

ALTERNATIVE FINANCING MECHANISMS FOR DISASTER RISK MANAGEMENT IN SOUTH AFRICA

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Abstract

South Africa is prone to climate related hazards in the form of floods, fires, gales force winds and snowfalls. Municipalities in South Africa, specifically districts municipalities, are experiencing difficulties to implement the provisions of the Disaster Management Act (No 57 of 2002) and the guidelines provided in the National Disaster Management Framework (2005). One of the main reasons given for this situation is a lack of funding (or a lack of understanding of funds allocation) from the national and provincial government, as well as lack of funds provided for in their own municipal budgets. In some cases municipalities also alleged that the national government had provided them with an unfunded mandate. The reality is that instead of ensuring that disaster risk reduction is improved within the local sphere of government, the lack of policy implementation can lead to higher levels of vulnerability and increase the likelihood of hazardous occurrences leading to disasters. These challenges pose a number of questions such as: What are the problems associated with current disaster risk management funding mechanism? What are the feasible alternative funding mechanisms for disaster risk reduction in South Africa? Are the institutional, policy and legislative frameworks for funding disaster risk management and possible disasters adequate and effective in South Africa? Is there a space for risk sharing and public-private partnership? Therefore, the purpose of this study was to provide answers to these and other related questions. Qualitative research approach for this research project has been used. Literature review conducted utilised international literature and best practices on the topic. Purposive sampling were used to conduct semi-structured interviews with selected knowledgeable individuals in the disaster risk management and public financial management domains. The research developed a new model for disaster risk management funding in South Africa which included both disaster reduction and disaster relief and recovery components.

JEL codes: Q54 - Climate, Natural Disasters, Global Warming

Keywords: disaster risk management, funding mechanism, funding model

1. INTRODUCTION

According to Vakis (2006) natural disasters have a huge impact on social and economic welfare. This impact is especially severe in low/middle-income countries where governments often have insufficient funds after major disasters to repair critical infrastructure and provide assistance to the private sector (Linnerooth-Bayer & Mechler, 2007:57; Kotler et al, 2006:236). Specifically the poor are particularly exposed to natural hazards and have limited access to risk management instruments. This leaves poor households in a situation where they are less able to cope with the impact of disasters than more affluent citizens (Vakis et al. 2006:4). Vakis (2006:6) states that this state of affairs has two major consequences for the poor: firstly the poor are severely affected when shocks do occur, accentuating their poverty; and secondly, the poor become more risk averse and unwilling (or unable) to engage in risky but higher return activities (Vakis, 2006:6). In this context, and to prevent sharp increases in poverty in a country following a disaster impact, mechanisms should be in place to mitigate the possible financial and societal impacts (Skoufias, 2003:1087; Subbarao et al, 1997).

Disasters are progressive or sudden, widespread or localised natural or human caused tragedies or hazards that threaten life, health, property or environment (as per the Disaster Management Act No. 57 of 2002). In developing countries disasters are becoming very common due partly to climate change and inadequate management of risks and funding thereof. Developing countries suffer disproportionately from these disasters than developed countries as disaster risk management and mitigation strategies are inadequate and weak. Literature suggests that disasters often put severe strain on public financing resources and overwhelm the public sector's ability to respond effectively especially for developing countries (Brukof, 2006; Cardenas, 2009). South Africa, as any developing country, has suffered significantly from natural and human made hazards. In South Africa, each sphere of government plays a significant and unique role in the managing and funding disasters and disaster risks. The role of local government in disaster risk management is emphasised in both the Disaster Management Act (2002) and the 1999 White Paper on Disaster Management.

This paper provides the reader with insight into current and ongoing research on alternative funding arrangements for disaster risk management in South Africa, undertaken by the African Centre for Disaster Studies at North-West University, the Financial and Fiscal Commission and AgriSA. The aim of this paper is to highlight the most salient aspects which needs to be considered in drafting a new national policy of disaster risk management funding. Various aspects of disaster risk reduction funding is discussed and the paper concludes with some preliminary recommendations emanating from the research.

2. RATIONALE OF THE RESEARCH PROJECT

Municipalities in South Africa, specifically districts municipalities, are experiencing difficulties to implement the provisions of the Disaster Management Act 57 of 2002 (DMA) and the guidelines provided in the National Disaster Management Framework (NDMF), issued on 29 April 2005 in terms of the Act. One of the main reasons given for this situation is a lack of funding (or a lack of understanding of funds allocation) from the national and provincial government as well as funds provided for in their own municipal budgets. In some cases municipalities also alleged that the national government had provided them with an unfunded mandate, since no conditional grants were made available yet to ensure the smooth implementation of the South African Government's disaster risk reduction policies. The reality is that instead of ensuring that disaster risk reduction is improved within the local sphere of government, the lack of policy implementation can lead to higher levels of vulnerability and increase the likelihood of disasters that can potentially occur on local communities (this is confirmed by the research of Botha *et al.*, 2011).

