to the municipal level, things become even more unclear because while each metropolitan and district municipality must prepare a ‘framework’ for disaster management (§ 42), the associated section dealing with the preparation of municipal ‘plans’ requires that ‘each municipality’ must prepare a disaster management ‘plan’ (§ 53). This would suggest that the obligation rests upon local municipalities as well. From the NDMF, however, it would appear that the national, provincial and metropolitan/district frameworks are prepared by the NDMC, PDMCs and MDMCs respectively and that ‘plans’ are prepared by the state organs within each sphere as well as by local municipalities. The inconsistent use of the terms ‘framework’ and ‘plan’ in the DMA, as well as the failure to qualify ‘municipalities’ in § 53, however, leads to uncertainty.

⁵⁹ Conversation with Ms Ané Bruwer, Executive Manager Disaster Management Legislation, Policy and Enforcement, NDMC.

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“passivities” while at the same time ensuring that disaster management planning at different levels of government is coordinated and coherent.

In addition to the preparation of disaster management plans, the DMA provides for a comprehensive system of **annual reporting** which applies to the NDMC (§ 24, DMA), PDMCs (§ 36, DMA) and MDMCs (§ 50, DMA). Each of these entities must submit an annual report to its relevant political head that reports on its activities during the year, the results of its monitoring of prevention and mitigation initiatives, disasters that occurred during the year in each province and their classification, magnitude and severity, the capacity of the relevant sphere of government to cope with the disaster and the manner in which problems were addressed, progress in the development of disaster management plans by different organs of state and an evaluation of the implementation of those plans.

The DMA envisages that the disaster management planning process should be information driven and, in this regard, requires the NDMC to establish a national **Disaster Management Information System (DMIS)** (§ 17, DMA) which, in addition to prescribed contents such as information on the risk factors underlying disaster, ways and means to reduce such risks and prevention and mitigation initiatives (amongst others), must include a directory of institutional role-players that are or should be involved in disaster management in southern Africa (§ 16, DMA).

Classification and declaration of disasters

The legal significance of the classification of a disaster is that it is the only means by which primary responsibility for the coordination and management of a disaster can be shifted from one sphere of government to another. It therefore also holds implications for the funding of disasters. The DMA provides separately for the classification (§§ 23, 35, 49, DMA) and the declaration of disasters at a national (§ 27, DMA), provincial (§ 41, DMA) and municipal (§ 55, DMA) sphere of government. The logic underlying the legislation is that while the classification of disasters is a power that vests in the NDMC as assisted by the PDMCs and MDMCs, the power to declare a disaster vests in the relevant political head of the sphere (the Minister of CoGTA, Premier of the province or municipal council respectively). The DMA deals with gaps and delays in these processes by specifying what should happen or be assumed by default: Until a disaster is classified it must be regarded as a local disaster (§ 23(7), DMA). Further, the national and provincial executives or a municipal council is responsible for the coordination of national, provincial or local disasters *irrespective* of whether a disaster has been declared or not (§§ 26, 40, 54, DMA).

Basic criteria for determining whether a disaster qualifies as a national, provincial or local disaster are specified in the DMA (§ 23(4) – (6), DMA). These relate primarily to the spatial scope of the disaster and the capacity of the relevant sphere of government to deal with the disaster effectively. Thus a disaster is a local disaster if it affects a single metropolitan, district or local municipality and the municipality concerned (or if it is a district or local municipality, the district municipality acting alone or with the assistance of local municipalities which fall within its area) is able to deal with it effectively.

The declaration of a disaster allows for the relevant political head to prescribe extraordinary measures for emergency response and relief, such as the release of available resources (stores, equipment, vehicles or facilities, emergency services personnel); evacuation to temporary shelters of all or part of the population from the disaster-stricken

or threatened area as well as the provision, control or use of temporary emergency accommodation; the regulation of traffic to, from or within the disaster-stricken or threatened area; the control and occupancy of premises in such area; a suspension or restrictions on the sale of alcohol in the disaster-stricken or threatened area; the maintenance or installation of temporary lines of communication; the dissemination of information required for dealing with a disaster; emergency procurement procedures; and the facilitation of response and post-disaster recovery and rehabilitation (§§ 27, 41, 55, DMA).

Funding

The provisions on funding are set out in two provisions in Chapter 6 of the DMA, providing basic principles for the funding of disasters by the national, provincial and local spheres of government which are set out in greater detail in the findings below. These provisions must, however, be read together with §§ 16 and 25 of the PFMA and § 29 of the MFMA which provides for the use of funds by national and provincial levels of government in emergency situations. Section 10A of the Local Government: Municipal Systems Act of 2000 is also essential for purposes of addressing the burning issue of the disaster management “unfunded mandate” at the level of municipalities.

Disaster management volunteers

Volunteer units may be established by a district or local municipality to participate in disaster management within the municipality (§ 58, DMA). The Minister of CoGTA is empowered to prescribe regulations dealing with the functioning of such units – recently exercised through the promulgation of the Disaster Management Volunteer Regulations. These regulations deal with, amongst others, the command structure of the unit, the components within the unit, criteria to qualify for service as a volunteer, the recruitment and training of volunteers and the payment of subsistence and travel allowances on the part of the municipality. The focus of volunteer units falls more on emergency response and relief than on DRR.

National Disaster Management Framework of 2005

The National Disaster Management Framework was designed to provide a “coherent, transparent and inclusive policy on disaster management” (NDMF, Introduction). It places, in line with international best practice, explicit emphasis on the DRR concepts of prevention and mitigation as the core principles driving disaster management. The NDMF is a lengthy and complex document that entrenches and expands upon the commitment to developmental measures that reduce the vulnerability of disaster-prone areas, communities and households. To this end, it sets out four Key Performance Areas (KPAs) and three Enablers: KPA 1 focuses on establishing the necessary institutional arrangements for implementing disaster risk management within the three spheres of government with the emphasis placed on the involvement of all stakeholders in strengthening the arm of government to reduce the likelihood and severity of disasters. KPA 2 outlines the requirements for addressing disaster risk assessment and monitoring by organs of state within all spheres of government and is thus relevant to the assessment of both the vulnerability and disaster risks faced by communities. KPA 3 addresses disaster risk management planning and implementation with a view to informing “developmentally-oriented” plans, programmes and projects that reduce disaster risk. KPA 4, in turn, outlines implementing priorities for disaster response

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and recovery and rehabilitation. The three Enablers address the cross-cutting needs of each KPA: Enabler 1 focuses on the establishment of an integrated and comprehensive information management and communication system; Enabler 2, on the disaster risk management priorities in education, training, public awareness and research; and Enabler 3, on the mechanisms for the funding of disaster risk management. While the NDMF identifies a broad array of actions within each of the KPAs and Enablers, these are formulated at a very general level and thus require more detailed elaboration in the provincial and local disaster management frameworks and plans for purposes of implementation at the community level.

Disaster management by-laws

The Disaster Management By-laws recently enacted by the Cacadu, Alfred Nzo and Amathole district municipalities and the Nelson Mandela Bay metropolitan municipality are exactly alike. The purpose of this set of by-laws (which were enacted to respond to the recent severe drought in the Eastern Cape province) appears to be three-fold: It requires the MDMCs and the council of each municipality to act in accordance with the relevant municipal disaster management framework and plan; it allows for municipal councils to issue extraordinary measures for emergency relief and response; and criminalizes a failure to comply with an oral or written instruction issued by the municipality (or one of its functionaries) relating to one of these measures. The first two purposes are somewhat curious in that they are already provided for in terms of the DMA, making the criminalization of failure to comply with emergency directions the only novel feature of these by-laws.

Legislation dealing with specific types of disaster

There are at least three pieces of legislation that deal explicitly with specific types of hazard. The National Veld and Forest Fire Act 101 of 1998 and the Fire Brigade Services Act 99 of 1987 deal specifically with fires while the Safety at Sports and Recreational Events Act 2 of 2010 deals with safeguarding the physical well-being and safety of both persons and property at sports and recreational events.

National Veld and Forest Fire Act, 1998 & Fire Brigade Services Act, 1987

The object of the National Veld and Forest Fire Act, which is administered by the Department of Agriculture, Forestry and Fisheries, is to prevent and combat “veld fires” (including veld, forest or mountain fires) throughout the Republic. It has a strong DRR focus through its provisions dealing with the establishment of a fire danger rating system (Chapter 3) and the prevention of veld fires through the construction of fire-breaks (Chapter 4). Key to the functioning of this piece of legislation is the establishment and registration of fire protection associations (FPAs), which are associations of landowners empowered to deal with all aspects of veld fire prevention and fire fighting (§ 3, NVFFA). The Act serves as a good example of legislative drafting that integrates and takes into account existing institutions in terms of other statutory instruments in that it also provides for the Minister to register and recognize as FPAs a variety of already-existing committees, agencies or associations (§ 4(3), NVFFA). These may include a “disaster management agency established in terms of any law passed for the management of disasters or for civil protection” as well as any voluntary association having as its object the prevention and combating of veld fires in existence at the time

of the promulgation of the Act.⁶⁰ Further, if a FPA has been registered in an area, all or part of which is controlled by a municipality that has an fire fighting service or a designated fire fighting service (one that has been recognized as such in terms of the Fire Brigade Services Act 99 of 1987), that municipality must also belong to the FPA. The Act sets out a number of minimum duties FPAs must assume which are of a preventative (developing and applying a veld fire management strategy for its area, identifying ecological conditions that impact on the fire danger), co-ordinating (providing in the veld fire management strategy for mechanisms for the coordination of actions with adjoining FPAs, regularly communicating the fire danger rating to its members), and empowering nature (providing management services, training and support for communities in their efforts to manage and control veld fires) (§ 5(1), NVFFA). A loan, grant or other form of financial assistance may be given by the responsible Minister to FPA for any of its activities (§ 7, NVFFA).

The Fire Brigade Services Act of 1987 provides for the establishment, maintenance, employment, coordination and standardization of fire brigade services throughout the Republic of South Africa. Because this piece of legislation predates the democratic transition in South Africa and the overhaul of local government structures which ensued in its wake, it is still premised on the spatial division of local authority under apartheid (see the definition of “local authority” in the Act). As noted above, since 1994 there has been a major realignment and, in certain instances, amalgamation of these structures. Importantly for purposes of DRR and emergency response, in many instances the area which fire brigade services are required to oversee has either doubled or even tripled, without a concomitant increase in resources. As outlined below, this has severe implications for the capacity of the service to respond in a timely fashion to a fire hazard.

Although not established in terms of a specific piece of legislation, the Working on Fire Programme (WoF), administered under the auspices of the Department of Water and Environmental Affairs, must be mentioned at this point. The WoF is a government-funded, multi-partner organization focusing on integrated fire management, poverty alleviation and job creation. After several years of research, the South African Forest Fire Association was awarded a tender by the (then) Department of Water Affairs and Forestry to implement an aerial and ground resource plan for fighting veld fires. The funding came from both national government and the commercial forestry sector and was launched in 2003. The Programme trains locally-resourced fire-fighting teams, which are based locally but can be deployed nationally. It is commonly regarded as a best practice model and one of the most successful poverty relief and skills development programmes launched since 1994.⁶¹

Safety at Sports and Recreational Events Act of 2010

The development of this piece of legislation, which deals primarily with measures to ensure the safety and security of people attending large-scale sporting or recreational

⁶⁰ Other existing institutions which may be registered as fire protection associations include: a fire control committee or regional fire control committee established under s. 19 of the Forest Act 122 of 1984; a conservation committee established under s. 15 of the Conservation of Agricultural Resources Act 43 of 1983; a catchment management agency established under s. 78 of the National Water Act 36 of 1998; any nature conservancy established in terms of any Ordinance of any Province; and a fire protection committee established under s. 7 of the Mountain Catchment Areas Act 63 of 1970.

⁶¹ Working on Fire – A brief history, at <http://www.workingonfire.org/history.php> (consulted 30 September 2011).

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events and the role-players who are responsible for this, was initiated after the Ellis Park tragedy in which 43 people lost their lives as a result of a sporting event stampede.⁶² The Act entered into force on 2 August 2010 and is administered by the National Department of Sport and Recreation. It applies to sporting, entertainment, recreational, religious, cultural, exhibitory, organizational or similar activities hosted at a stadium, venue or along a route.

The DRR focus of the legislation lies in empowering the National Commissioner of the South African Police Services (SAPS) to make a risk categorization of events. Event organizers must submit an annual schedule of events to SAPS (at least six months prior to the calendar year or season in which the event will take place) whereupon the National Commissioner must decide whether to categorize the event as low-, medium- or high-risk, taking into account the wide-range of criteria specified in the legislation (§ 6, SSREA). An event safety and security planning committee must be established for every event categorized as being medium- or high-risk to oversee the planning, coordination and operation of the event (§ 4, SSREA).

Risk reduction is also achieved through the issuing of safety certificates, by the local authority, in respect of existing or new stadia or venues (§ 7, SSREA). The onus rests upon the stadium or venue owner to acquire and maintain an annual safety certificate which certifies that the infrastructure complies with criteria prescribed by the Minister of Sport and Recreation in consultation with the Minister of Science and Technology. These criteria must relate to ensuring the safety of the infrastructure and accommodation at a stadium or venue, including provision of adequate safe access and sufficient facilities for persons with disabilities (§§ 8, 9, SSREA).

Other laws relevant to DRR

In addition to generic and specific disaster management legislation, South Africa has a range of laws that regulate different aspects of the disaster management cycle within the context of broader regulation of particular sectors such as agricultural resources, the mining sector, water resources and building and construction. The focus of these laws not only falls upon reducing the risks associated with the natural and man-made environment but, in certain instances, allocates particular responsibility for undertaking emergency response.

Environmental and natural resources laws

Environmental management & environmental impact assessment

The National Environmental Management Act 107 of 1998 (NEMA) provides a framework for environmental management in South Africa. In pursuance of the goal of integrated environmental management, it requires that an environmental impact assessment (EIA) be carried out prior to the commencement of certain listed activities (§ 24, NEMA). The EIA procedure requires that the potential consequences for, and impacts on, the environment of certain activities must be considered, investigated, assessed and reported

⁶² The tragedy occurred on April 11, 2001, when approximately 80 000 spectators tried to cram into the Ellis Park Stadium – a venue with a capacity for around 60 000 people – for a premier league soccer match between the two most popular teams in Johannesburg. The fatalities that resulted from the crush which ensued was the subject of a judicial enquiry. For a case study of this incident see Douglas M. Bowley, Paddy Rein, Hendrik J. Scholtz & Kenneth D. Boffard (2004) ‘The Ellis Park Stadium tragedy’ 1 *European Journal of Trauma* 51–5.

on to the competent authority (which is, generally, the relevant provincial department responsible for environmental matters). The regulations establishing the EIA procedure⁶³ do not explicitly require an assessment of the disaster risk potential of the relevant activity. However, the reports which lie at the centre of the process (being the basic assessment report or scoping/EIA report respectively) do require the person conducting the EIA study to describe and assess the significance of any environmental impacts, including their nature, extent and duration and their probability of occurring. The reports must also clearly specify the environmental management and mitigation measures that will be established. This probably falls short of constituting hazard mapping because it fails to take into account the correlation between impact and vulnerability and, hence, the potential disaster risk. The EIA procedure is, however, subject to a detailed public participation process that ostensibly allows for individuals and communities to raise concerns regarding the extent to which environmental impacts increase their vulnerability and risk.

Section 28 of the NEMA Act further establishes a duty of care in relation to the environment. Any person who causes, has caused or may cause significant pollution and degradation of the environment must take reasonable measures to prevent this from occurring, continuing or recurring. Section 29 is an interesting legal provision from the perspective of DRR in that it protects workers refusing to do environmentally hazardous work. No person may be held civilly or criminally liable or may be dismissed, disciplined, prejudiced or harassed on account of refusing to do work that the person reasonably believes would result in “an imminent and serious threat to the environment,” although it is not clear what would constitute such an imminent or serious threat.

The focus of § 30 of the NEMA, which deals with the control of emergency incidents, is reactive rather than preventative. An incident may constitute, either, an unexpected sudden occurrence, including a major emission, fire or explosion or, potentially serious pollution of, or detriment to, the environment, whether immediate or delayed. An obligation to deal with the incident rests, in the first instance, with the person responsible for the incident or the owner or person in control of any hazardous substance involved in the incident.