This study evaluates alternative financing mechanisms for disaster risk management in South Africa with the aim of making policy recommendations on best practice on financing options to finance recurring natural hazards and disaster risks. Since the revisions to the funding mechanisms for disaster risk management in South Africa in 2005 by the FFC, a number of challenges have emerged. Firstly, current legislative, policy, institutional and funding mechanisms are not being fully applied or adhered to by the different spheres of government. Secondly, because of the lengthy bureaucratic processes that need to be followed in the disbursements of disaster funds, relief measures put in place to circumvent the problem often take time to reach the victims or places affected by disasters. Thirdly, much needed development funds are being reprioritised and rerouted in order to address the funding gaps left by disastrous impacts. Fourthly, experience has shown that funding for disasters has not been adequate in fully addressing the effects of a particular hazardous event or the cost incurred by provinces or municipalities. The other challenge is that most municipalities do not budget for disaster risk reduction as they do not understand the necessity of this (Van Niekerk & Visser, 2009). Similarly, provinces do not make provision for risk reduction funding in their planning and budgeting processes. Finally, it has emerged that, the lack of such measures have created some perverse incentive effects by discouraging communities to take some minimal mitigating or preventative measures as they will be expecting some form of compensation from Government when hit by a disaster. These challenges have resulted in many vulnerable members of the society suffering immensely from

disasters.

With the above background in mind the following sections will allude to the research problem under investigation, the key research questions and objectives.

3. RESEARCH PROBLEM

The research problem can be stated as follow:

The current funding model for disaster risk reduction within Government as well as the private sector does not optimally make provision for the dynamic risk profile of South Africa and its diverse public financial management system.

4. RESEARCH QUESTIONS

The following questions guided the research:

- What are the problems associated with current disaster risk reduction funding mechanism?
- Is the funding mechanism adequate and effective?
- What are the feasible alternative funding mechanisms for disasters in South Africa?
- Is there a space for risk sharing and public-private partnerships?
- Are the institutional, policy and legislative frameworks for funding disasters adequate and effective in South Africa?

5. OBJECTIVES OF THE RESEARCH

The objectives of the project were to:

- Review and evaluate the legislative, policy and institutional frameworks for managing disaster risk reduction in South Africa.
- Give an overview of natural hazards and disaster risks in South Africa and their occurrence.
- Give an overview of future scenarios and threats posed by climate change and variation in South Africa, and sectors and locations like to be affected.
- Review and assess the current funding arrangements and funding model for disaster risk management in South Africa.
- Evaluate the relevance to South Africa of alternative disaster risk management financing mechanisms, for example in the form of the insurance options and public private partnerships.
- Make policy proposals on best practices on financing disaster losses and disaster risk management in South Africa, and alternative financing mechanisms given the threats of climate change and variation.

6. RESEARCH METHODOLOGY

A qualitative research design was used. A foundational literature study was conducted where international literature on the topic was consulted. Such literature included:

- International disaster risk reduction strategies, plan and policies;
- International scientific research on the funding of disaster risk reduction;
- International case studies on the decentralised funding of disaster risk reduction which will include the countries such as : Nigeria, Australia, India and New Zealand; and
- Reports from international, multi-national and inter-governmental organisations.

Some elements of historical research was utilised to a certain extent as far as the analysis of planning documents (Integrated Development Plan (IDP) and Service Delivery and Budget

Implementation Plan (SDBIP)) and the approved annual and medium term budget documents were concerned.

Purposive sampling were used to conduct semi-structured interviews with selected knowledgeable individuals (n=24) in the disaster risk management and public financial management domains on all levels of Government and across different Government sectors. A thorough literature study formed the foundation of the research and the most salient issues are addressed in the sections that follows.

7. LITERATURE STUDY: FUNDING DISASTERS AND RISK

Based on an analysis of the economic and insured losses due to natural disasters worldwide, Ghesquiere and Mahul (2007:2) indicated that there is growing evidence that the frequency and severity of disasters are increasing. As a result, the fiscal and economic exposure of developing countries increases every year. This can be due to a variety of reasons, ranging from the growing concentration of populations and assets in high-risk areas to increases in climate variability.

Both Olokesusi (2005:17) and Ghesquiere and Mahul (2007:2) have indicated that disasters have serious implications for long-term development efforts if risk management is not actively applied. As such, this issue poses an increasing threat to poverty reduction and sustainable development.

The general international viewpoints regarding disaster risk management will subsequently be discussed to provide a theoretical basis for the study. The general trend which has been developing internationally is a focus on funding losses associated with a disaster occurrence, but also recently a major emphasis is on funding disaster reduction efforts. This paper will use these two focussed (ex-post and ex-ante) as the basis of discussion. Each of these focuses are unique and requires unique funding mechanisms. As will be shown, these two domains are inextricably linked as well.