The responsible person is firstly obligated to report the incident to a number of state agencies (including the SAPS and the relevant fire prevention service) as well as “all persons whose health may be affected by the incident” (§ 30(3), NEMA). The content of this notification must include the nature of the incident and any risks posed by the incident to public health, safety and property. Secondly, the responsible person must take all reasonable measures to contain and minimize the effects of the incident – including its effects on the environment and any risks to the health, safety and property of persons and must undertake clean-up procedures, remedy the effects of the incident and assess the immediate and long-term effects of the incident on environment and health (§ 30(4), NEMA). If the person immediately responsible fails to do this, the NEMA makes provision for various state agencies (beginning with the municipality) to issue a directive to the responsible person. If no action is still forthcoming, the agency may undertake the work itself and recover the cost thereof from the responsible person (§ 30(8), NEMA). Moreover, failure to report or to take reasonable measures to contain and clean up the effects of an incident is a criminal offence that may attract a fine of R1 million or 1 year imprisonment, or both (§ 30(11), NEMA).

⁶³ The current set of regulations in force are R543 – 546 *Government Gazette* 33306 of 18 June 2010.

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Water resources

Regulation of the use of water in South Africa is split between two primary pieces of legislation: the National Water Resources Act 36 of 1998 (NWA), which regulates the use of water resources (rivers, springs, canals, wetlands, dams, surface water, estuaries and aquifers), and the Water Services Act 108 of 1997, which deals with the provision of potable water. The NWA is of greater relevance to DRR and its administration falls primarily within the purview of the national sphere of government – though this is qualified by the obligation placed upon the national Department of Water and Environmental Affairs to transfer its powers to catchment management agencies (CMAs) over a period of time. The provision of water services, in contrast, is seen as one of the primary responsibilities of municipalities, under the oversight of the national and provincial spheres of government.

The NWA is a sophisticated piece of legislation that introduces many far-reaching and novel concepts into the South African water regulatory regime. Chief among these is the notion of integrated water management, whereby regulation aims to respond to the intricacies of the hydrological cycle as a whole, in addition to integrating and balancing different water uses. The Act also requires that water be managed on a catchment basis and not in terms of political boundaries that do not necessarily coincide with the natural flows of water. In recognition of the constitutional right to the environment and sufficient water respectively,⁶⁴ water regulators are required to determine the Reserve, being the amount of water in each water resource which must be allocated to meeting basic human needs and the water required to protect the aquatic ecosystems of the resource (§ 16, NWA). Allocation of water use rights for various water uses (§ 21, NWA) in terms of various types of authorization, can only take place if there is water available in the resource exceeding the Reserve. This should constitute one of the key legislative mechanisms guarding against the emerging hazard of water shortages.

Of interest to community-based DRR is the NWA's vision of progressively instituting CMAs as the primary regulators of water within each catchment. The stated purpose of the establishment of such agencies is to delegate water resource management to the regional or catchment level and to involve local communities. The members of a governing board of a CMA must achieve a balance among the interests of water users, potential water users, local and provincial government and environment interest groups (§ 81, NWA). Through this institutional space, local communities may thus raise their interests and concerns. Once established, the "initial functions" of the CMA include (amongst others) investigating and advising interested persons on the protection, use, development, conservation, management and control of water resources within the water management area, as well as promoting community participation in this regard (§ 80, NWA). Catchment management agencies must develop catchment-specific strategies that set out objectives, strategies, plans, guidelines and procedures for the protection, use, development, conservation management and control for water resources within its water management area (§§ 8, 9 NWA). The CMAs should thus play a key DRR role. Until such time as CMAs are established, however, the Department of Water and Environmental Affairs is responsible for this function. Over time, it is envisaged that CMAs would assume full responsibility for allocating water use rights amongst different water users but, as outlined in the findings below, progress in establishing and empowering the CMAs has been extremely slow.

⁶⁴ Section 24 of the Constitution requires the State to protect the environment through legislative and other measures that, *inter alia* promote conservation. As noted above, the right of access to sufficient water is contained in § 27(1)(b) of the Constitution.

The NWA also allows for the establishment of water user associations (WUAs) (§§ 91 – 8, NWA) which differ from CMAs in that they operate at a restricted localized level. They are, in effect, co-operative associations of individual water users who wish to undertake water-related activities for their mutual benefit. Existing irrigation and water control boards continue in existence until they are restructured as WUAs. The functions of WUAs depend on their individual constitutions. The NWA provides a “model” WUA Constitution in Schedule 5 which indicates that DRR falls within the ambit of their mandate. Their suggested functions, for instance, include protecting water resources, exercising general supervision over any water resource, and regulating the flow of any watercourse by reducing the risk of damage to the land in the event of floods (Sch. 5). A number of WUAs have been established.

Both CMAs and WUAs qualify as “water management institutions” and are obliged, at their own expense, to make information available to the public in an appropriate manner in respect of a variety of actual or threatened natural hazards (§ 145(1), NWA). These include: a flood or drought which has occurred or is likely to occur; levels likely to be reached by floodwaters from time to time; a waterwork which might fail or has failed; any risk posed by any dam; any risk posed by the quality of any water to life, health or property or “any matter connected with water or water resources, which the public needs to know.” The Minister responsible for water is also afforded a discretion to establish early warning systems relating to floods, droughts, dam failures and the failure of waterworks, where this is “reasonably practicable” (§ 145(2), NWA).

Similarly to the NEMA, the NWA contains a provision dealing with the control of emergency incidents (§ 20, NWA). Unlike § 30 of the NEMA, the definition of “incident” does not contain a temporal dimension – an incident is simply any incident or accident in which a substance pollutes or has the potential to pollute a water resource, or has (or is likely to have) a detrimental effect on a water resource. While the “responsible person” is also required to notify certain agencies and to take reasonable measures to deal with the emergency, unlike the NEMA provision there is no obligation upon the responsible person to notify persons whose health, safety or property is affected by the incident. This could be seen as a loophole – allowing persons whose activities cause emergency incidents in respect of water resources to opt for the less stringent route – at least as regards information flows to communities.

Government waterworks – such as water storage dams, water transfer schemes and flood attenuation works – are also regulated by the NWA. The construction of such a waterwork must generally be preceded by both an EIA and a comprehensive public participation process, however, this requirement may be dispensed with if the waterwork is constructed “in emergency circumstances” (§ 110(2)(a), NWA). It is this provision that has now needed to be invoked in order to deal in a timely fashion with the flooding of AMD in the Western, Central and Eastern Basins underlying Johannesburg.

The chapter dealing with the safety of dams is aimed at improving the safety of new dams, and existing dams with a perceived “safety risk” so as to reduce the potential for harm to the public, or damage to property or resource quality. The NWA provides for the Minister responsible for water to declare a category of dams to be dams with a safety risk and also provides for an independent assessment of existing individual dams to determine whether they should be categorized as such (§ 118, NWA). Certain obligations, discussed further below, inhere in the owner of a dam if a dam is declared to be one with a safety risk.

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A further measure of interest to DRR is the obligation vesting in a person who establishes a township in terms of local planning laws. In order to ensure that all persons who might be affected by potential flood hazards have access to relevant information, a person may only establish a township if the layout plan shows, in a form acceptable to the local authority, the 1:100 year floodline (§ 144, NWA). As outlined in the findings below, however, this rule is poorly implemented.

Agricultural resources

South Africa has a number of policies, strategies and laws to address the inherent hazards of the agricultural sector. The most salient law at the national level is the Conservation of Agricultural Resources Act 43 of 1983 (CARA). This legislation allows for the Minister responsible for agriculture to determine control measures (§ 6, CARA), issue directions (§ 7, CARA) and establish schemes (§ 8, CARA), all of which may pertain to various forms of DRR or emergency relief. Control measures are applicable to land users and may relate for example, to the prevention and control of veld fires, or the restoration or reclamation of eroded land. Directions serve as the principle enforcement mechanism to ensure land users carry out the prescribed control measures, because failure to comply with a direction is a criminal offence (§ 7(6), CARA). Schemes, in turn, allow for subsidies to be paid to land users for DRR or emergency relief measures such as repairing the damage to natural agricultural resources caused by a flood or any other disaster caused by natural forces (§ 8(1)(a)(ii), CARA).

In 2005, the Department of Agriculture (now the Department of Agriculture, Forestry and Fisheries) published a Drought Management Plan for public comment. The plan can be regarded as the Department's outline for the development of a disaster management plan. Disaster risk assessment and planning, and response and recovery are identified as key performance areas but the strategies and resources required to implement them are indicated at a very general level.

Mineral resources

The Mine Health and Safety Act 29 of 1996 sets out a comprehensive range of measures to ensure workplace safety and protect miners from hazardous work. The scope of the act, however, is concentrated on the mine itself and does not extend to hazardous conditions that arise from the mine operating in its environmental and socio-economic context. The operation of a mine in a particular area may create new hazards or increase vulnerability, such as when mining operations destroy natural wetlands that contribute to flood control, create extensive new sources of waste, which may become unstable in floods, or increase the geological fragility of the land. The Mineral and Petroleum Resources Development Act 28 of 2002 (MPRDA), which regulates the mining sector more generally, empowers the Minister responsible for mineral resources to direct the holder of a mining authorization to investigate, evaluate, assess and remedy a situation where prospecting or mining operations are causing ecological degradation, pollution or environmental damage which may be harmful to the health or well-being of anyone and require such holder to institute urgent remedial measures (§ 45, MPRDA). If the holder fails to comply with a directive, the Minister may initiate action on the part of the State to implement remedial measures, and recover the costs from the holder at a later stage.

From a DRR perspective, the MPRDA requires various forms of prior environmental assessment to take place prior to the issue of a mining authorization (§ 39, MPRDA),

including compulsory consultation with interested and affected parties (§§ 10, 16(4)(b), 22(4)(b), MPRDA). There appear, however, to be extensive problems associated with such consultation processes, including the information that is made available to interested and affected parties, the manner of notifying them that a mining application has been submitted, the partisan nature of the party responsible for conducting the EIA, and the time available in which to consult.⁶⁵

Climate change

In terms of the global climate change regime, South Africa is a non-annex I country and does not, at present, have a binding obligation in international law to reduce greenhouse gas emissions. Nevertheless, a number of actions have been taken in recent years to define a national response to this global threat. A National Committee on Climate Change (NCCC) was established as early as July 1998 as an advisory body to the (then) Department of Environmental Affairs and Tourism. It included representation of various national government departments (but not including the Department of CoGTA, which was at that time known as the Department of Provincial and Local Government), provincial governments, non-governmental and community-based environmental organizations, business, industry and labour. In 2000, a fairly comprehensive Initial Communication under the United Nations Framework Convention on Climate Change was published,⁶⁶ followed in 2004 by publication of the *National Climate Change Response Strategy*.⁶⁷

The Strategy noted that while the national Department of Environmental Affairs and Tourism had been designated as the lead agency for climate change response in South Africa, climate change was recognized as a cross-cutting issue that had ramifications for diverse activities in other government departments. The Government Committee on Climate Change (GCCC) was identified as the institutional vehicle for ensuring proper communication between and coordination of the various functions carried out by different departments. The purpose of the GCCC was to advise the Directorate on Climate Change and Ozone Layer within the Department of Environmental Affairs and Tourism on matters relating to national responsibilities with respect to climate change. It comprised representatives from a number of national government departments and included the Department of Provincial and Local Government.

⁶⁵ The Project Researcher is currently undertaking a review of 18 case studies of prospecting or mining applications for the Centre for Environmental Rights in Cape Town in which such issues arise. For instance, although the prospecting and works programme must be submitted as part of a mining rights application, which always precedes public participation, it is not made available to interested and affected parties as a matter of course. As a result, such parties are not aware of the nature and scale of the proposed prospecting and mining operations. Notification of the acceptance of a prospecting or mining rights application takes place by way of a notice outside the office of the Regional Manager of the Department of Minerals and, most frequently, by way of a notice in the district magistrate's court. Such notice, however, is completely inadequate in rural areas where the affected property – and thus the location of interested and affected parties – might be located more than 100 km from the office or the court. Further, the prescribed period for consultation for a prospecting right is 30 days and for a mining right 180 days – which is frequently too short a period of time to undertake consultation properly.

⁶⁶ United Nations Framework Convention on Climate Change – South Africa, at <http://unfccc.int/resource/docs/natc/zafnc01.pdf> (consulted 24 September 2011).

⁶⁷ United Nations Framework Convention on Climate Change – South Africa, at http://unfccc.int/files/meetings/seminar/application/pdf/sem_sup3_south_africa.pdf (consulted 24 September 2011).

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The latest policy document outlining the government's position on climate change is the *National Climate Change Response Green Paper 2010*.⁶⁸ The Green Paper identifies the actions needed in three key mitigation sectors (energy, industry and transport), three adaptation sectors (water, agriculture and human health), and further outlines the implications of climate change integration on a number of other sectors, including the disaster management sector. With regards to disaster management, the Green Paper acknowledges the existence of disaster management legislation that sets out a comprehensive approach to disaster management and identifies the roles and responsibilities of key institutions and disaster management agencies.⁶⁹ In response to challenges in the disaster management sector that climate change will pose, the Green Paper indicates that the government will continue to develop and improve its early warning systems; facilitate increased uptake of seasonal climate forecasts among key stakeholders (particularly in water and agriculture); maintain and update the South African Risk and Vulnerability Atlas (SARVA) as a tool to be used by provinces and municipalities to facilitate their climate change adaptation planning; investigate and implement plans to use mass media and ICT to transmit disaster warnings; collaborate with community organizations, NGOs and South African Adaptation Networks to promote awareness and achieve technology transfer and capacity building; and strengthen formal and information education on climate change.⁷⁰ Institutionally, the Green Paper does not envisage the establishment of new structures to specifically address climate change issues. In general, departments remain responsible for their line functions and are simply required to consider and integrate climate change into policy development. At provincial and municipal levels, this should take place through the development of spatial development frameworks by the provinces and IDPs by the municipalities.⁷¹

Land use planning laws

Land use planning in South Africa is still largely governed by land use legislation dating from the mid-1980s, or earlier. This includes four Provincial Ordinances, which are applicable to the areas of the four former provinces of South Africa (none of which have an explicit DRR focus, though controls over land use will to some extent always strengthen DRR), and land use legislation applicable in the former homelands and self-governing territories. These laws are administered by municipalities. A Land Use Management Bill (LUMB) – aimed at providing a uniform, effective, efficient and integrated regulatory framework in the Republic for land use and land use management in the public interest – has been developed but has now been stuck in the parliamentary processes for many years without much apparent progress. As it currently stands, the LUMB does not contain an explicit DRR focus – for instance, none of the directive principles listed in § 4 pertains specifically to DRR, although the principle of “sustainability” in respect of the management and use of resources is affirmed.

One of the major points of confusion relating to land use planning in South Africa arose through the promulgation of the Development Facilitation Act 67 of 1995 (DFA). The DFA was intended to fast-track development at a time when local government structures had not yet been transformed and it was feared that the labyrinthine and racially-based structures and processes of the apartheid state would impede much-needed social and economic transformation. The DFA essentially created a parallel regulatory framework

⁶⁸ GN 1083 *Government Gazette* 33801 of 25 November 2010.

⁶⁹ *Ibid*, at 20.

⁷⁰ *Ibid*, at 21.

⁷¹ *Ibid*, at 29.

for land use authorization administered at the level of the province (through so-called Development Tribunals) rather than the municipality. Although certain mechanisms were put in place to ensure synergy between land use authorizations granted by municipalities and Development Tribunals respectively, these were not sufficiently strong to prevent conflicting decisions on land use. The issue has now been somewhat resolved by the Constitutional Court decision in *City of Johannesburg Metropolitan Municipality v Gauteng Development Tribunal* 2010 (6) SA 182 (CC), which has clarified that land use planning is a municipal function that cannot be wholly arrogated to the provincial sphere by national legislation. However, the DFA will continue to remain in operation for two years after the date of the judgment.