7.1 Disaster Risk Reduction vs Disaster Response and Recovery

In order to understand the various components of disaster risk management within the South African context, and subsequently the funding needs, it is imperative to firstly define the respective components. The NDMF as well as the DMA alludes to the need for so called “pre-” and “post-disaster” funding. The first refers to what is now commonly known as disaster reduction and the latter to disaster response and recovery.

Disaster risk reduction (also called “disaster reduction”) can be defined as the *“practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events”* (United Nations International Strategy for Disaster Reduction, 2009).

The same document defines disaster response as: *“the provision of emergency services and public assistance during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected.”* Recovery is said to be: *“the restoration, and improvement where appropriate, of facilities, livelihoods and living conditions of disaster-affected communities, including efforts to reduce disaster risk factors”* (United Nations International Strategy for Disaster Reduction, 2009).

From the above the different domains of disaster risk management funding becomes clearer. This paper will utilise these two domains of disaster reduction and disaster response and recovery as the basis for the formulation of an alternative funding model for disaster risk management in South Africa. It should be noted from the start that most of the literature and funding has been quite bias

towards disaster response and recovery. Funds allocated for disaster risk reduction purposes has been mostly inadequate, unfocussed and haphazard.

7.1.1 Disaster relief and recovery

Although the emphasis in disaster risk reduction should be on risk mitigation, Ghesquiere and Mahul (2007:2) found that the focus is lately on the capacity of a government to react in the aftermath of a major disaster, specifically regarding government's capacity to finance relief and reconstruction costs. This development is confirmed by the growth in literature pertaining to disaster response, recovery and relief.

If the fiscal and economic risk exposure of developing countries to catastrophic events is considered, then it becomes clear that it has increased significantly as a result of the concentration of the world's population in vulnerable urban areas, substandard construction practices and low insurance coverage. According to Ghesquiere and Mahul (2007:2), the average damages from large disasters faced by developing countries represented 7,1% of GDP over the period 1977 to 2001.

Ghesquiere and Mahul (2007:3) stated that a quick analysis of recent catastrophes shows that funding for relief and reconstruction in developing countries generally comes from different sources than is the case in developed countries. In more developed countries losses from natural disasters are typically funded through a combination of private risk financing arrangements and an efficient public revenue system that relies on wide and deep taxation systems.

In middle and low-income countries, which have relatively low tax ratios and ongoing fiscal policy-funding sources for post-disaster reconstruction tends to be more varied, with strong reliance on ex-post borrowing and assistance from international donors. Assistance from multilateral financial agencies plays a particularly important role in middle-income countries, while support from bilateral donors is generally predominant in low-income countries.

Relief operations usually include emergency assistance provided to the affected population to ensure that the basic needs, such as the need for shelters, food and medical attention are adequately addressed. These costs can be estimated based on a scenario analysis. It is important to bear in mind that although relief costs are limited, they should be able to be financed in a matter of hours after a disaster event occurs.

The capacity of governments to mobilise resources for relief operations at short notice should therefore be a key component of their risk financing strategies. As far as early recovery operations are concerned, several techniques exist to estimate the likely cost of such. Catastrophic risk models can simulate the impact of natural hazards, such as earthquakes, on the infrastructure and thus provide rough estimates of the lifeline infrastructural requirements (e.g. water, electricity and key transportation lines) that are likely to be damaged in the event of a major disaster, as well as the removal of debris and the establishment of basic safety nets.

Such models can also be used to assess the number of people that are likely to be homeless and the number of buildings that will have to be rebuilt. One of the important purposes of the early recovery operations is to limit secondary losses and to ensure that reconstruction can start as soon as possible. The early recovery stage can also be used as an opportunity to appoint engineering firms that can start the design of infrastructure works that will have to take place during the reconstruction phase.

In the case of reconstruction operations, catastrophe risk modelling techniques can be used to estimate the potential damage to the infrastructure, as well as to any public and private property. These techniques can provide risk assessments for each group of assets, such as the probable

maximum losses during a given return period. This can help the authorities determine the budgetary needs caused by any such potentially catastrophic events.

Reconstruction operations generally centre on the rehabilitation or replacement of assets damaged by a disaster. These include public buildings and infrastructure which are the direct responsibility of the state. It is, however, important to note that national or municipal authorities generally have to face obligations that go beyond their own assets. In most cases, Government will have to subsidise the reconstruction of private assets, and in particular the housing for low-income families who could not otherwise afford to rebuild their houses. It is important to note that the use of scenario analysis coupled with risk models, can also help authorities to understand their potential needs better over time.

In all three phases, the capacity to provide relief, carry out recovery works and complete reconstruction operations will also depend on the absorption capacity of the affected economy. In the cases of major disasters, all the damaged assets cannot be rebuilt at once and the government will have to establish priorities according to which key assets can first be rebuilt or rehabilitated, while other assets may be restored at a later stage. These choices made by the authorities will influence the timing of financing required for any reconstruction operations.

It is, however, important to note that economic theory suggests that countries should ignore uncertainty for public investment and behave as if they are indifferent to risk because they can then pool risks to a much greater extent than private investors. The importance of disaster risk reduction as an “insurance mechanism” for development gains now comes into play.