Building and construction

Building and construction standards in South Africa are regulated chiefly through the National Building Regulations and Building Standards Act 103 of 1977. This legislation achieves its objective of ensuring the implementation of prescribed building standards in two ways: Firstly, by requiring any private party who wishes to erect a building to submit plans and specifications to the relevant local authority for approval, and secondly, by affording the relevant local authority various police powers to ensure the implementation of prescribed building and construction standards. A local authority may, for instance, prohibit the erection of any building or earthwork if it is being erected on a site, which is subject to flooding (§ 10(1)(b), NBRBSA), or order the demolition or alteration of any building which is dangerous or showing signs of becoming dangerous to life or property (§ 12, NBRBSA). The legislation also allows the Minister responsible for technology to make national building regulations on a wide variety of issues, a number of which are pertinent to DRR. For a number of years, these regulations were the SABS 0400 standards prescribed by the South African Bureau of Standards. Over the last few years, these have been phased out and replaced by the SANS 10400 series. The standards which are chiefly concerned with health, safety and structural stability are comprehensive and detailed. They regulate conventional building methods – as soon as a building requires something out of the ordinary, a rational design drawn up by a competent person (usually an engineer) is required. The standards cover fire regulation (such as specification of escape routes and the distance between structures) as well as the construction of structures on collapsible and dolomitic soils. They do not deal specifically with the construction of earthquake resilient buildings, as the incidence of earthquakes in South Africa is too low.⁷²

Whilst these building and construction standards are solid, the Act does allow the Minister responsible for Science and Technology to exempt the jurisdiction, or any part of the jurisdiction of a local authority from the application of the Act (§ 2(2)(a), NBRBSA). These exemptions have been used in the context of informal settlements.

⁷² Conservation with Pieter Koekemoer, Section Head: Building Control, City of Cape Town (Helderberg Region).

Analysis of legislation related to disaster risk reduction in South Africa

Chapter 4

Findings

The findings in this chapter are structured in terms of findings relating to institutional clarity of specific DRR functions and findings relating to legislative provisions that are specifically aimed at having community-level impacts. The findings are based on an analysis of the legislation described in the previous chapter; available policy and planning documents, reports and minutes; recent research on the application of disaster risk science in South Africa; and consultations with stakeholders.

Assignment of institutional responsibility

National coordination of DRR

The DMA essentially provides for three different types of national coordination of DRR:

- The ICDM must provide coordination of disaster management among the different spheres of government at the highest political level (§ 4(3)(b), DMA).
- The NDMAF is the body in which national, provincial and local spheres of government coordinate their actions on matters relating to disaster management with one another as well as other disaster management role-players (§ 5(3)(a), DMA).
- In terms of the DMA, the NDMC must promote an integrated and coordinated system, of disaster management, with special emphasis on prevention and mitigation. The NDMC undertakes national coordination of DRR through a variety of measures but, in particular, through acting as a repository of, and conduit for information concerning disasters, impending disasters and disaster management (§ 15(1)(c), DMA). To this end, it is specifically tasked with developing the DMIS (§ 17, DMA). It also undertakes a coordination function by developing guidelines for the preparation of disaster management plans and strategies by organs of state, and must assist in coordinating and implementing such plans (§ 19, DMA).

The institutional assignment of these responsibilities in terms of legislation is thus clear. The more difficult question is how these institutions are functioning, and whether their activities are having a trickle-down effect in terms of improved disaster risk reduction at community level.

ICDM

The ICDM was established on 13 June 2005.⁷³ In terms of the NDMF the ICDM must include Cabinet Members from no less than 17 portfolios.⁷⁴ Contrasted with this heavy national presence, provinces are only represented by the relevant MEC involved in disaster risk management, while organized local government is represented by the members of municipal councils selected by SALGA (§1.1.1, NDMF). One of the ways in which the ICDM is supposed to coordinate disaster management is by establishing joint standards of practice between the spheres of government as well as between a particular sphere of government and relevant role-players (§1.1.1, NDMF). A positive point

⁷³ Williams, Lance (2008) *Overview of the inaugural annual report, disaster management guidelines and the proposed volunteer regulations* (powerpoint presentation, copy on file with Project Researcher), slide 11.

⁷⁴ Agriculture and Land Affairs (now Agriculture, Forestry and Fisheries, and Land Reform and Rural Development respectively), Defence, Education, Environmental Affairs, Foreign Affairs (now International Relations), Health, Home Affairs, Housing (now Human Settlements), Minerals and Energy (now Mineral Resources), National Treasury, Provincial and Local Government (now Co-operative Government and Traditional Affairs), Public Works, Safety and Security, Social Development, the Presidency, Transport, Water Affairs and Forestry (now Water and Environmental Affairs). The ICDM is chaired by the Minister of CoGTA.

is that the array of national portfolios represented on the ICDM incorporates virtually all the sectors relevant to DRR, as outlined in Chapter 3 above (with the exception of Sport and Recreation which administers the Safety at Sports and Recreational Events Act of 2010). However, given the assumption that “99.9 per cent of disasters occur at the local level”,⁷⁵ it is curious that the constitution of this committee should be so heavily weighted in favour of the national sphere of government, while representation of the municipal sphere is relatively thin. In light of the preference for decentralization advocated by the Hyogo Framework, it would seem to make greater sense to have – in an apex policy-making institution of this nature – greater representation of the political heads of the sphere of government at which disasters most frequently occur. This would ensure better alignment between policy-making and the conditions and challenges that pertain at the local, community level.

Moreover, while the DMA specifies the highest political authorities in respect of the national and provincial spheres of government (being Cabinet Members or MECs), it does not specifically require that the municipal representatives represent the highest political authority at local level; i.e. the executive mayor.

The lower levels of representation of provincial and local players on the ICDM has to a certain extent been counter-acted through the establishment of provincial inter-departmental committees, even though this is not a legal requirement in terms of the DMA. These structures may thus serve as additional institutional spaces for the involvement of municipal representatives as well as coordination between district and local municipalities. In Kwa-Zulu Natal, a Provincial Intergovernmental Committee on Disaster Management has been established comprising the MEC for Co-operative Governance, MECs involved in disaster management or the implementation of disaster-related legislation, municipal portfolio counsellors responsible for disaster management and the head of the PDMC.⁷⁶ The Western Cape has gone even further than this with the establishment of the Western Cape Provincial Intergovernmental Committee on Disaster Management. This structure includes representation of provincial MECs who are either involved in disaster management or who administer national or provincial disaster-related legislation, the municipal councillor designated by the City of Cape Town, a municipal councillor designated by the councils of each of the five district municipalities in the Western Cape, and no more than six members of local municipal councils selected by SALGA.⁷⁷

An unstated condition precedent for the effective functioning of all such inter-departmental committees, however, is that the politicians are aware of and in touch with disaster management issues on the ground. Stakeholders consistently recognized the importance of political will in driving DRR. In this regard it is concerning that the SALGA report found that less than 4 per cent of respondent municipalities considered that the political heads at a municipal level understand their role in disaster management completely. At best, local politicians have a partial understanding of their role, but 18 per cent of metropolitan municipalities and 26 per cent of local municipalities

⁷⁵ See NDMAF Draft Minutes: Meeting of the National Disaster Management Advisory Forum held on 2 June 2011, at 7.2(g).

⁷⁶ Department of Co-operative Governance and Traditional Affairs ‘Policy framework for disaster risk management in KwaZulu-Natal’ *Extraordinary Provincial Gazette of KwaZulu-Natal* No. 10 of 4 February 2011, at 16.

⁷⁷ Province of the Western Cape ‘Western Cape Disaster Management Framework’ *Western Cape Provincial Gazette* No. 6698 of 22 February 2010, at 11.

felt that politicians did not understand their role in disaster management at all.⁷⁸ For politicians at the provincial level, respondents felt that 67 per cent of politicians seldom understand their role in disaster management.⁷⁹ These statistics are concerning because, if politicians do not understand their role, they will not prioritize the function of disaster management, and this in turn impacts significantly on the channelling of funds. The lack of a connection between municipal disaster functionaries and their political heads can be linked to the finding that MDMCs mostly report to departmental heads, with a long line of subsequent reporting to the executive mayor.⁸⁰ The broader problem to which this points, then, is that of reporting lines and the interfaces between the political and operational aspects of DRR in all spheres of government.

NDMAF

The NDMAF was established on 26 January 2007.⁸¹ The NDMAF can only function to coordinate the actions of players in different spheres of government with each other, and with other disaster management role-players, if there is appropriate representation of such spheres and role-players on the forum. In this regard, the NDMAF states that the NDMAF must comprise a central nucleus of senior representatives of the relevant national departments whose Ministers serve on the ICDM, the heads of the nine provincial PDMCs, and municipal officials selected by SALGA. It also states that the membership of the forum *must* be supplemented by relevant NGOs, international relief agencies, and community-based organizations, amongst others (§ 1.3.1.1, NDMAF, i.e. it should include representatives from the list outlined in § 5(1)(e) of the DMA). The NDMAF also functions as the national platform for purposes of the Hyogo Framework.

An analysis of the membership of the NDMAF, as drawn from the attendance register of the latest set of minutes (held 2 June 2011) indicates that it is a very large forum. The national sphere of government once again predominates with 20 national government departments, and 20 national statutory bodies or structures having listed representatives. Four strategic state-owned enterprises (SOEs) are also included. As regards the provincial sphere of government, membership on the forum includes representatives from 6 PDMCs and 8 provincial departments of local government. The municipal level of government was represented by a single member from SALGA. As with the ICDM this is a cause for concern. The potential representation of other disaster management role-players appears to be good, with 14 organizations listed in the register. Representation of religious and welfare organizations (SA Council of Churches, SA Jewish Board of Deputies, Salvation Army, Order of St John) and organized agriculture (Agri SA, TAU, National African Farmers' Union) predominate but there is also representation of organized business (BUSA); the Chamber of Mines; the insurance industry (SAIA); medical, paramedical and hospital associations (SAESI); the disaster management profession (Disaster Management Institute of Southern Africa) and relevant NGOs as well as the SA Red Cross. A breakdown of representation on the NDMAF is illustrated in Graph 1 below.

Graph 1: Breakdown of NDMAF Membership

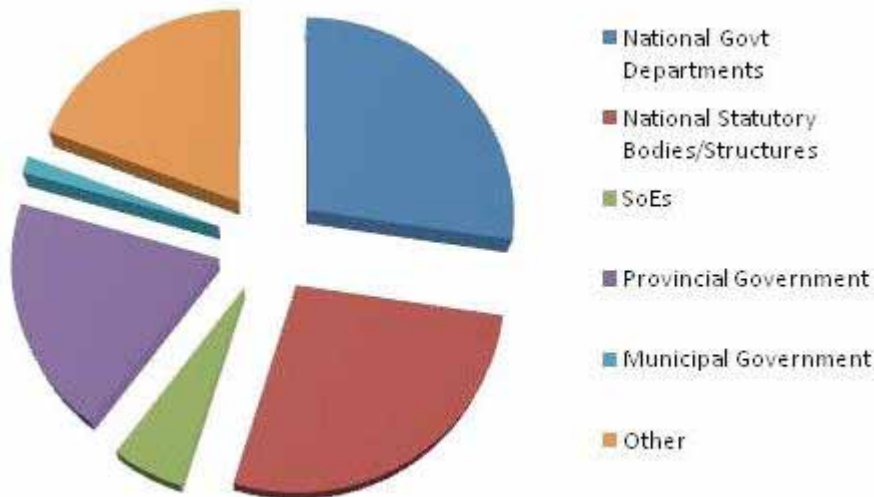
⁷⁸ SALGA Report (note 46 above), § 5.3.3.

⁷⁹ Ibid.

⁸⁰ Gideon van Riet & Melvin Diedericks (2009) *An investigation into the 'optimal' location of the disaster management function, within District, Metropolitan and Provincial Government in South Africa* Report to the South African National Disaster Management Centre, at [http://acds.co.za/uploads/research_reports/Placement_of_DMCs_version%20\(2\).pdf](http://acds.co.za/uploads/research_reports/Placement_of_DMCs_version%20(2).pdf) (consulted 23 September 2011), at 17.

⁸¹ Williams (note 73 above), slide 11.

Findings



While the constitution of the NDMAF appears to be good, the level of commitment to the forum varies. At the last meeting held in June 2011, for instance, only 6 of the potential 20 national government departments, 8 of the potential 20 national statutory bodies/structures, and 6 of the potential 14 institutions representing other disaster management role-players sent representatives. The chairperson, moreover, noted her concern that some of the critical sector departments were “reluctant” to attend the meeting.⁸² The seniority of the officials attending the meetings is also of concern⁸³ as is continuity in the representatives who do attend.⁸⁴ This can possibly be associated with the prioritization given to this function within particular departments, which comes back to the political lead being given thereto.

Apart from the issue of non-attendance, stakeholders tended to affirm that the NDMAF is functioning well. The agenda is rigorous and the meeting lasts the whole day. The minutes indicate that coordination takes place both through the sharing of information amongst members and discussion of specific topical issues. Fourteen smaller technical task teams have been established,⁸⁵ which report regularly to the forum as a whole. The terms of reference for the NDMAF are, however, currently being revisited.⁸⁶

NDMC

As noted above, the NDMC undertakes a variety of co-ordination, monitoring and promotional functions. It exercises its coordination role, in particular, by acting as a repository of, and conduit for information concerning disasters, impending disasters and disaster management (and to this end it is tasked with developing the DMIS), as well as by developing guidelines for the preparation of disaster management plans and strategies by organs of state.

⁸² NDMAF Minutes (note 75 above), item 1.

⁸³ Conversation with Ms Ané Bruwer, Executive Manager Disaster Management Legislation, Policy and Enforcement, NDMC.

⁸⁴ Conversation with Janine Mosethli, South African Red Cross.

⁸⁵ The technical task teams have been established for: agricultural hazards, capacity development and research, communication and information, early warnings, energy, environmental emergencies, fires, geological hazards, international relations and co-operation, public health, response and recovery, social relief, transport, and water-related hazards.

⁸⁶ NDMAF Minutes (note 75 above), at 7.5.

According to the DMA and the NDMF, the DMIS should serve as a common portal of disaster management information. It should provide, for instance, a directory of institutional role-players involved in disaster management in southern Africa, including their contact details, particulars of their involvement, and the nature, capacity and location of emergency and relief services under their control (§ 16, DMA). Its potential relevance to community-level DRR is high, given that it should include (amongst others) information on the risk factors underlying disasters and ways and means to reduce such risks, prevention and mitigation, early warning systems and areas and communities that are vulnerable to disasters (§ 17, DMA). For a variety of technical, conceptual and institutional reasons, however, the DMIS is not yet functioning. Much research has been undertaken on the technical requirements of the system and a master systems plan has been developed. However, some national departments have already established or are in the process of establishing their own systems which raises the problem of inter-operability – notwithstanding duplication of information and waste of scarce resources.⁸⁷

The implementation of a national DMIS requires more than the formulation of a technical solution. There are important conceptual issues on which agreement needs to be reached – for instance, determining the meaning of “vulnerability” so as to identify which communities should be listed in the database and which not. Institutionally, there have been capacity constraints both in terms of human resources and funding.⁸⁸ Moreover, whilst the DMIS would appear to be an excellent and much-needed initiative, the extent to which it could actually be utilized by communities interested in undertaking risk reduction initiatives needs to be seen in the context that less than 8 per cent of South Africans have access to the internet.⁸⁹ The utility of making the establishment of such an information system the object of a legal obligation in disaster management legislation can also be debated. Although it does not preclude the development of more localized databases, placing the onus squarely on the national level of government could discourage such initiatives. In prescribing the content of information systems in legislation, legal drafters should also be aware that there are both technical and conceptual difficulties in implementing a checklist of items such as is currently contained in § 17 of the DMA. A more flexible approach might thus be preferable.

As regards the development of guidelines for the preparation of disaster management plans by provinces, municipalities and organs of state, the NDMC has prepared the *South African Disaster Risk Management Handbook Series* to guide metropolitan and district municipalities in the implementation of the DMA and NDMF. The series identifies 10 critical outcomes for the development and implementation of disaster management and identifies a number of action steps to achieve the outcome.⁹⁰ In this way, it has attempted to coordinate the development of the disaster management function at municipal level.

National coordination of DRR becomes important when (as is the case under the DMA), multiple spheres of government are responsible for DRR in collaboration with other

⁸⁷ The Department of Rural Development and Land Reform’s “Disaster Management Plan” (copy on file with Project Researcher), indicates, for instance, that it intends to establish a “Location Based Disaster Management System,” containing information on both hazards and a record of rural communities vulnerable to environmental risks. The relationship of such a technical system to the DMIS prescribed by the DMA is not outlined.

⁸⁸ Conversation with Ms Ané Bruwer, Executive Manager Disaster Management Legislation, Policy and Enforcement, NDMC.

⁸⁹ United Nations Development Program, Human Development Report (note 38 above).

⁹⁰ Williams (note 73 above), slide 18.

disaster management role-players. As regards impacts at a community level, the efficacy of the mechanisms the DMA establishes for national coordination seem to rely strongly upon representation of the municipal sphere of government on both the ICDM and the NDMAF. The under-representation of the municipal sphere in comparison to the number of representatives of national and provincial government on these committees has been noted. However the assumption implicit in a call for greater representation of metropolitan, district and local municipalities on the ICMD and the NDMAF – that representatives of such municipalities would be able to accurately represent the diverse range of interests in their communities – must also be acknowledged. The establishment of provincial inter-departmental committees is a positive development that arguably allows for greater representation and ventilation of community interests and concerns. The development of the DMIS by the NDMC could have a very positive influence on community-level DRR by serving as a common portal of information accessible not only to government and other disaster management role-players, but to communities themselves. Technical, conceptual, financial and human resource constraints need, however, to first be ironed out before such positive impact can be realized. The extent to which the NDMC’s guidelines for the preparation of disaster management plans by, *inter alia*, municipalities has had a positive impact on community-level DRR is not clear.

Hazard monitoring and risk mapping

The conceptual vehicles used in South African disaster management policy and legislation to articulate legal obligations pertaining to hazard monitoring and risk mapping are “**disaster risk assessment**” and “**disaster management planning**” respectively.

In terms of the NDMF, disaster risk assessment entails examining the likelihood and outcomes of expected disaster events which, in turn, requires investigating related hazards and the conditions of vulnerability that increase the chance of loss. It should have a strong impact on community-level DRR because it requires identifying and consulting with key stakeholders (§ 2.1, NDMF). Disaster risk assessments are a pre-requisite to disaster management planning.

Disaster management planning comprises a number of processes including establishing foundation institutional arrangements (including formal consultative processes that provide for participative planning); consultatively defining a vision and approach to disaster management, defining processes for undertaking appropriate disaster risk assessments, specifying arrangements for disaster risk and contingency planning, establishing an integrative and supportive disaster management information system, identifying processes for and undertaking public awareness, education and training campaigns, and defining supportive funding arrangements for implementing disaster risk management. Disaster management frameworks and disaster management plans are the strategic mechanisms through which disaster management planning is coordinated and integrated across all spheres of government (§3.1.1.1, NDMF).

The NDMF provides extensive guidance on both these processes. In respect of **disaster risk assessment**, it outlines the criteria and procedure for undertaking disaster risk assessments, including which situations require it, the steps involved, the selection of methods and approaches, the importance of ensuring the assessment is community-based, consolidating and classifying disaster risk information and monitoring and revision (§ 2, NDMF). The two major themes emerging from the NDMF’s guidelines on disaster risk assessments are: (1) a strong drive toward uniformity in disaster risk assessment (in this regard it foresees the development of a national standard for the

assessment of priority disaster risks as well as guidelines, developed by the NDMC, for assessing priority disaster risks in national, provincial and municipal spheres (§ 2.1.6.1, NDMF); and (2) a strong focus on community-level participation and consultation. For instance it states that disaster risk assessments “must actively include the participation of vulnerable communities and households, including physically isolated communities and female-headed and child-led households.” It notes that the information collected using more technically sophisticated methods employed by risk scientists can be significantly enhanced by local and indigenous knowledge relating to disaster risk management, and that the active engagement of special needs groups, such as women, children and the elderly, improves the quality of the disaster risk assessment findings and increases the likelihood of community ownership in any disaster risk reduction interventions that may follow (§2.1.4, NDMF). The possible tension that may arise between the drive for uniformity and the need to consider contingent, local community contexts is not acknowledged. (For more on this theme see the section on “Community level hazard mapping and risk monitoring” below.)

In respect of **disaster management planning**, the NDMF provides for a phased approach that recognizes the unevenness in disaster management planning capacity and experience (§3.1.1.2, NDMF):

- Level 1 disaster management plans focus primarily on establishing the foundation institutional requirements for disaster risk management and should include contingency plans for responding to known priority threats as identified through an initial disaster risk assessment as well as identifying key governmental and other stake-holders. Level 1 plans may be prepared by national/provincial organs of state or municipal entities that have not previously developed a coherent disaster management plan.
- Level 2 disaster management plans must be developed by those national, provincial and municipal organs of state that have already developed the foundational institutional arrangements and some supportive capacity. A level 2 plan must set out processes for a comprehensive disaster risk assessment, identify and establish formal consultative mechanisms for development of disaster risk reduction projects and introduce a supportive information management and communication system and emergency communications capabilities.
- Level 3 disaster management plans must specify clear institutional arrangements for co-coordinating and aligning the plan with the initiatives of other government and non-government stakeholders. It must show evidence of informed disaster risk assessment and ongoing disaster risk monitoring capabilities as well as relevant developmental measures that reduce the vulnerability of disaster-prone areas, communities and households. Level 3 plans must be prepared by national, provincial and municipal organs of state that have already acquired the capacities dealt with in level 1 and 2 plans.

Recognizing that it is not possible for South Africa to address all potential threats at once, the NDMF also sets out criteria for identifying national, provincial and municipal priority disaster risks (§3.2.1, NDMF) for the purposes of the disaster management planning.

The development of frameworks and plans, however, presupposes the necessary institutional capacity. In this regard, the Minister of CoGTA⁹¹ recently indicated in a reply to

⁹¹ National Assembly ‘Written reply: Question No. 348’ *Internal Question Paper No. 2 of 18 February 2011.*

Findings

a Parliamentary Question that all provinces have established PDMCs with the exception of Mpumalanga and the Northern Cape (and since that time it appears that the Mpumalanga PDMC has been established). All metropolitan municipalities bar the City of Johannesburg have established MDMCs (though the situation as regards the newest metros of Mangaung and Buffalo City is not yet clear). Fifteen district municipalities had not yet established MDMCs – indicating that nearly two-thirds have in fact done so.

In terms of the DMA, however, undertaking a disaster risk assessments is not differentiated from the preparation of disaster management frameworks/plans; i.e. it must be assumed that the legal obligation to prepare the framework plan encompasses the obligation to undertake a proper disaster risk assessment as per the guidelines in the NDMAF. As noted in chapter 3 above:

- All provinces and all metropolitan municipalities must prepare disaster management frameworks (§§ 28, 39, 42, DMA).
- All municipalities, including local municipalities, must prepare a disaster management plan (§ 53, DMA).
- All designated national and provincial organs of state (thus including departments and statutory bodies) and municipal entities must prepare disaster management plans (§§ 25, 38, 52, DMA).

In the same reply to the Parliamentary Question referred to above, the Minister of CoGTA indicated that: (a) 5 of the 9 provinces (55 per cent); and (b) 44 metropolitan/district municipalities (81 per cent) had not yet submitted a complete framework. It appears that the NDMC is currently in the process of reviewing all provincial frameworks submitted.⁹² The high levels of non-compliance on the part of metropolitan and district municipalities indicates that the innovative requirements regarding disaster risk assessment and management planning – which includes the utilization of indigenous knowledge – are probably not having an effect on DRR at community level.

Statistics on the extent to which local municipalities have developed disaster management plans as an integrated part of their IDPs was not available, but stakeholders suggested that compliance was low. Two considerations relating to the legal framing of disaster management planning at the municipal level, however, need to be highlighted.

The first is that the phased approach to disaster management planning outlined in the NDMF is not recognized in the DMA (which is not surprising, given that the NDMF was developed after the entry into force of the Act). The legal obligation is to develop everything at once. It is also not clear from either the DMA or the NDMF which national, provincial and municipal organs of state are responsible for preparing Level 1, 2 or 3 disaster management plans. The danger is that municipalities (as well as national and provincial organs of state) will rush the undertaking of disaster risk assessments where they do not yet have the capacity to do so, in order to ensure that they are compliant with the duties framed in the DMA. Alternately they will simply not prepare disaster management plans or take a long time to do so.

The second is that even though the DMA recognizes that a disaster management plan for a municipal area must form an integral part of the municipality's IDP (§ 53(2) (a), DMA) it would still appear, from the wording of the legislation, that the disaster management plan is a *separate document*. In terms of the Local Government: Municipal

⁹² Conversation with Ms Ané Bruwer, Executive Manager Disaster Management Legislation, Policy and Enforcement, NDMC.

Systems Act of 2000 an IDP must “reflect ... applicable disaster management plans” (§ 26(g), MSA). The interpretive question is whether the legal obligation on the part of municipalities to develop disaster management plans is discharged by incorporating DRR and emergency response considerations into their IDPs (and thus the IDP process), or whether they are required to develop a separate disaster management plan that is reflected in the IDP document. In the view of the authors of the SALGA report, disaster management plans stand a better chance of being implemented if they are *actually integrated* into the IDP. It thus noted with concern that only 60 per cent of metropolitan municipalities, 36 per cent of district municipalities and 17 per cent of local municipalities actually integrate their disaster management plans into their IDP.⁹³ Disaster management planning in terms of the DMA could thus be adding an additional regulatory layer to an arguably already over-regulated system.

Having noted the difficulties associated with the preparation of provincial and municipal frameworks/plans, the question arises whether disaster management plans are being prepared by organs of state *within* at least the national and provincial spheres of government and, if so, whether these are delivering any tangible benefits at community level.

Data on the level of compliance by provincial organs of state could not be obtained prior to the completion date of this report, though feedback from stakeholders suggested this is very low.⁹⁴ The latest minutes of the NDMAF provide a status quo assessment of the state of compliance by national government departments.⁹⁵ The minutes highlight the importance of such departments submitting both “Disaster Risk Management Plans” (covering the four KPAs identified in the NDMF of institutional arrangements, risk assessment, risk reduction and response and recovery respectively, and also alluding to enablers) and “Disaster Response Plans” which are comprehensive plans dealing with a very specific disaster that could affect a specific sector.⁹⁶ The minutes note that, to date, only two sectoral departments (Energy and Defence) had submitted both their Disaster Management and Disaster Response Plans. For the rest, the reports are in various stages of completion or the representatives were not present to report. It is therefore not possible to assess whether they are having any effects at community level. Certain of the preliminary reports are however available in the public domain. These include the Department of Rural Development and Land Reform’s “Disaster Management Plan” (which would seem to be a prototype of the disaster management plan envisaged by the NDMC)⁹⁷ and the Department of Agriculture, Forestry and Fisheries’ “Drought Management Plan” (which appears to be in the nature of a Disaster Response Plan, but which in fact also covers risk reduction initiatives). These apparently low levels of compliance also need to be balanced by considerations of the utility of a full-fledged departmental plan in relation to existing planning processes and instruments. The extent to which disaster management planning intersects with, for instance, the need to compile catchment management strategies in terms of the NWA and the compilation of veld fire management strategies by FPAs under the National Veld and Forest Fire Act, 1998 – is not addressed. This once again raises the issue of over-regulation.

⁹³ SALGA report (note 46 above), at 66.

⁹⁴ Conversation with Ms Prudence Dlamini, Mpumalanga DMC.

⁹⁵ NDMAF minutes (note 75 above), item 7.

⁹⁶ The NDMC’s insistence on these two reports appears justified by the wording employed in ss. 25 and 38 of the DMA respectively.

⁹⁷ Department of Rural Development and Land Reform (note 87 above).

Given the complexity of the framework outlined above, the training of state officials in the policy objectives, strategies and mechanisms of the DMA is essential and was provided for in the NDMF (§6.4.2, NDMF); The training of municipal counsellors and officials, in particular, was required to be addressed within the context of the national skills development framework (comprising the Skills Development Act 98 of 1998 and the Skills Development Levies Act 9 of 1999). In this regard, the SALGA report noted with concern that less than half of respondents supported the proposition that staff in municipal departments possessed adequate knowledge regarding national legal frameworks and policy documents.⁹⁸ Lack of training is also reflected in recent research that indicates the pervasiveness amongst state officials of an association of disaster management with emergency response and not risk reduction, as outlined below.

In terms of disaster-related legislation, there appears to be significant unused potential in terms of establishing catchment management agencies for the 19 water management areas in South Africa. As noted in Chapter 3, such agencies should not only play a significant role in protecting and managing what is South Africa's scarcest natural resource, but are intended to be representative of diverse stakeholder interests. Fifteen years after the National Water Act of 1996 entered into force, only two catchment management agencies have been established, and there is significant frustration surrounding the national Department of Water and Environmental Affairs' willingness to delegate/assign its powers to the agencies that have been established.⁹⁹

In conclusion, the NDMAF provides good guidance on the processes of disaster risk assessment and disaster management planning that could significantly enhance community participation in the processes of hazard monitoring and risk mapping. The DMA also exhaustively allocates responsibility for preparing disaster management frameworks and plans to organs of state within the national, provincial and municipal spheres of government. At this stage, it is premature to assess whether these provisions will have concrete impacts at a community level as the plans that need to be submitted by national and provincial organs of state, and metropolitan, district and local municipalities are largely still being developed. The lack of integration with existing strategic planning processes such as the IDP under the Municipal Systems Act or the preparation of catchment management strategies under the National Water act has been noted.

Communication of impending disaster and declaration of disaster

The functions of deciding on the need for a warning, issuing a warning and transmitting the warning to community level is covered in the DMA by the legal processes of **classification** and **declaration of disasters**. As outlined in Chapter 3 above, the DMA splits these processes. While it is clear from the legislation that the NDMC is responsible for the classification of disasters (§ 23, DMA), and that the relevant political head of each sphere is responsible for the declaration of a disaster at a national, provincial and local level respectively (§§ 27, 41, 55), the DMA is far less clear on the responsibilities of the respective spheres of government both before and after the classification/declaration processes.

The prior function of *assessment* of the disaster threat in relation to the coping capacity of the areas affected by the disaster – which is a different form of assessment to

⁹⁸ SALGA Report (note 46 above), at 55.

⁹⁹ Conversation with Ramin Pejan, Legal Programme Officer, Association for Water and Rural Development.

that required for disaster risk reduction – is catered for in §§ 35 and 49 of the DMA (dealing with disasters occurring or threatening to occur in a province or a municipal area respectively). These provisions indicate that, when a disastrous event occurs or threatens to occur, the PDMC or the MDMC must immediately:

- Initiate efforts to assess the magnitude and severity of the disaster;
- Inform the NDMC of the disaster and its initial assessment of its magnitude and severity;
- Alert disaster management role-players that may be of assistance; and
- Initiate the implementation of any contingency plan and emergency procedures.

While these provisions seem clear, the problem experienced is that proper assessments of threatening disastrous events are not conducted by the provincial and district/metropolitan spheres prior to their informing the NDMC of the event and requesting a classification. The NDMC is, however, reliant upon this information for it to exercise the function of classification. What happens, therefore, is that no classification is made, which means that the onus of responsibility for managing the disastrous event cannot be shifted from a local to a provincial or national level. This has implications for funding of post-disaster relief and recovery.¹⁰⁰ The problem may be partly ascribed to the manner in which the DMA frames the duty of assessment because, while § 23 of the DMA indicates that the NDMC must consider information and recommendations received from a PDMC or MDMC, the provision also requires the NDMC to immediately carry out the tasks outlined above. The DMA therefore fails to indicate the sequential flow of these obligations.

The further problem with these provisions is that a disaster must, by default, be managed at the *local* level (i.e. at the level of the local and not the district or metropolitan municipality). In research conducted in Kabokweni location, the assistant director of the Mpumalanga DMC indicated that when a disaster occurs, the local municipality immediately “transfers” management of the situation to the district municipality or province “for the sake of simplicity.”¹⁰¹ This reflects a misunderstanding of the allocation of responsibilities in terms of the DMA because § 54 indicates that irrespective of whether a local state of disaster has been declared, the council of a *district* municipality is primarily responsible for the coordination and management of local disasters that occur in its area (§ 54(1)(b), DMA). A district and local municipality, however, may agree that the council of the local municipality is primarily responsible for the coordination and management of local disasters that occur in its area (§ 54(2), DMA). Further confounding this issue is that while district municipalities are thus primarily responsible for disaster *response* in local municipalities, local municipalities still bear obligations as regards integrating DRR into their development planning.