7.1.2 Investing in disaster risk reduction

As far as disaster risk reduction is concerned, a variety of measures can, according to Freeman *et al.* (2003:14-16), be applied to possibly reduce the physical destruction caused by natural disasters. These measures include: land-use planning to reduce construction on seismic fault lines, coastal regions subject to storm damage, and river shorelines subject to frequent floods; building standards aimed at ensuring some level of robustness against earthquakes or cyclones; mitigating environmental degradations, such as soil erosion, that can worsen the impact of disasters; and by means of engineering interventions, such as the creation of dams for flood control, dikes to reroute flood waters, fire breaks and seawalls to break storm surges.

In a World Disaster Reports (2001), the Red Cross indicated that investments of US\$40 billion in disaster preparedness, prevention and mitigation would have reduced global economic losses in the 1990s by US\$280 billion. This means that for every US\$1 spent on disaster risk reduction, US \$7 could have been saved in terms of post-disaster expenditure on recovery, rehabilitation and reconstruction.

Structural measures might therefore be necessary in sectors such as agriculture, water and construction. These structural developments will have significant fiscal consequences, as a result of both explicit public policy commitments and the implicit responsibilities of the state in the context of such disasters. Government, therefore, has an important role to play in disaster risk reduction, not only in terms of safeguarding its own property, but also in respect of measures, such as coastal defences and early warning systems for detecting any developing weather risks, and the implementation of appropriate regulatory controls, for example, on land use.

Infrastructure planning too needs to be sensitive to risks of extreme weather events. There is, however, a marked difference in the extent of risk reduction measures in developed and developing countries. In the USA expenditure on preparedness and mitigation measures has significantly increased over the past years. In contrast, in many developing countries, the financial resources, technical knowledge and political will to mitigate physical vulnerability are often absent. This situation in developing countries seems to prevail because little incentive exists to mitigate

damages with ex-ante measures, since such damages are in many cases largely paid for by the national government. In the case of sub-national governments, such as municipalities, or in the case of the national government itself, this is done by foreign donors.

This is sometimes also referred to as the “Samaritan’s dilemma” (Freeman *et al.*, 2003:17). In other words, governments of developing countries or sub-national governments in those countries believe that they can rely on disaster relief from the national government or foreign donors without taking any ex-ante measures to deal with disaster risks themselves. This situation with regard to developing countries has been confirmed by Mahul and Gurenko (2006:2), who indicated that the availability of free or inexpensive post-disaster funding discourages proactive ex-ante risk management on the part of developing countries, such as looking into market-driven risk transfer solutions, including reinsurance.

In addition, there has been willingness on the part of rich, developed countries and other donors to provide post-disaster funding for vulnerable, developing countries that are subject to frequent catastrophic events. It is, however, reasonable for the developing countries to rely largely on free ex-post aid and the post-emergency lending of development banks given the high cost of disaster risk financing solutions offered by the private markets. Some changes in this system is an obvious necessity.

Other reasons for specifically low insurance penetration rates are the underdeveloped state of domestic insurance markets, which lack the necessary capital base, low underwriting expertise, a common mistrust in the formal insurance sector by consumers, and a weak regulatory capacity that can control the insurance industry.

Mahul and Gurenko (2006:3) also maintain that when it comes to funding natural disasters ex-post financing is not the right approach. They proposed a formal country risk financing framework that would provide tangible incentives for proactive country risk management and promote market risk financing. This approach should include developing risk funding solutions that would provide developing countries with strong economic incentives to engage in active risk management and to therefore achieve significant reductions in their growing vulnerability and levels of exposure.

Such a major turnaround would, however, require linking, at least to some extent, donor’s post-disaster reconstruction grants and emergency loans from major development banks to facilitate the progress achieved by countries in ex-ante disaster risk management. This approach also rests on the notion of leveraging the World Bank’s emergency funding with that of international reinsurance and capital markets.

Developing countries would therefore only be in a position to adequately meet their demands for capital to fund the residual risks that occur after major catastrophic events, by combining the funding capacity of donor countries, development banks and global reinsurance and capital markets. Caballero (2003:37, in Mahul & Gurenko, 2006:3) is, however, of the opinion that, “*Even in the best-managed emerging economies, aggregate risk management is being done with stone-age instruments and methods*”. This view is supported by the findings of Mahul and Gurenko (2006:4). They are of the opinion that governments in developing countries generally rely on their domestic budgets, including the diversion of resources from other projects, and on extensive financing from international donors to absorb the losses caused by disasters.

It must, however, be realised that historically most governments have not taken much interest in the ex-ante management of disasters, because of a perception of low vulnerability levels and the fact that most severe hazards manifest themselves very infrequently (Kaplow, 1991 and Kunreuther, 1996, in Mahul & Gurenko, 2006:7).

The literature does, however, show that disaster risk reduction is becoming more and more important. This is emphasised by a global review of disaster reduction initiatives of the United

Nations Inter-agency Secretariat of the International Strategy for Disaster Reduction (2004:345). This organisation has pointed out that the mounting costs of disasters, the huge losses that have to be covered by insurance companies, and the fiscal pressure on governments in undertaking post-disaster recovery and reconstruction measures have called for sustainable financing arrangements to address disaster risks.

Financing disaster risk reduction has become a critically important issue in view of the increasing need for investment in disaster mitigation and for preparedness at national and local levels. Issues of climate change and variation adds another level of uncertainty to the current system. Recent developments have encouraged disaster risk reduction to become embedded in development projects, particularly as risk assessments are taken into account (as is the case of the Integrated Development Plans at municipal level in South Africa). These developments have been supported internally by the OECD (Organisation for Economic Cooperation and Development), the World Bank and the IMF (International Monetary Fund), as well as other development banks (UN/ISDR, 2004:345-350).

In addition, as governments also require resources to deal with small and medium-size disasters, they have to depend on domestic resources for financing disaster risk management schemes. Domestic financing for disaster risk management has been slow to develop, owing to institutional ignorance and a weakness in addressing disaster risks. National budgets that usually make provision for disasters still focus mainly on relief and emergency response activities. Prevention and mitigation, on the other hand, have not yet become an integral part of public financing, nor have institutional channels for mitigation investments been developed. A number of special funds have now been set up in many countries for the financing of disaster risk reduction, namely the so-called calamity funds, reconstruction, mitigation and vulnerability reduction funds, as well as social funds and public works programmes (UN/ISDR, 2004:350-356).

With the above background on the domains of disaster risk management funding in mind it remains imperative to consider the existing financing tools. This should, however be done within the context of understanding theory linked to public investment. Such theory will provide some guidance as to where the focus of an alternative funding model for disaster risk reduction in South Africa should be.

8. THEORY OF PUBLIC INVESTMENT

Arrow and Lind (1970) formulated the Arrow-Lind Public Investment Theorem, and have demonstrated that when the risks are publicly borne, the social cost of risk-bearing is insignificant. The theorem suggest that governments should ignore uncertainty in evaluating public investment, because it can distribute the risks associated with any investment among a large number of people. According to Ghesquiere and Mahul (2007:4), a key assumption underlying this theory is that returns from a given public investment are independent of the other components of national income. This wide-spread dependence is what allows the returns to be less vulnerable to shocks and stressors.

The public sector can be considered risk neutral with respect to its financial planning for rare but extremely costly events (Arrow and Lind, 1970). Since the post-disaster incurred costs can also be spread widely across the taxpayer base and as such it is deemed that authorities (public realm) are more resilient to the risk. The resulting implication is that governments need not acquire insurance or financial hedging tools according to Linnerooth-Bayer (2005:15). It reinforces the idea that disasters and their effects on the public budget system need not be considered in public planning and budget making.

The Arrow-Lind Theorem has negative implications for disaster risk finance, as the underlying premise has the potential to undermine efforts to secure disaster risk financing. In the case of the financing of disasters, the theory suggests that governments should act as risk-neutral towards disasters and should not invest in any risk-financing strategies that are more expensive than the expected losses caused by any particular disaster. This theorem advocates that governments need not purchase insurance (catastrophe insurance or risk-transfer instruments) based on the nature of the market. Government is presented as the most effective insurance instrument of society according to Priest (1996:225).

The lack of support for risk finance from a government context can put national, regional and local disaster coordinating bodies at a disadvantage for quickly accessing funds in the event of a wide-scale catastrophe. By creating a specific reserve of funds based on strategic investments or risk based insurance, it would allow a pool of funds to be available faster and with less bureaucracy than having to wait for government to reallocate funds from across multiple sectors. Liquidity of post-disaster financing could alleviate this concern.

From a budgetary perspective it is not always practical to redirect funds from one sector to another. It forces the government to prioritise the reallocation of funds and as a result some sectors will lose critical support. It creates voids in funding in other areas thus offsetting the expected monies available for allocated sectoral spending.

This theory has already been implemented by a number of large developed countries that rely on post-disaster financing, including budget reallocation and tax increases, to finance catastrophic losses. However, it does not apply to all circumstances. When this theory of Arrow and Lind is applied to developing countries it has been discovered that there are several cases where the assumption of the government's policy of risk neutrality does not hold (Ghesquiere & Mahul, 2007:4).

Hazard prone developing nations are financially vulnerable to adversity particularly in the case of wide-scale devastation. They do not have a sufficient tax revenue to adequately spread the risk. It therefore requires in those cases the use of ex-ante risk financing instruments that could include sovereign insurance. Diversification of publicly owned assets is also a requisite for balancing risk. Economic stability of the state is a parameter underpinning the success of the theory. The assumption that all governments are capable of coming wholly to the rescue of their respective nation states is unrealistic. Risk insurance allows risk to be transferred internationally rather than forcing one country to absorb the financial shock in its entirety.