Apart from the need for the PDMC or MDMC to alert disaster management role-players in the province/municipal area concerned, there is no specific obligation relating to the communication of warnings to communities. The modality and timing of such warnings are therefore not specified in the DMA, although as outlined in Chapter 3 above, such obligations do exist in disaster-related legislation such as the National Water Act, of 1998.

¹⁰⁰ Conversation with Ms Ané Bruwer, Executive Manager Disaster Management Legislation, Policy and Enforcement, NDMC.

¹⁰¹ Gustaffson, Tora & Mikaela Warberg Larrsson (2010) *Assessing the level of implementation of the Hyogo Framework for Action in Kabokweni location, South Africa: Using a bottom-up approach* Report prepared for the Department of Fire Safety Engineering and Systems Safety, Lund University, Sweden, at 63.

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A recently-published case study of the response to the December 2004/January 2005 floods in the Garden Route region of the Southern Cape illustrates some of the dynamics involved in the classification/declaration process.¹⁰² At the time that the floods hit, the Eden District Municipality was in the process of establishing an MDMC. Two people had been appointed to the new unit and had been allocated office space. The MDMC was intended to be functional before the end of 2005. The Eden District Municipality was also assisting the local municipalities of Knysna, George and Bitou to prepare their disaster management plans. All of the local municipalities had a focal point for disaster management-related issues, but in all these institutions the incumbent was already responsible for another governmental function (being the Fire Chief in the George and Knysna municipalities respectively and the Traffic Chief in the Bitou Municipality). The Eden District Municipality had not yet developed a municipal disaster management framework/plan for the area. While the Western Cape provincial framework was in place, its application at the municipal level was still limited. As a result, each municipality tended to address issues of disaster risk management differently and the lines of communication between important role-players were not clear. Early warnings for the flood event were provided by the Western Cape Weather Service office, the Western Cape PDMC and the Eden District Municipality. The George local municipality received the warnings but did not react because it did not itself foresee severe flooding. The Knysna and Bitou local municipalities, however, indicated that they did not receive the warnings. Although they perceived a risk, their reaction to the floods was minimal or slow because they were not sure what would happen after the heavy rains. What was lacking here, therefore, was an understanding of the institutional responsibility for the assessment of the disaster risk – which should have either been handled by the Eden District Municipality MDMC or the Western Cape PDMC. The local municipalities also differed in their communication of warnings to affected communities. While the Bitou Municipality used a loudspeaker system within communities to warn them of approaching conditions, the Knysna and George municipalities did not have such a communication channel in place. No provincial state or local state of disaster was declared. On the one hand, the floods appeared to affect only the more affluent areas where people had insurance against flood damage. (One insurance firm operating in the region, confidentially revealed that it had received 1224 claims exceeding R20.4 million.) Although the local municipalities seemed unable to cope with the situation, some form of coping was therefore in place. In terms of the guidelines in the DMA, an event can only be classified as a provincial disaster if it affects more than one district municipality, and the flood events in this case only affected the Eden District Municipality. There was also a perception, however, that the declaration of the events as a local disaster did not occur because of fears that this would negatively impact on the management capacity of the Western Cape provincial government, and have a profound negative impact on the tourism industry.

This case study, therefore, demonstrates the need for greater institutional clarity on the prior assessment of pending disaster risks by the municipal sphere of government, the need for clear communication flows in the transmission of early warnings from national or provincial level to the municipal level, the need for greater guidance in the transmission of warnings to communities by municipal officials, and criteria to guide the exercise of the discretion to declare a disaster, whether at national, provincial or municipal level. These issues are indeed perceived as problematic on the part

¹⁰² The information on the case study is drawn from Tempelhof et al (note 11 above).

of stakeholders and are being discussed as part of the recently-initiated process of legislative review of the DMA.

Overseeing and enforcing land use management rules and building and construction codes

Whilst the land use planning regulatory framework in South Africa is currently in a state of development (and has been for many years because of the lack of passage of the Land Use Management Bill), it is clear from the National Building Regulations and Building Standards Act of 1977 that responsibility for ensuring disaster-related building controls vests with municipal authorities. It is also clear, from the National Water Act of 1998 that a person who establishes a township must indicate the 1:100 flood line on the layout plan, and the local authority must find this acceptable before approving the township (§ 144, NWA).

Whilst the implementation of disaster-related building controls and existing land use planning rules is a function that municipalities try to exercise effectively, building control units tend to be understaffed. In dealing with transgression, it also takes more than 18 months to bring the matter to court, and when the matter is heard it tends to be treated by the magistrate or judge as a minor infringement. Moreover, although the legislation allows for the imposition of a fine for each day the transgression persists (e.g. R200 per day multiplied by x days), the courts impose the daily rate as a “once-off” fine. Thus the fines in the legislation tend to have no deterrent effect.

Land use planners also operate in the context of (1) poor land-use decisions made during the apartheid years; and (2) rapid urbanization, the lack of formal housing and consequent “land invasions” of certain areas. These problems are well-documented in recent research. In Fatti’s case study of the community of Atlasville,¹⁰³ which falls within the jurisdiction of the Ekurhuleni metropolitan municipality in Gauteng, the township was established during the 1970’s by the apartheid government – on a wetland. As a result, the community residing in the area are inherently vulnerable to flood events, exacerbated by failure on the part of the current administration to properly maintain the man-made canal, which was established to drain the wetland.

¹⁰³ Fatti, Christina, Z. Patel & C. Vogel (2011) *Working towards resilient cities in the South: Perceptions and responses to storm flood risk* (powerpoint presentation, copy on file with the Project Researcher).

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Illustration 1: An area in Atlasville during a flood event experienced in 2006. (Photograph courtesy of Christina Fatti).

In the Cape Town metropolitan municipality in the Western Cape Province¹⁰⁴ the land on which the Kosovo community is currently located was covered, in 1994, with dunes and wetlands and was home to only a few informal residents residing on its western border. The first planned land invasion took place in 1994 with a second larger mass invasion occurring in 2009. In little more than 10 years, the area is now a densely-populated informal settlement.¹⁰⁵ In their research in the Kabokweni Location, Gustafsson and Larsson found that the almost complete lack of land use planning and implementation of controls confounded reducing the risk factors of communities. They found that:

There seems to be very little, if any, control over where houses are built and this ends up in the mushrooming of settlements in flood lines and flood banks, up the slopes of the mountains, in industrial and dump sites, next to electricity transformer facilities and under electricity cables; informal settlements are made everywhere without concern for risk. An example of a dangerous combination of shortage in infrastructure and absence of risk awareness is illegal electrical wiring. Electricity is regarded as a basic need these days, but when the settlements grow fast and in unplanned areas the electricity distributor cannot support them all with electricity. In the end this leads to unsafe and illegal electrical wiring made by the locals. This is a major risk factor and known to have caused electrical shocks of small children.¹⁰⁶

Despite the clarity of the 1:100 year flood line development prohibition in the National Water Act of 1996, it seems municipalities find this difficult to enforce. In Tempelhoff et al.'s research on the 2004/2005 floods in the Garden Route, for instance, officials reported that they could not prohibit developers from building below flood lines. Bar

¹⁰⁴ Solomon, F.J. (2011) *Examining the feasibility of informal settlement flood early warning systems: Focus on the urban flood-risk experience of Kosovo and Masiphumelele residents, Cape Town, South Africa* MPhil thesis, University of Cape Town, South Africa. See Figure 9 at 56 for a dramatic time-series of aerial photographs which illustrate this trend.

¹⁰⁵ See also Arthern, Peter (2011) *A comparative study of participatory and household risk assessments and an investigation into the impact of a participatory risk assessment to effect change. Case study: Section D, Sweet Home Farm, Cape Town* MPhil thesis, University of Cape Town, South Africa, at 3.2 where he describes urban risk in South Africa.

¹⁰⁶ Gustafsson & Larsson (note 101 above), at 66.

the spokesperson for George Municipality, they all stated that there was no law prohibiting this or that their only legal responsibility was to warn developers about river flood lines. Moreover, there were indications that flood lines were not properly mapped in the municipalities that formed part of the study.¹⁰⁷ A further complicating factor is that due to a trend toward increasingly extreme weather events, the 1:100 year flood line mark may no longer be an appropriate benchmark for determining the location of development.¹⁰⁸ The authorization of EIAs however, which occurs at the provincial sphere of government, provides an additional check on development within the flood line of water resources. Prohibitions in this regard are regularly included in the conditions attached to environmental authorizations, and enforcement is improving through the work of the environmental management inspectors.

Where it is clear that the responsibility for building codes lies with municipalities, the implementation of this responsibility is not at the desired level due to lack of staff and lack of deterrent effect from fines. In the case of land use legislation, the allocation of institutional responsibility takes place in terms of dated legislation that has not been aligned with the reconfiguration of the municipal sphere of government in terms of the 1996 Constitution. Whilst the proper implementation of land-use planning can play a highly significant role in reducing the vulnerability of communities, land use planners face enormous implementation challenges due to existing land usages and “land invasions.”

Undertaking and maintaining physical improvements designed to reduce disaster risks

From the overview of disaster-specific and disaster-related legislation provided in Chapter 3 above, it is apparent that while existing legislation articulates specific obligations regarding physical improvements designed to reduce disaster risks, there is no general obligation on local government to physically prepare for disasters. Specific legal obligations that do exist include:

- A duty on the part of every owner upon whose land a veld fire may start or burn or from which it may spread, to prepare and maintain fire breaks (§ 12, National Veld and Forest Fire Act of 1998).
- A duty vesting in the stadium or venue owner to maintain the infrastructure and accommodation at a stadium or venue for purposes of acquiring a compulsory safety certificate issued by the municipal authority (§§ 8, 9, Safety at Sports and Recreational Events Act of 2010).
- The duty on the part of the owner of a dam to implement control measures and report on the safety of the dam if it is registered as one that poses a safety risk. The owner is further obligated to submit a report by an approved professional person on the safety of the dam and to undertake specific repairs or alterations (§ 118, National Water Act of 1998).
- A duty on the part of land users to comply with control measures prescribed by the Minister of Agriculture, Forestry and Fisheries relating to the conservation of agricultural resources (§ 6, Conservation of Agricultural Resources Act of 1983).

¹⁰⁷ Tempelhoff (note 11 above), at 104.

¹⁰⁸ Conversation with Christina Fatti, Lecturer and Researcher at the School of Law, University of the Witwatersrand.

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In addition to these duties to undertake and maintain physical improvements designed to reduce disaster risk, § 30 of the National Environmental Management Act of 1998 and § 20 of the National Water Act of 1996 allocate responsibilities for the control of emergency incidents.

There appear to be at least three major problem areas relating to the construction and maintenance of physical infrastructure designed to reduce disaster risks: While the first relates to the legal duty to construct fire breaks in terms of the National Veld and Forest Fire Act of 1998 the second and third – the construction and maintenance of physical infrastructure for storm water drainage and the treatment of AMD respectively – relate more to gaps in the legislation.

The duty to construct firebreaks applies not only to private landowners but also to land held by the state and its institutions. The problem currently being experienced in the North West Province, for instance, is that state institutions such as Telkom, Eskom, roads agencies and the Department of Water and Environmental Affairs are not maintaining the fire breaks on their properties. Notwithstanding that membership of FPAs is unrestricted – i.e. open to *all* owners of land in an area susceptible to veld fires, irrespective of whether they are public or private in nature – not one state institution belongs to a FPA in the North West Province.¹⁰⁹

As regards storm water management infrastructure, in terms of the Constitution, the functional area of storm water management systems falls under Part B of Schedule 4, indicating that it is primarily a local government matter over which both the national and provincial spheres of government exercise oversight. The articulation of specific rights, powers and duties regarding the provision, management and maintenance of storm water management systems is not, however, dealt with in either the National Water Act of 1996 or the Water Services Act of 1997. The most relevant legal authority relating to the provision of such systems is found in § 73 of the Local Government: Municipal Services Act of 2000 which confers a general duty on municipalities to ensure that all members of the community have access to at least the minimum level of “basic municipal services.” Basic municipal service is defined to mean “a municipal service that is necessary to ensure an acceptable and reasonable quality of life and, if not provided, would endanger public health or safety or the environment.” The provision and maintenance of storm water management systems would appear to fall within the scope of this definition because the failure of such systems is integrally related to an increased vulnerability to the risk of flooding.

Two case studies from Fatti’s research indicate the kinds of problems currently being experienced around the provision of these systems. In the community of Tembisa, which also falls within the jurisdiction of the Ekurhuleni metropolitan municipality in the province of Gauteng, communities are regularly exposed to the risk of flooding. A storm water system was planned to empty out into a small river that runs through the area. However, residents of an informal settlement situated on the banks of this river refused to move further downstream. Because the municipality could not persuade them to move, they abandoned the further construction of the storm water system blocking off the inlets that would have fed storm water into the pipes. As a result, the vulnerability of both the broader community of Tembisa and the particular group of people situated on the banks of the small river to flooding risks has not been reduced (see illustration 2).

¹⁰⁹ Conversation with Eric Stoch, Chairman of Northwest Provincial FPA.



Illustration 2: Abandoned storm water pipes in Tembisa from uncompleted storm water system, abandoned due to resistance from community to move (Photograph courtesy of Christina Fatti).

A further problem in this area is that solid waste is not picked up efficiently, or at all. The practice in the community is for individuals to drop off a small bag of solid waste at the place where they wait for taxis to transport them to work in the morning. This, however, often tends to occur close to a stream or storm water culvert. The stream becomes polluted and the culverts blocked, which increases the risk of flooding from only a small amount of water (see illustration 3).



Illustration 3: A dilapidated storm water drain in Tembisa, full of litter and poorly-maintained (but only 6 months old). (Photograph courtesy of Christina Fatti).

The dynamics that lead to poor storm water management systems stem not only from the community, and their quest to ensure day-to-day survival, but also from pressures within the municipal authority. The municipal council scores more political points from

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the maintenance of visible infrastructure such as roads than from less visible storm water infrastructure. Providing roads and fixing potholes thus tend to receive priority in the municipal budget. In one instance, a road was even provided with “fake” inlets; although it appeared that culverts have been constructed they were blocked off and were not linked to any system of storm water drainage.¹¹⁰

In the area of Atlasville (which, as noted above, was established during the 1970s on a wetland) the community has experienced increased vulnerability to flood events since 2006, which they maintain is the result of the failure on the part of the Ekurhuleni municipality to clear a man-made canal of sand and reeds. This particular community, which tends to be predominantly white and middle-class, have started an initiative to deal with the problem themselves. They have established a community forum and hired storm water specialists to come up with an upgrade plan. The problem is being framed within a broader context in that they are also looking at water emanating from other areas such as the Blaauwpan and the water that emanates from the Airports Company South Africa at Oliver Tambo International Airport. However, although the ward counsellor attends the meetings of the community forum on this issue, the community and the municipality have generally clashed heads, rather than attempting to combine their capacities. The community sees anything the municipality does as insufficient and is even advocating for the establishment of a separate ratepayers association to which they would pay their rates and taxes. From the municipality’s perspective, however, it is severely under-resourced. The operations manager for this particular area of Ekurhuleni has a budget of R700 000 to R800 000 per annum to maintain roads and storm water systems over a network exceeding 1 000 km. This under-provision of funds is in turn linked to the fact that the Ekurhuleni municipality has no database of storm water infrastructure – it therefore has no basis upon which to estimate the budget. The lack of a database arises from the break in institutional memory which occurred when a number of smaller municipalities were amalgamated into the metropolitan municipality during the process of local government reform in the late 1990s.¹¹¹

An additional issue associated with this case study is that in order for the community to deal with the maintenance of the canal, they are required to undertake an EIA per the EIA regulations. In the context of a poorer and less-resourced community, this would constitute a significant hurdle to the community taking a disaster risk reduction initiative. It thus points to unintended points of conflict between different policy and regulatory frameworks (in this particular instance, between the DMA policy and regulatory framework, which encourages such community initiatives, and the EIA framework under the National Environmental Management Act of 1998).