There is the potential according to this theory, to avoid the use of risk insurance based on the argument that governments are able to absorb costs associated with catastrophes into their wide-spread portfolios. However, for South Africa, a nation that is considered to be an industrialised (Lane and Milesi-Ferretti, 2001), there are a number of factors to be considered before discounting risk insurance and other protective measures.

The predominance of vulnerable economic sectors such as agriculture as well as the prevalence of poverty, creates a scenario that may undermine the ability of the economy to support the potential draw on resources. The South African Government must realise the need to protect the economic resources of the state, because severe hazard impact can force households into poverty and deplete national fiscal resources. As a state that exists just beyond the limitations associated with 'developing nations' status, the country must take steps to ensure that its steady development progress is not offset by disaster impacts.

The realisation that "one size does not fit all" is critical to understanding that the economy of South Africa is still vulnerable to external pressures and that any attempts to reinforce the stability and resilience is crucial. In applying this theory to the South African environment it is thus evident that some ex-ante insurance mechanisms must form part of a new funding model.

9. FINANCIAL TOOLS FOR DISASTER RISK REDUCTION

Disaster risk reduction can take many forms: reducing exposure to risks, (e.g., land-use planning, enforcing building codes, alternative crops and crop patterns); reducing vulnerability (e.g., retrofitting high-risk buildings, educating communities, ensuring sustainable development); or creating institutions for better response (e.g., emergency planning). The residual risk can then be managed with insurance and other risk-financing strategies/tools for the purpose of preventing disasters from occurring or providing timely relief and assuring an effective recovery.

The literature suggests a number of financial tools which the South African Government needs to consider in the drafting of an alternative financing model. Note should be taken that no evidence could be found where any developed or developing state have integrated all of the available tools into a coherent financing model. Evidence of various tools will be discussed in the comparative international study to follow later on in this document. Linnerooth-Bayer, Mechler and Hochrainer-Stigler (2011) summarises their findings of the pre- and post-disaster risk financing arrangements in Table 1 below.

Table 1: Examples of pre- and post-disaster risk financing arrangements
(Linnerooth-Bayer et al. 2011)

	Security for loss of assets (households/businesses)	Food security for crop/livestock loss (farms)	Security for relief and reconstruction (governments)
Post-disaster (ex-post)			
	<ul style="list-style-type: none"> • Emergency loans • Money lenders • Public assistance 	<ul style="list-style-type: none"> • Sale of productive assets • Food aid 	<ul style="list-style-type: none"> • Diversions • Loans from World Bank and other international financing institutions (IFIs)
Pre-disaster (ex-ante)			
Non-market	Kinship arrangements	Voluntary mutual arrangements	International aid
Inter-temporal	Micro-savings	Food storage	<ul style="list-style-type: none"> • Catastrophe reserve funds • Regional pools • Contingency credit
Market-based risk transfer	Property and life insurance	Crop and livestock insurance (also index-based)	Insurance or catastrophe bonds (also index-based)

The research considered the following market-based financial tools:

- Sovereign insurance;
- Risk pooling;
- Reinsurance;
- Index-based insurance;
- Weather derivatives;
- Micro-insurance; and
- Catastrophe bonds.

Less formal instruments were also investigated such as social safety nets (government based and community initiatives such as saving schemes, stokvels and burial societies). The scope of this paper, however, does not allow for an in-depth discussion on these various tools.

10. STATUS QUO ASSESSMENT IN SOUTH AFRICA

There are a number of legislative frameworks governing the funding for disaster risk management in South Africa. They are:

- *Public Finance Management Act No. 1 of 1999* (PFMA) which governs the release of funds for disaster events. Sections 16 and 25 allow the Minister of Finance or MEC to appropriate funds from their revenue funds for use of emergency situations (which in this case can mean disasters). Although there is some limitation that the fund may not exceed certain percentage of the total amount appropriated in the annual budget.
- *Municipal Finance Management Act No. 56 of 2003*, (MFMA) section 29 allows the mayor of a municipality to authorise unforeseeable and unavoidable expenditure in emergency situations (in this instance can mean disasters). Such expenditure must be appropriated in the adjustment budget within 60 days, if not passed within those days after the expenditure was incurred, the expenditure is unauthorised. Again, this also restricts the amount of funds available to respond to emergencies to some prescribed percentage of the budget.
- *Amended Municipal Systems Act, 2000*, section 10 states that the Cabinet member, MEC or other organ of the state initiating an assignment of a function or power to a municipality in terms of sections 9 and 10, must make appropriate steps to ensure that sufficient funding is available and capacity building initiatives are available for the performance of such assigned function. This is especially so (for disaster risk management) as the assignment for the function or power imposes duty on municipality and that duty falls outside the functional areas as listed and discussed above for Schedule 4B and 5B of the Constitution. According to this Act, disaster risk management imposes new constitutional obligations on local government. In the sense the disaster risk management encompasses a wide range of activities that need to be funded (*risk reduction, preparedness and response and recovery*). As such, appropriate measures or steps needs to be taken to ensure that adequate funding and capacity are met.