This brief exposition on the issue of the provision and maintenance of storm water management systems could be seen as demonstrating the problems that arise when allocation of institutional responsibility is not clear. However, it is more illustrative of the complicated social dynamics – both within communities and structures of government – that underlie the successful implementation of DRR initiatives.

The construction of infrastructure for the treatment of AMD raises different issues. At issue here has been the lack of leadership and direction regarding which national department of government should assume responsibility for dealing with the matter. The extent to which the mines should also be held responsible for providing and

¹¹⁰ Conversation with Christina Fatti, Lecturer and Researcher at the School of Law, University of the Witwatersrand.

¹¹¹ Ibid.

maintaining the necessary physical infrastructure (which would include upgrading an existing treatment plant on the Western Basin and constructing new treatment plants for the Central and Eastern Basin, all of which would involve massive capital outlays) has further complicated finding an institutional and financial solution. While the problem was first raised in the 1990s no solution was forthcoming until mid-2010 when the President appointed a high-level Inter-Ministerial Committee (comprising the Ministers responsible for Mineral Resources, Water and Environmental Affairs, Science and Technology, Finance and the National Planning Commission) to investigate the matter. While, as outlined above, action on the issue has been taken in 2011, the failure of co-operative governance at a national level for many years has led to the construction of the necessary physical infrastructure now having to be framed in terms of “emergency” provisions of the National Water Act of 1996 which preclude public participation in the process of upgrading/construction. Under the auspices of the Human Rights Commission, however, a committee of stakeholders has been formed which is mediating the concerns of interested and affected parties and key state departments.¹¹²

Climate change adaptation

The clear recognition of the disaster management regulatory framework, as set out in the *National Climate Change Response Green Paper 2010*, serves as a promising indicator of good integration between climate change adaptation strategies and disaster management. It is also apparent from the minutes of the NDMAF that climate change is regarded as a standing issue. In recent weeks, however, the South African National Biodiversity Institute was appointed as the National Implementing Entity for the newly-created Adaptation Fund of the United Nations Framework Convention on Climate Change. The Adaptation Fund will finance projects and programmes whose principal and explicit aim is to improve society’s ability to adapt and cope with the risks posed by climate change. One of the unique features of this Fund is that developing countries can apply for resources without the intervention of multilateral development institutions. SANBI, as the National Implementing Agency, will play a key role in facilitating this direct access acting in accordance with South Africa’s Designated Authority, the Department of Water and Environmental Affairs.¹¹³ Given that the mandate of the NDMC, acting in conjunction with PDMCs and MDMCs is to coordinate initiatives to enhance the coping capacity of society in the face of all types of hazards, including those induced and exacerbated by climate change, it will be important for the NDMC to foster a close working relationship with SANBI regarding access to the resources of the Adaptation Fund.

Resource streams for DRR

As noted in the overview of South Africa’s legislative and governance structure, the functional area of disaster management is located in Part A of Schedule 4 – indicating a concurrent national/provincial competence which is not a local government matter. The DMA, however, assigns a number of responsibilities to the municipal sphere of

¹¹² The Project Researcher is a member of this committee.

¹¹³ South African National Biodiversity Institute – SANBI accredited as National Implementing Agency (NIE) for the Adaptation Fund, at http://www.sanbi.org.za/index.php?option=com_content&view=article&id=1133%3Asanbi-accredited-as-national-implementing-entity-for-un-convention-on-climate-change-adapt&catid=66%3Aresearch-news&Itemid=138&Itemid=138 (consulted 30 September 2011). The Adaptation Fund is financed from a 2% levy on Certified Emission Reductions generated by projects of the Clean Development Mechanism.

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government: It requires metropolitan and district municipalities to establish disaster management centres and it requires all municipalities to plan for disaster management as an integrated part of the IDP process. Moreover, until it is classified otherwise, a disaster is assumed to be a local disaster (§ 23(7)), DMA). This raises the issue of an unfunded mandate about which stakeholders still have a concern.¹¹⁴ The issue, however, has been addressed through the insertion of s 10A into the Local Government: Municipal Systems Act of 2000. The provision is aimed at addressing the new assignment of constitutional obligations to the municipal sphere of government, including where the obligations fall outside the functional areas listed in Part B of Schedule 4. It states that where a Cabinet Member, MEC or other organ of state assigns a function or power to a municipality either through an act of Parliament, provincial Act or agreement, appropriate steps must be taken to ensure sufficient funding and capacity building initiatives as may be needed to perform the assigned function. The question, therefore, is whether such “appropriate steps” were indeed undertaken when the DMA was developed.

While it clearly assigns disaster management functions to the municipal sphere of government, the DMA does not indicate how funding and capacity building initiatives for the DRR element of disaster management should take place. Chapter 6 only deals with the funding of post-disaster recovery and rehabilitation. The two provisions in this chapter establish principles for the use of funds in emergency situations, the three most important being: (1) Financial contributions to response efforts and post-disaster recovery and rehabilitation may be received by organs of state from all three spheres of government. In this regard it is important to note that §§ 16 and 25 of the PFMA allow the Minister of Finance or relevant MEC to appropriate funds from their respective revenue funds for use in emergency situations, while § 29 of the MFMA allows the mayor of a municipality to authorize unforeseeable and unavoidable expenditure in the same circumstances. This may not, however, exceed a percentage of the municipality’s budget. (2) The cost of repairing or replacing public sector infrastructure should be borne by the organ of state responsible for the maintenance of such infrastructure. (3) The Minister of CoGTA may prescribe a percentage of the budget of a provincial or municipal organ of state which must be utilized before additional funding from the national government may be accessed for response efforts (§ 56(2) and (3), DMA – this percentage should thus be aligned with the limit on municipal emergency spending established by § 29(2) (b) of the MFMA). Interestingly, the legislation goes on to articulate a number of criteria which must be taken into consideration when a municipality or province requests national contributions for post-disaster recovery and rehabilitation. At least three of these relate to whether prevention or mitigation measures were taken or initiated by the municipality or province concerned (§ 57(a) – (c), DMA). The logic behind this provision is that it would function as a form of negative incentive to ensure that municipalities and provinces implement prevention and mitigation measures – knowing that these would be highlighted in requests for funding from the national public purse in the event of a disaster materializing.¹¹⁵

Other than this, the DMA addresses the issue of resource streams by stating that the NDMF must provide a framework within which organs of state may fund disaster management with *specific* emphasis on preventing or reducing the effect of disasters (§ 7(2) (k), DMA). Funding arrangements for disaster management are accordingly addressed

¹¹⁴ Conversation with Ms Ané Bruwer, Executive Manager Disaster Management Legislation, Policy and Enforcement, NDMC.

¹¹⁵ Ibid.

as the third cross-cutting enabler in the NDMF (see §7, NDMF) and the provisions in the document are indeed comprehensive and detailed, as set out below.

The NDMF distinguishes between the short- and long-term costs of implementing the DMA. Short-term costs include both investment in infrastructure for provincial and metropolitan/district disaster management centres as well as funding for capacity building. The undertaking of an initial disaster risk assessment may also be included as a start-up cost. Recognizing that these costs may be substantial and that it is unlikely that all provinces and municipalities would be able to fund these from their own budgets, the NDMF indicates that funding for short-term costs will be facilitated by conditional grants from the national sphere of government to provinces and municipalities. While some counter-funding would be required in the case of provinces (in the ratio of 85:15, with the national sphere bearing the greater amount), and while conditional grants to metropolitan municipalities would only cover the additional costs required to establish their disaster management centres, conditional grants to local municipalities would apparently fund start-up costs in full (§7.4.1, NDMF). Long-term costs include the operational costs involved in disaster risk reduction activities, such as the undertaking of disaster risk assessments and preparation of disaster management plans. As a general principle, the NDMF indicates that these costs should be integrated into “routine” planning and budgeting activities. It states that the preparation of provincial disaster management plans can be linked to normal strategic planning processes, while disaster management planning at the municipal level should be covered by the funds allocated to the IDP process (§7.3.2, NDMF). Similarly, disaster management plans prepared by national and provincial organs of state must be funded from the recurrent budgets of such organs. Where disaster mitigation takes the form of structural mitigation infrastructure, additional sources of funding may be obtained from the national or provincial sphere of government through Provincial and Municipal Infrastructure Grants. In the case of the municipal sphere, such projects must be clearly outlined in the relevant IDP.

Despite these guidelines, there appears to be a lot of confusion around the resource streams for DRR. For instance, the SALGA report asked metropolitan, district *and* local municipalities if they had received conditional grants from national or provincial government for the establishment of a disaster risk management function/unit at the municipality. Not surprisingly, only 33 per cent of the municipalities forming part of the study had received such funding¹¹⁶ but the question itself was misinformed because only metropolitan and district municipalities are legally obliged to establish disaster management centres.

The broader issue, and the legal gap to which it points, is that the resource streams for the disaster management function at the level of the local municipality have not been adequately clarified. Multiple stakeholders expressed dismay that the DMA “ends at district” and fails to articulate both the responsibilities and resources that devolve upon local municipalities, despite the fact that this is the point at which disasters are most often experienced. The assumption is that disaster management should be integrated into “routine” budgeting, planning and operational procedures of the local municipality. However, without institutional capacity – without an appropriately-qualified person advocating for funds for DRR in the municipal budget, or without training the existing staff of the local municipality on DRR approaches and procedures – it is difficult for such integration to occur.

¹¹⁶ SALGA Report (note 46 above), at 83.

This observation is affirmed by the results of research in Kabokweni Location, which falls under the jurisdiction of the Mbombela local municipality in the district of Ehlanzeni in the province of Mpumalanga. The researchers interviewed local government officials, civil society organizations and community members regarding the level of implementation of the Hyogo Framework for Action. The study found that the lack of operational budgets in local municipalities impedes the implementation of DRR. This in turn is linked to the lack of a dedicated disaster management unit. Lack of funding and lack of human resources are both, in turn, related to a failure to prioritize DRR: At the local level, the budget is limited and other matters are considered more urgent because “disasters might not happen.” Moreover, since disasters occur infrequently, disaster management is not seen as a full-time job. As a result, disaster management officials are allocated other tasks, impeding their ability to engage fully with DRR. This all points to the fundamental problem of attitude and perception. In the Kabokweni study there was a lack of understanding of DRR; Disaster management is still seen as an event, rather than a process.¹¹⁷

Community-level promotion and facilitation

Community-level hazard mapping and risk monitoring

As outlined in the section dealing with hazard monitoring and risk mapping, the NDMF as well as provincial and municipal development plans explicitly require assessment of threats to and vulnerabilities of particular communities (§§ 39(2), 53(2), DMA). This information should be captured on the DMIS (§ 17(2), DMA). The DMA does not explicitly state that the state should make use of risk mapping and vulnerability assessments prepared by civil society organizations (despite a wealth of information being available) or by communities themselves. In this regard, the South African Red Cross frequently conducts household surveys both prior to and after a disaster event. While this information is regularly shared with the NDMC, there is no legal obligation resting upon the national Red Cross Society to do so, and no legal obligation on the NDMC (or any other institution) to take such information into account.¹¹⁸

The DMA does, however, require that indigenous knowledge be taken into account in compiling these frameworks and plans at numerous points (§§ 7(2)(j), 17(2)(g), 39(2)(f), 53(2)(f), DMA). As noted above, the NDMF affirms the importance of local and indigenous knowledge relating to disaster management which can “significantly enhance” the information collected using the more technically sophisticated methods employed by scientists (§ 2.4.1, NDMF). The Western Cape Provincial Disaster Management Framework frames indigenous knowledge as “additional information” that should be obtained in an otherwise highly rationalized disaster risk assessment process. When a disaster risk assessment is undertaken, for instance, the project proponent must consult with community members affected by past events for information on frequency and severity of events classified as disasters, significant events and recurrent small-scale occurrences.¹¹⁹ The KwaZulu-Natal Provincial Disaster Management Framework frames community consultation in the same way; i.e. that the object is to consult with

¹¹⁷ Gustaffson & Larrsson (note 101 above), at 61–2.

¹¹⁸ Conversation with Janine Mosethli, South African Red Cross.

¹¹⁹ ‘Western Cape Disaster Management Framework’ (note 77 above), at 23.

community members and traditional leaders in areas affected by past events in order to obtain information on the frequency and severity of those events.¹²⁰

What is interesting about these policy frameworks' references to community consultation is that they seem to frame the knowledge of such communities exclusively in terms of knowledge of the severity and frequency of events, instead of – for instance – the ways in which communities perceive hazards, their own vulnerability and risk and the adaptive behaviour they may engage in when a disaster strikes. Indigenous knowledge can be understood as knowledge that has been created and developed over a period of time. It is reflected in beliefs, knowledge and rituals which the older community perform in trying to cope with an event.¹²¹ An example of such indigenous knowledge emerges in Solomon's research on the Kosovo and Masiphumelele communities where a significant number of respondents indicated that they rely on such "unofficial" early flood warnings as observing the colour and formation of clouds, observing birds flying in a particular direction, feeling the onset of pain in various areas of the body, and the onset of asthma-related symptoms.¹²² It does not appear that such intuitive forms of knowledge are incorporated into "official" disaster risk assessments, planning instruments or early warnings. Stakeholders confirmed that there is a "gap" between the methods employed by disaster risk scientists and the users of the information generated by scientific risk assessment processes.

While stakeholders felt that there needs to be an improvement in the interaction between the users and producers of disaster risk information, the policy on undertaking disaster risk assessments does not appear to encourage what are known as participatory risk assessments – whereby the participatory inputs of a community are regarded as much more than "additional information." Instead they frame both the content and the form of the process. Community members would thus be both the primary targets of and actors in, information generation.

Arthern's research focused on the respective value of using traditional social science methods of gathering information on hazards, vulnerability and risk (such as household surveys) with a community risk assessment (CRA) that used a participatory risk assessment approach. The two interventions were conducted 16 months apart in 2009 (CRA) and 2010 (household survey) respectively. The research was conducted in section D of Sweet Home Farm, located in the district of Philippi in Cape Town. Arthern found that both risk assessments profiled a greater concern with chronic "everyday" threats such as solid waste and crime rather than more "realized" threats such as large fires and flooding, which are prioritized by the City of Cape Town for its informal settlements. This highlighted the need for local assessments rather than "generic, city-scale assumptions about risk-driving processes." Regarding the relative merit of the household survey vis-à-vis the participatory CRA, Arthern found that both approaches produced broadly converging results though the findings from the CRA were found to be richer, providing greater depth of understanding due to additional insights that emerged from group discussions. However the results of the two approaches differed in terms of the priority respondents afforded to different hazards – while solid waste had emerged as the priority hazard in the CRA, crime was identified as the priority hazard in the household survey. Interestingly, and although the sample was too small

¹²⁰ Policy risk framework for disaster management in the province of KwaZulu-Natal (note 76 above), at 41.

¹²¹ Williams (note 73 above), slide 16.

¹²² Solomon (note 104 above), at 84.

for generalization, residents who had participated in both the CRA and household survey preferred the latter approach. The conclusion to be drawn from this research is that while participatory risk assessments may be valuable in generating richer data, methods should not be applied uncritically or in a formulaic manner. Moreover, with regard to the possibility of CRA to effect developmental change, the findings of the study were inconclusive as it found no evidence of any organized community activity to reduce solid waste. In the 16 months following the CRA, however, solid waste management had improved due to a complementary effort between local government and individual households.¹²³

Information flows to communities

The NDMF indicates that the NDMC is responsible for facilitating the development of standard early warnings by national organs of state tasked with primary responsibility for a specific hazard. The NDMC must also prepare and issue hazard warnings of national significance in a timely and effective manner and ensure that such warnings are disseminated to those vulnerable communities including those in isolated and/or remote areas. The NDMF also states that warnings of impending or imminent significant events and/or disasters must include information and guidance that will enable those at risk to take risk-avoidance measures to reduce losses (§4.1, NDMF). Several early warning systems are currently being developed by the NDMC. These include the SAFFG System (on flash floods) and the more comprehensive Integrated National Early Warning System (INEWS). The latter will constitute an expansion of the existing early warning system maintained by the South African Weather Service (SAWS), which has been highly regarded. Stakeholders also noted, however, that the issuing of warnings often appears delayed.

In terms of the DMA, when a disastrous event occurs or threatens to occur the onus rests upon either the PDMC or the relevant MDMC both to inform the NDMC of the disaster and its initial assessment of the magnitude and severity thereof, and to alert disaster management role-players that may be of assistance (§§ 35(1), 49(1), DMA). This does not necessarily equate to an alert being issued to threatened communities. In practice, however, it would seem that early warnings are transmitted via mass media including television, the radio and print media and communities can access information in this way. Accessibility to the DMIS could presumably also play a role in terms of information flows, and in this regard the NDMC must take reasonable steps to ensure that the DMIS is electronically accessible to any person free of charge (§ 17(3), DMA). However, as noted above, only a very small percentage of South Africans have internet access.

In line with the “top-down” approach to hazard mapping and risk monitoring in the DMA, Solomon found that flood warnings issued by the City of Cape Town are consistent with a uni-directional dissemination model. While flood warnings are issued by both local government and the media, this is done with limited or no engagement with representatives of flood-prone settlements.¹²⁴ This impacted on the effectiveness of flood warnings in these settlements.

Disaster-related legislation pertaining to water resources and veld fires contains specific duties regarding the communication of potentially hazardous events. These include § 30 of the National Environmental Management Act, where there is a specific duty

¹²³ See Arthern (note 105 above), at 66 – 8.

¹²⁴ Solomon (note 104 above), at 101.

on the person responsible for causing an emergency incident to communicate this to all persons whose health may be affected by the incident (although as noted above, a similar requirements does not rest upon a person responsible for an emergency incident under § 20 of the National Water Act, 1996); and § 145 of the National Water Act, 1996 which obliges water management institutions, at their own expense to make information available to the public on floods, droughts, dam failures and the failure of waterworks. Section 10 of the National Veld and Forest Fire Act has the most directive provisions in this regard. It provides that the Minister responsible for agriculture, fisheries and forestries must communicate the fire danger rating for each region to the FPAs in that region regularly (§ 10(1)(a), NVFFA). Further, when the fire danger is rated as high or extreme in any region, the Minister must publish a warning at the earliest possible opportunity in all the main languages used in that region on three television stations and three radio stations broadcasting in that region as well as two newspapers circulating in the region (§ 10(1)(b), NVFFA). The Minister may publish the warning in any other media or use any other means considered appropriate to effectively communicate the warning (§ 10(4), NVFFA). Recordings and copies must be kept of the broadcasts and newspaper notices (§ 10(1)(c), NVFFA). The warning given must say that the fire danger is high or extreme, refer to the prohibition on lighting, using or maintaining fires in the open air, and identify the region in which and the period for which the prohibition applies (§ 10(3)).

While these legislative provisions appear exemplary, their implementation is considered to be highly problematic. In practice the information flows “don’t work.” Moreover, the fire danger rating system administered by the Department of Agriculture, Forestries and Fisheries is often totally inaccurate. This apparently arises from Weather Services having too few base stations, with the result that data is averaged over a large area. The information communicated is thus frequently stale or not sufficiently localized.¹²⁵

Community consultation

The various Disaster Management Advisory Forums which *must* be established at national level (§ 5, DMA) and which *may* be established at provincial (§ 37, DMA) and municipal (§ 51, DMA) levels respectively are the principal vehicles for consultation with communities. The representation of civil society organizations on the NDMAF has already been dealt with above – accordingly, this section will deal only with the functioning of provincial and municipal disaster management advisory forums.

At the end of the 2006/2007 year it was reported that all provincial disaster management advisory forums had been established.¹²⁶ Provincial disaster management frameworks provide greater insight into the constitution of such forums. In the Western Cape, for instance, the constitution of the PDMAF is well-balanced between representatives of provincial, and district government officials, representatives of national departments, various statutory authorities, institutions of higher learning, the media and NGOs, CBOs and other relevant stakeholders. The latter include the Congress of Traditional Leaders of South Africa, the South African Red Cross Society, agricultural and farm worker associations, life-saving associations, the National Sea Rescue Initiative, the South African Council of Churches, the South African Chamber of Business, and the Western Cape Chamber of Commerce.¹²⁷ The involvement of community members on

¹²⁵ Conversation with Mr Eric Stoch, Chairman of Northwest Provincial FPA.

¹²⁶ Williams (note 73 above), slide 9.

¹²⁷ Western Cape Disaster Management Framework (note 76 above), at 16.

Findings

PDMAFs, however, is not always easily attained. For example, in Mpumalanga, the PDMC sent out more than 70 invitations to civil society and community-based organizations in the province to nominate a representative to sit on the PDMAF. Only one organization responded, but the nominated representative never attended a meeting. As a result the Mpumalanga PDMAF currently has no civil society representation. This is attributed to a variety of factors: The issue of cost in attending meetings that may be far from where the organization is located (in this regard the Mpumalanga PDMC is encouraging the formation of MDMAFs by the district municipalities in the three districts of Mpumalanga); and a lack of understanding of the importance of DRR and how it relates to their concerns.¹²⁸

The extent to which municipal disaster management advisory forums have been established was not possible to determine within the timeframe of the project. In the view of most stakeholders consulted for this project, however, advisory forums at all local government levels (even district and metropolitan levels which are generally functioning better) are not viewed as functioning at an effective level.

In addition to advisory forums, the DMA provides that the process of establishing and amending either the NDMF or a PDMF is subject to public participation (§§ 6(1)(a)(ii), 28(3)(b), DMA). In the case of disaster management plans for municipal areas, the municipality must consult the local community in the preparation of its plan through the mechanisms, processes and procedures established in terms of the Local Government: Municipal Systems Act 32 of 2000 (§ 53(1)(d), DMA). However, stakeholders noted that because the integration of disaster management plans into IDPs is weak (as noted above), the community consultation process which already forms a significant part of the IDP development process does not necessarily ensure sufficient consultation on DRR concerns. Moreover, a civil society stakeholder noted that the reason for inadequate community participation in DRR initiatives is due to a lack of civil society buy-in. This could be due to the disparity, noted in Solomon's research, between the concerns of disaster management agencies, and the more day-to-day concerns experienced at community level, such as lack of solid waste collection, the provision of electricity or street lighting.

Community education and training

The DMA sets out very specific mandates as regards disaster management education and training. The NDMC (§ 15(1)(g) & (h), DMA), PDMCs (§ 30(1)(g) & (h), DMA), and MDMCs (s 44(1)(g) & (h), DMA) are all responsible for (1) promoting the recruitment training and participation of volunteers in disaster management; and (2) promoting disaster management capacity building, training and education including in schools and even, to the extent that it may be appropriate, in other southern African states.

In terms of the NDMF, education, training, public awareness and research is accommodated as the cross-cutting second “enabler” for the other more specific disaster management functions. It calls, firstly, for the NDMC to undertake a national education, training and research needs and resources analysis (NETaRNRA) in order to determine the disaster risk management education, training and research needs of those involved in disaster risk management across sectors, levels and disciplines (§ 6.1, NDMF). This analysis was undertaken by the NDMC and completed in 2010.¹²⁹ Secondly, the NDMC

¹²⁸ Conversation with Ms Prudence Dlamini, Mpumalanga PDMC.

¹²⁹ The report is available on the website of the NDMC at www.ndmc.org.za.

must also develop a national education and training framework that addresses uniform qualification criteria for disaster management professionals, as well as the integration of disaster management into the formal framework for primary, secondary and tertiary education in South Africa, as set out in the National Qualifications Framework (NQF) administered by the South African Qualifications Authority (§6.2, NDMF). The NDMF thus requires the development of specific education programmes to enhance a professional career path in disaster risk management (NQF levels 5 – 8), and the integration of disaster risk reduction education in primary and secondary school curricula (NQF levels 1 – 4). Excellent progress has been made in the development of graduate programmes in disaster risk science – centres of excellence in this regard include the African Centre for Disaster Studies at North-West University and the Disaster Mitigation for Sustainable Livelihoods Programme at the University of Cape Town.¹³⁰ Notwithstanding a significant amount of work, however, the integration of DRR into school curricula has still not been formalized. The two main reasons for this appear to be capacity constraints within the national and provincial departments of education and the constantly shifting goals of the national curriculum. For instance, as soon as stakeholders agree that DRR should fall within a particular module, the curriculum is changed. This is regarded as a significant area of unused potential as it is often through young people that change in communities is initiated.¹³¹

The NDMF also requires the development of training programmes for communities focusing on disaster risk awareness, disaster risk reduction, volunteerism and preparedness (§6.4.3, NDMF). The incorporation of local indigenous knowledge into such training programmes has to be accommodated. National, provincial and municipal organs of state bear primary responsibility for developing such community training programmes (§6.4.7, NDMF). A best practice example of such training between municipal entities and the South African Red Cross is taking place at Keimos in the Northern Cape where the local municipality has been working with the National Society to address DRR issues.¹³²

Finally, the NDMF tasks the NDMC with the development of a disaster risk management public awareness and information service. This entails assisting PDMCs and MDMCs with the implementation of programmes in communities at risk that focus on the hazards to which the communities are exposed and the steps they should take to reduce the impact (§ 6.5.1, NDMF). The NDMF suggests that such programmes could include: organized and planned awareness programmes using media, posters, videos, publications and any other innovative means; awareness campaigns conducted at least 30 days before a change of season or climate; annual recognition and celebration of World Disaster Risk Reduction Day (first Wednesday in October); rewards, incentives, competitions and recognition schemes to enhance awareness of and participation in risk reduction activities; and dissemination of information to role-players, especially those at risk, through the use of communication links and early warning systems. Provincial disaster management frameworks affirm the education, training and public awareness foci of the NDMF.¹³³ Notwithstanding this detailed guidance, there was a sustained

¹³⁰ See, for instance, Holloway, Ailsa (2009) 'Crafting disaster risk science: Environmental and geographical science sans frontières' 2 *Gateways: International Journal of Community Research and Engagement* 98 – 118 for an account of the development of a postgraduate programme in Disaster Risk Science at the University of Cape Town.

¹³¹ Conversation with Janine Mosethli, South African Red Cross.

¹³² Ibid.

¹³³ See Western Cape Disaster Management Framework (note 76 above), §6.1 – 6.4 and the Policy risk framework for disaster management in the province of KwaZulu-Natal (note 75 above), §6.

perception on the part of all stakeholders that law and policy does not set out *adequate* mandates relating to disaster risk reduction education for children and adults. They indicated that more guidance could be provided as to the types of education initiatives that could easily be adopted at the local municipal level. Further, initiatives that are being instituted are still more focused on emergency response rather than DRR.

The implementation of public awareness campaigns that correspond with World Disaster Risk Reduction Day are, however, considered reasonably successful on the part of the NDMC. Every year the NDMC identifies a particular province and municipality in which to support a disaster risk reduction event during the second week of October (in 2011, the city is Cape Town, whilst in 2010 it was Welkom). Such events include workshops, seminars, exhibitions and the handing out of pamphlets. These events take place in every province, however, notwithstanding the NDMC's choice of a particular province to support.¹³⁴

Community empowerment through legal remedies

Existing law does not articulate explicit rights to DRR – these are rather inscribed in more general constitutional rights such as the right to an environment that is not harmful to health or well-being (§ 24, Constitution), or the rights of members of local communities set out in the Local Government: Municipal Systems Act of 2000 (§ 5). The rights of members of the community in terms of the latter provision relate mainly to issues of public participation, openness and transparency, the right to the use and enjoyment of public facilities, and the right to have access to municipal services provided by the municipality. “Municipal service” is defined as a service that a municipality provides for the benefit of the local community irrespective of whether such service is provided through an internal or external mechanism or whether fees, charges or tariffs are levied in respect of such a service or not. “Disaster management”, including its risk reduction elements is clearly provided for the benefit of the local community although it does not attract a particular charge. To this extent, then, communities have a right thereto.

The DMA does not appear to provide any general legal remedies to individual victims of disaster in the event that the government or a private party fails to live up to their responsibilities. The DMA does however make provision for the payment of grants to victims of disasters and their dependents as part of post-disaster recovery and rehabilitation (§ 7(2)(k), DMA).

Community organizations

The South African Red Cross is statutorily recognized in South Africa through the South African Red Cross Society and Legal Protection of Certain Emblems Act 10 of 2007. This Act recognizes the objects and functions of the society and allows for its medical personnel and resources to be put at the disposal of the state. It also provides legal protection for the emblems of the red cross and red crescent. There are, however, no explicit references to the South African Red Cross in generic or specific disaster legislation. As already noted above, the DMA's specification of the composition of the NDMAF, PDMAFs and MDMAFs makes clear reference to the need to ensure broad representation of stakeholders, including relevant non-governmental and inter-governmental

¹³⁴ Conversation with Ms Ané Bruwer, Executive Manager Disaster Management Legislation, Policy and Enforcement, NDMC.

organizations and relief agencies. Further, the provincial disaster management policy frameworks refer specifically to the SA Red Cross when setting out the composition of their provincial disaster management advisory forums. The directory of disaster management role-players which should form part of the DMIS is also envisaged to include non-governmental organizations involved in disaster management, private sector voluntary agencies involved in disaster management as well as foreign NGOs and IGOs involved in disaster management in southern Africa (§ 16, DMA). It would be preferable, however, if legislation clarified the role of community organizations in greater detail, in addition to clarifying government support for their work. In the case of the South African red cross, for example, this could include support in the form of transport arrangements and the provision of security in conflict situations and cases of civil unrest.

Community incentives

In terms of the DMA's specification of the contents of provincial and municipal disaster management frameworks, these should provide for a set of incentives that will promote disaster management either within the province (§ 39(2)(d)) or in the municipality (§ 53(2)(d)). In this regard, for instance, the Western Cape Provincial Disaster Management Framework provides that PDMCs and MDMCs must test and evaluate specific disaster risk reduction initiatives before these are undertaken, and that such focused pilot projects can be particularly valuable when investigating ways to promote risk-avoidance attitudes and behaviours. The latter could include exploring a system of community or household incentives.¹³⁵ However, in conversation with various stakeholders it was considered difficult to determine the form such incentives might take.¹³⁶

¹³⁵ Western Cape Disaster Management Framework (note 76 above), at 35.

¹³⁶ Conversation with Janine Mosethli, South African Red Cross.

Analysis of legislation related to disaster risk reduction in South Africa

Chapter 5

Conclusions

This chapter responds summarily to the key research questions posed at the beginning of the report, namely:

- What are the most important laws, regulations, rules and policies of South Africa relevant to disaster risk reduction (DRR)?
- To what extent do these legislative instruments establish institutional clarity as regards national coordination of disaster risk reduction, hazard monitoring and risk mapping, communication and declaration of disasters, control of land uses, responsibility for provision of physical infrastructure for disaster risk reduction, and integration with climate change adaptation? To what degree do these assignments of institutional clarity consider impacts at community level?
- As currently implemented, do existing laws:
 - Provide adequate incentives and disincentives toward reducing disaster risks?
 - Encourage community information, education and participation in disaster risk reduction?
 - Promote community involvement in decision-making?
 - Facilitate the work of community-based organizations?
 - Serve as models of best practices that might be shared with other countries?
- Are there outstanding issues or gaps in the legal framework for DRR in South Africa or in its implementation?

Policy and legislative framework

An overview of the most important South African laws, regulations, rules and policies relevant to DRR was provided in Chapter 3 and is also listed in Annex C.

South Africa is an ambitious nation that has undertaken deep and complicated political and institutional reforms at the same time as taking on board regulatory best practices in a number of different fields. Disaster management has been no exception. The well-developed and maturing policy and legislative framework for disaster management set forth in the DMA, the NDMF and the provincial management frameworks/plans assimilates the DRR priorities for action set forth in the Hyogo Framework for Action. However, the strong DRR focus of the DMA and NDMF is not fully reflected in a shift in perception of state officials from emergency response to risk reduction. There are still people who haven't "bought" the risk reduction policy shift and who therefore question the need for dedicated budgets and human resources for DRR.

A comprehensive suite of legislation relating to veld fires, the safety of sport and recreational venues, environmental management, water resources, mineral resources, and building and construction, also provides extensive potential for integrating DRR into development planning. As outlined below, however, a number of legislative gaps have also been identified.

Mobilizing such policy and legislative frameworks into competent institutions that are coherent and integrated in terms of their objectives, strategies and operational procedures and that catalyze meaningful change at community level – particularly at the level of the poorest of the poor – is going to be a challenge in any state. It is all the more so in South Africa where decades of apartheid rule have produced significant economic and social polarities as well as great need for formal housing, education, access to basic services and, above all, employment. Moreover, management of these complicated dynamics falls on a relatively young democracy and transforming and

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at times inexperienced public service in which there have been many disruptions in institutional memory.