It is worth noting that in the Disaster Management Act, it is only sections 56 and 57 that make reference to funding mechanisms but only for post-disaster recovery and rehabilitation after certain conditions have been met as described in the Act. Other than that there are no other guidelines for the provision of funding for disaster risk management or alternative funding mechanisms discussed that can be used and as such this is limiting.

It is the National Disaster Management Framework (NDMF) that sets out the design and structure on funding mechanisms for disaster risk management in terms of the category and the role to be played by each sphere of government with its dedicated funding mechanisms. These funding mechanisms are based on five categories or activities. They are: *start up activities/costs; ongoing activities/costs; disaster risk reduction; response; recovery and rehabilitation strategies; and education, training and capacity building programmes*. Funding sources and mechanisms are given for each of the activities/categories. These funding arrangements are derived from the recommendations made by the FFC in its 2003/04 annual submission with respect to funding on disaster management as well as assessment made by the FFC 2002/03 on the financial implications of the Disaster Management Bill. The NDMF emphasises the funding of disaster risk management in ways that prevent and reduce risks. However, while it is vital to have these strategies in place, alone it is not adequate. Other alternative mechanisms are needed to add or complement the existing structures. Such mechanisms must aim at increasing the resource

envelope on public finance resources as international literature suggest. Another challenge which has been acknowledged by the NDMF towards the effectiveness of disaster risk management is the lack of information on the costs associated with past disasters. It becomes difficult to quantify and budget for disaster risk management as data on past disasters could be used to project potential costs. The NDMF acknowledges that until such time that minimum guidelines are prescribed, and costed, it is going to be difficult to design specific mechanisms detailing how much funds should flow among and within the spheres of Government.

The emphasis towards these funding arrangements is for the spheres of Government to be able to plan and budget effectively and apply the risk reduction principles (mitigation and prevention). The focus of the funding mechanism is mainly on intergovernmental transfers (in the form of conditional grant and own budgets) other than that, there are no other alternative financing mechanism. That can put a severe strain on public finance resources which need to compete with other priorities. In terms of funding arrangement for the intergovernmental transfers, Shah (1994) points out criteria to which funding mechanisms should be evaluated against, which include: *adequacy, equity, autonomy, predictability, incentive, simplicity, responsiveness*. For disaster risk management some of the principles by Shah can be adopted. For instance the principle of adequacy it would mean that for disaster risk management to work effectively especially at municipal level it would need to be fully capacitated and to have access to funding in order to be able to perform its functions. For equity, it would mean funds need to be redistributed equitably among the spheres taking into account of fiscal needs. On predictability, this will apply to the case for disaster management especially on risk reduction principle where funds need to be transparent and be published in the medium term expenditure framework (MTEF). For incentive approach, this would apply for disaster risk management especially in the case of South Africa where these measures are limited. The NDMF rationale for the use of these categories and the funding mechanisms thereof is summarised as follows:

Start up costs: The funding is through conditional grant and it is a once off payment, so that the respective spheres are able to establish the various disaster risk management centres as required by the Disaster Management Act. It is stated that the use of conditional grant will result in some uniformity in response times and lessen cross boundary effects. However, the NDMF acknowledges that it may be inefficient to create a grant to fund the once off cost for this category. The research has shown that the start-up costs were never committed to and that all disaster risk management centres were financed through normal budgeting mechanisms.

Ongoing operations costs: Funding for this category is through operational budget of each department rather than disaster risk management as a standalone programme. Whether or not respective spheres would meet the objective of this category can be judged by dedicated monitoring mechanisms that need to be in place, to determine if the category has been funded and whether it is adequate.

Disaster risk reduction: Funding for this category is mainly for disaster risk assessment and risk reduction. The NDMF emphasises the need for the spheres to include these in their budgets as well as their strategic plans. Therefore it is critical that the spheres of Government make this as part of their routine processes and need to be monitored.

Response, recovery and rehabilitation strategies: The response and recovery fund include activities such as early warning, disaster response and recovery operations, relief measures, recovery and rehabilitation. The NDMF acknowledges that development and implementation of these activities need to form part of the process for the respective spheres and need to be funded from existing budgets of Government. The application of the PFMA which is used as a mechanism to release funds has some challenges such as bureaucratic process to be followed, which increases the lead time between the declaration of a state of disaster and access to the funds. While the NDMF indicates that funds for this category need to be from own budgets, so that when

an event occurs, funds can quickly be made available to support response and recovery efforts. It is only when funds are exhausted that the sphere can request assistance from national. Financial assistance is considered after taking into account disaster risk reduction principles prior to the event as well as after a certain percentage of budgets has been exceeded by the respective sphere. Therefore, what is crucial is the separation of the contingency reserve from policy reserve so that funds can be quickly accessed.