Assignment of institutional responsibility

National coordination of disaster risk reduction

The ICDM, NDMAF and NDMC have clearly-defined roles relating to the national coordination of DRR. The ICDM and NDMAF are aimed at ensuring high-level national coordination of both policy and operational issues. There are two ways in which community-level impacts can be said to have been considered in the constitution of these committees: The first is through the representation of the municipal sphere of government, and the second is through the representation of non-state disaster management role-players. The municipal sphere of government is under-represented on both committees – which may mean that the impacts of policy and operational decisions on the communities falling within the jurisdiction of the various types of municipality recognized in South Africa are not being adequately taken into account. While there is good representation of non-state disaster management role-players on the NDMAF, in general, the institutions represented are larger, national organizations – and not smaller, “grass-roots” organizations that represent particular communities.

Provincial coordination of DRR may, however, be having greater community-level impacts. It is heartening that a number of provinces have proceeded with the establishment of provincial inter-department co-ordinating committees even though this is not required (or even mentioned) in the DMA. The Western Cape ICDM is particularly noteworthy in that it creates an institutional space for coordination between provinces, the metropolitan municipality, district and *local* municipalities. Similarly, while the establishment of PDMAFs is not required in terms of the DMA, all provinces have established such structures. While some have experienced problems in ensuring representation of non-state disaster management role-players, others are functioning well. Representation of smaller grass-roots community- and faith-based organizations is more likely to occur on these structures.

The NDMC, most PDMCs and a number of MDMCs have been established and are beginning to assume their co-ordination, promotional and facilitative role relating to DRR by working together with national and provincial departments and organs of state and municipalities on the mainstreaming of DRR into their line functions. The NDMC, in particular, is clearly tasked with developing a national DMIS that could have a profound impact at community level by serving as a common information portal for DRR that also identifies particularly at-risk communities. As the system is not yet functional, this potential has not yet been realized. Legal prescription of the contents of disaster management information systems should, however, be carefully evaluated. Legislative drafters need to be aware of the technical and conceptual implications of the requirements they set down in legislation.

Hazard monitoring and risk mapping

The DMA and NDMF assign responsibility for hazard monitoring and risk mapping (in terms of the nomenclature of these instruments, “disaster risk assessment” and “disaster management planning”) exhaustively to all spheres of government and all relevant organs of state within each sphere. The various disaster management frameworks

and plans which need to be prepared have a clear community-level impact in that the DMA prescribes the inclusion of detail regarding at-risk and vulnerable communities. There appears, however, to be a low level of compliance on the part of metropolitan, district and local municipalities in the preparation of such plans. Because plans prepared by the municipal sphere of government are likely to be the most detailed in their understanding and description of local conditions and communities, there is thus still extensive unused potential for the DMA's assignment of responsibility in this regard to have an impact at the community level.

Moreover, it is arguable that the legal obligations the DMA establishes regarding disaster management planning are counter-productive for at least the following reasons:

- The DMA fails to reflect the phased approach to the development of disaster management plans reflected in the NDMF (Level 1, 2 and 3 plans). The legal obligation appears to be one that requires the development of such plans in one shot, which can have a discouraging effect on institutions who do not have the capacity to comply – for instance, under-capacitated local municipalities.
- The integration between the IDP process and disaster management planning has not been fully explored. There is a need to investigate different models of *how* disaster management planning can be integrated with the IDP process and to determine, on the basis of research, whether disaster management plans are better implemented if they are a part of, and not separate from, IDPs. As public participation is a central component in the IDP process, better integration between the IDP and disaster management planning processes could ensure greater beneficial community-level impacts.
- Integration between disaster management planning and other sectoral strategic planning instruments has not been considered. These include: the development of catchment management strategies for the various water management areas in South Africa, the undertaking of EIAs, the development of veld fire management strategies by FPAs, and land-use planning processes. The need for relevant state departments within national, provincial and municipal spheres of government to each develop a separate disaster management and disaster response plan is possibly both too onerous and unnecessary. The substantive goal of ensuring the mainstreaming of DRR into the institutions and processes of particular sectors might be better served if the NDMC, PDMCs and MDMCs engaged with (and pressurised) key departments on the level of development and implementation of such existing instruments.
- The DMA establishes a hierarchy amongst the various national/provincial/municipal frameworks and plans which at the same time sets up “passivities”; i.e. institutions lower in the hierarchy justifying their own inaction to prepare a disaster management plan on the basis that plans higher in the disaster management planning hierarchy have not yet been prepared.

Further, while the DMA clearly assigns responsibility for annual reporting on disaster management (which, by definition, includes reporting on DRR), these extensive reporting requirements are hardly being complied with at all levels. It is doubtful whether the NDMC, PDMCs and MDMCs have the capacity to process the many reports which are supposed to be generated on an annual basis. A better way of legislating for reflective learning on disaster risk reduction and response needs to be developed.

Communication and declaration of disasters

The DMA's distinction between the functions of classifying and declaring disasters – and the assignment of institutional responsibility for these functions to the NDMC

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and political head of the relevant sphere of government respectively – appears to be generating a lot of confusion. It also fails to indicate the sequence of responsibilities relating to the assessment of a pending disastrous event (which assessment focuses on whether the relevant sphere of government has the necessary capacity to cope with the disaster). This function therefore tends to fall between the cracks, with implications for the subsequent classification, declaration and funding of disasters.

Further, the need to ensure clear channels of communication regarding the transmission of early warnings to role-players and, thereafter, to affected communities does not appear to be adequately addressed in the policy or legislative framework pertaining to disaster management.

Control of land uses and responsibility for provision of physical infrastructure for disaster risk reduction

While South Africa has land use planning legislation, it is outdated both in terms of its alignment with the post-1994 reconfiguration of the municipal sphere of government, and the Hyogo principles on DRR. Moreover, even where the existing legislation does provide for DRR-related rules – such as the prohibition on development within the 1:100 year flood line of water resources – it is poorly understood and implemented. Poor land use planning decisions made in the past and the current shortage of housing in urban areas (which leads to so-called “land invasions”) are two of the key challenges in the sphere of land use regulation.

As regards the provision of physical infrastructure for disaster risk reduction, there is no general obligation on local government to physically prepare for disasters. Whilst disaster-specific and disaster-related legislation do establish a number of specific duties in this regard, there are at least three important omissions, namely:

- The National Veld and Forest Fire Act, 1998 does not adequately define the obligations of *public* landowners to construct and maintain firebreaks. It should also require their compulsory membership of Fire Protection Associations.
- The legal obligations pertaining to the provision and maintenance of storm water management systems need to be defined with greater clarity.
- Existing laws fail to define adequately the legal obligations of different national government departments in the prevention, mitigation and treatment of AMD.

Integration with climate change adaptation

The recognition of disaster risk management as a particular sector in South Africa’s latest policy document on climate change points to a recognition and acknowledgement of disaster management as a national priority and a confirmation of the legitimacy of the framework established by the DMA and NDMF – these being important prior conditions for the integration of disaster management into other sectoral policies and regulatory frameworks.

Community-level promotion and facilitation

Communities are a central focus in the disaster management and disaster-related legislation through, amongst others, the requirement to identify communities most vulnerable to particular hazards in processes of disaster management planning; community consultation in undertaking risk assessments; and consultation with communities

through their representation on the NDMAF, PDMAFs and MDMAFs. However these innovative legislative provisions do not appear to have generated many instances of best practice.

Incentives / disincentives toward reducing disaster risks

While the DMA provides that provincial and municipal disaster management frameworks/plans may identify incentives that will promote disaster risk reduction amongst communities, specific incentives/disincentives must largely still be identified and implemented.

Community information, education and participation in disaster risk reduction

The integration of DRR learning objectives into school curricula could play a very significant role in terms of disseminating a risk reduction mindset into society, but is being hampered by the current chaotic regulatory environment for education in South Africa. While the integration of DRR into school curricula has been poor, significant strides have been made by certain centres (most notably the African Centre for Disaster Studies at North-West University and the Disaster Mitigation for Sustainable Livelihoods Programme at the University of Cape Town) in developing tertiary-level training in disaster management. In so doing they are not only establishing a new corps of disaster risk scientists who are moving into both private and public practice, but developing an important body of research on the application of DRR concepts in South Africa.

Community involvement in decision-making

Community-level involvement in the key decision-making structures of the ICDM and the NDMAF has been covered under the heading of “National coordination of disaster risk reduction” above. While the DMA includes references to the use of indigenous knowledge in processes of disaster risk assessment and disaster management planning, in terms of the NDMF and some of the provincial disaster management frameworks indigenous knowledge appears to be used in a very limited sense to determine the frequency and intensity of hazardous events whereas it could play a greater role in better understanding communities’ perceptions, responses and actions to such events.

Facilitating the work of community-based organizations

The DMA could specify the allocation of roles between state and non-state disaster management role-players in greater detail, and provide – in a generic way – for innovative but binding mutual assistance agreements between the state and community organizations. Such mutual assistance agreements could cover issues such as the obligation to take into account disaster risk assessments developed by community organizations, and state support to such organizations through the provision of transport and security in volatile situations.

Outstanding issues and gaps in the legal framework and/or its implementation

The following outstanding issues and gaps in the policy and legislative framework and its implementation have been identified:

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- The chief legislative omission in the DMA is the misalignment between responsibility for disaster management (which falls heavily on the municipal sphere), and the weight and focus accorded to the national and provincial spheres particularly in terms of representation on the ICDM and NDMAF, the preparation of disaster management plans, and the financing of disaster management. Although it is metropolitan and district municipalities who are legally obliged to respond to a local disaster, and although the legislation contains numerous references to the relationship between metropolitan/district municipalities and local municipalities, it fails to respond to the underlying drivers of municipal non-compliance: the process of budgeting for disaster management, including *how* budgets for DRR can be estimated and the systems that are necessary to do this (the Atlasville study), the inter-relationship between adequate budgeting and competent, trained personnel, the placement of the disaster management function in municipalities, and the prioritization of disaster management in relation to other more “politically visible” priorities (such as the provision and maintenance of road infrastructure).
- The promulgation of the Land Use Management Bill is urgently required to bring greater clarity to the function of land use management in South Africa. However, the fact that it is still pending also serves as an opportunity to integrate disaster risk reduction principles into land development more broadly.
- While the legislative frameworks for water and other natural resources is well-developed, the policy and legislation dealing with the natural disaster that affects South Africa most frequently – drought – appears to be both outdated and under-developed.
- The unintended consequences of certain regulatory frameworks – for instance, the clash between communities taking responsibility for DRR initiatives and then being confronted with the need to undertake a full-fledged EIA in terms of environmental management legislation – have not been considered.
- There is a need to align the Fire Brigade Services Act, 1987 with the dramatic spatial extension of the responsibility of local fire brigade services that has come about as a result of local government reform in South Africa.
- Whilst there has been significant policy development on climate change in South Africa, there is very little integration of climate change considerations into existing laws. This includes the institutional arrangements relating to the mitigation of South Africa’s greenhouse gas emissions and adaptation to climate change and the need to consider climate-related impacts of certain activities (e.g. in the granting of environmental authorizations, or the authorizations to prospect or mine). The allocation of liability for climate-change induced losses does not appear to have been considered at all.

Annex A: List of people consulted

- Association for Water and Rural Development: Ramin Pejan, Legal Officer.
- City of Cape Town MDMC: Greg Pillay, Head of MDMC.
- City of Cape Town (Helderberg Region): Pieter Koekemoer, Section Head: Building Control.
- Department of International Relations and Co-operations: Andries Oosthuizen, Deputy Director.
- International Federation of Red Cross and Red Crescent Societies: Sanne Boswijk, IDRL Delegate, Africa Zone.
- Kouga Municipality: Lungile Qabasisa, Head of Disaster Management Centre.
- Mpumalanga PDMC: Prudence Dlamini.
- Mustadafin Foundation: Ebrahim Smith, Disaster Coordinator.
- NDMC: Moddy Setusha, Acting Head.
- NDMC: Mmaphaka Tau, DCOG.
- NDMC: Ané Bruwer, Executive Manager Disaster Management Legislation, Policy and Enforcement.
- North-West Fire Protection Association: Eric Stoch, Chairman.
- North-West University: Dewald van Niekerk, African Centre for Disaster Studies.
- SETA: Janet Davies, Sector Skill Planning Manager.
- South African Red Cross Society: Janine Moselehi, Communications & Marketing Manager.
- South African Red Cross Society: Mandisa Kalako Williams, (former) Secretary General.
- Stellenbosch University: Dr Ailsa Holloway.
- Stellenbosch University: Dr Patricia Zweig.
- University of the Witwatersrand: Christina Fatti, Lecturer and Researcher, School of Geography.

Annex B: References

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Annex C: Selected South African legislation related to disaster risk reduction

Legislative and Governance Structure

- Constitution of the Republic of South Africa, 1996.
- Local Government: Municipal Finance Management Act 56 of 2003 (regulates financial management of municipal sphere of government).
- Local Government: Municipal Systems Act 32 of 2000 (regulates the provision of services of municipal entities).
- Local Government: Municipal Structures Act 117 of 1998 (establishes three categories of municipality).
- Public Finance Management Act 1 of 1999 (regulates the financial management of the national and provincial spheres of government).

Disaster Management

- Disaster Management Act 57 of 2002 (current main disaster management legislation).
- Fire Brigade Services Act 99 of 1987 (provision of local fire-fighting services).
- Mine Health and Safety Act 29 of 1996 (deals with workplace safety to protect against mining hazards).
- National Veld and Forest Fire Act 101 of 1998 (deals with control and management of veld fires).

Environment and Natural Resources

- Conservation of Agricultural Resources Act 43 of 1983 (provides for control measures, directives and schemes for the management of droughts, amongst other objectives).
- Mineral and Petroleum Resources Development Act 28 of 2002 (regulates granting of authorizations to prospect and mine).
- National Environmental Management Act 107 of 1998 (framework environmental legislation for South Africa).
- National Water Act 36 of 1998 (regulates protection, use, conservation, management of water resources, excluding supply of potable water).

Building and construction

- National Building Regulations and Building Standards Act 103 of 1977 (comprehensive framework legislation for building in South Africa).

Annex C: Selected South African legislation related to disaster risk reduction

- Safety at Sports and Recreational Events Act 2 of 2010 (provides for the structural stability and control of crowds at sports and recreational events).

Land-use planning

- Provincial Ordinances (set out processes for land use planning by local authorities in the four former provinces of South Africa):
 - Land Use Ordinance 15 of 1985 (Cape Province)
 - Town Planning Ordinance 27 of 1949 (Natal)
 - Townships Ordinance 9 of 1969 (Orange Free State)
 - Town Planning and Townships Ordinance 15 of 1986 (Transvaal)
- Development Facilitation Act 67 of 1995

The Fundamental Principles of the International Red Cross and Red Crescent Movement

Humanity / The International Red Cross and Red Crescent Movement, born of a desire to bring assistance without discrimination to the wounded on the battlefield, endeavours, in its international and national capacity, to prevent and alleviate human suffering wherever it may be found. Its purpose is to protect life and health and to ensure respect for the human being. It promotes mutual understanding, friendship, cooperation and lasting peace amongst all peoples.

Impartiality / It makes no discrimination as to nationality, race, religious beliefs, class or political opinions. It endeavours to relieve the suffering of individuals, being guided solely by their needs, and to give priority to the most urgent cases of distress.

Neutrality / In order to enjoy the confidence of all, the Movement may not take sides in hostilities or engage at any time in controversies of a political, racial, religious or ideological nature.

Independence / The Movement is independent. The National Societies, while auxiliaries in the humanitarian services of their governments and subject to the laws of their respective countries, must always maintain their autonomy so that they may be able at all times to act in accordance with the principles of the Movement.

Voluntary service / It is a voluntary relief movement not prompted in any manner by desire for gain.

Unity / There can be only one Red Cross or Red Crescent Society in any one country. It must be open to all. It must carry on its humanitarian work throughout its territory.

Universality / The International Red Cross and Red Crescent Movement, in which all societies have equal status and share equal responsibilities and duties in helping each other, is worldwide.



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