For the relief measures for those affected, funds are budgeted for by the provincial departments for social development of social services, and poverty alleviation also provide relief. In some instances, municipalities also have a mayoral discretionary fund aimed at providing immediate relief. However, the challenge with this fund is a need of some form of co-ordination among the spheres in order to ensure that the funds and resources for relief flows quickly to those affected, and that duplication is minimised. What can be deduced from this analysis is that funding for post disaster recovery has been working well. Meaning that in funding for disaster risk management, South Africa has been reactionary not proactive. Cardenas (2009) argues that after the disaster, people expect a quick answer from government through post disaster subsidies which at times are not efficient, not well targeted, allocated under political pressure with no proper oversight, and result in high administrative costs with low economic returns due to post disaster financing. For rehabilitation and recovery, the onus is on the respective sphere to maintain infrastructure and rehabilitation and the fund can either be through the conditional grant (provincial or municipal infrastructure) or through capital budgets.

Education, training and capacity building programmes: The NDMF states that costs associated with this activity need to be recovered from the Sectoral Education and Training Authorities (SETAs) and costs for research on disaster risk management to be funded through budgets of the disaster risk management centres, the private sector and NGOs. The NDMF acknowledges that the provinces and national spheres have budgets for this but what is lacking is accreditation of appropriate service providers.

Beside the legislative and policy background to disaster risk management funding in South Africa, a number of declared disasters in South Africa exposed the weaknesses in the current funding mechanisms. Especially the role of the National Treasury and that of the Financial and Fiscal Commission becomes important when considering the development of an alternative financing mechanism.

10.1 Role of National Treasury

According to Makinta (2011) before the move to introduce conditional grants for disasters in the latest 2011 Medium Term Expenditure Framework (MTEF), the Government was not putting specific allocations aside to deal with disasters. Instead all expenditure was deferred from the adjustments of estimates. The source of such funding is usually the Contingency Reserve, which is nationally budgeted for. The funding of natural disasters would always flow through a short term in-year grant(s). The amount would be allocated during the adjustment period in October for immediate expenditure or rolled over in case of infrastructure related repairs.

Makinta (2011) notes that in the new MTEF cycle in 2011, Government has implemented semi-permanent and policy driven conditional grants with full frameworks of expenditure. This means these funds are immediately accessible from their budgets, though with conditions. The Treasury has always been weary of a possible exploitation of this window of funding. However, since the period of xenophobic attacks in South Africa (since 2009), the National Treasury has been under a lot of pressure to ensure there is adequate funding available for emergencies.

It is thus clear that the current mechanisms and status quo is not completely adequate, with a number of hinderances. The Financial and Fiscal Commission has since 2002/2003 been

directly involved in seeking a revised model which would address all of the deficiencies in the current system.

10.2 The Financial and Fiscal Commission

The involvement of the Financial and Fiscal Commission (FFC) in disaster risk management started in 2002/2003 when the FFC assessed the financial implications of the then Disaster Management Bill, and identified some of the funding gaps associated with disaster risk management. The FFC found that there are no dedicated funding mechanisms for disaster risk management. In some instances they are severely limited and where they do exist they are in the form of relief funds and/or contingency reserves.

The initial research was later followed by the 2003/2004 annual submission on disaster risk management funding. The FFC proposed that:

- A central funding mechanisms for disaster risk management be introduced;
- Start up costs for emergency preparedness for local government be funded from a national conditional grant;
- Ongoing institutional costs for emergency preparedness be incorporated into the equitable share;
- Funding for prevention/mitigation projects be provided by national government to provinces and municipalities on a matching grant basis; and
- A portion of the contingency reserve be used to fund emergency response activities once provinces and municipalities exceed a specified financial threshold of disaster response expenditure.

From these recommendations it is clear that the emphasis was still greatly on disaster response funding. However, Government did not respond to the FFC's recommendation on *start up costs*, *ongoing institutional costs* and *prevention* and *mitigation* projects. It did, however, note that the current framework does not set predetermined proportions to be contributed by each sphere in the event of a disaster. It furthermore did not indicate whether the FFC's proposal on the thresholds has been accepted. With respect to *central contingency reserves*, the FFC recommended that a more defined legal basis be provided for the contingency reserve. It was proposed that the contingency reserve be allocated for two emergency purposes; namely macroeconomic stability, and response to disasters. Such an arrangement would allow for the quick access of funds when needed. Government agreed with the core of the FFC proposals, but did not see the need to divide the current contingency into a policy reserve and contingency reserve.

The discussion above formed the foundation of the empirical research which was conducted. Cross-sectoral representation was achieved by targeting national organs of state which forms part of the National Disaster Management Advisory Committee. Semi-structured interviews with disaster risk management officials at Provincial and Local Government was also conducted. The section which follows provides a categorised assessment of the empirical findings.

11. EMPIRICAL FINDINGS

All of the data obtained from the semi-structured interviews were analysed with the aim of identifying themes and categories. These are described below.

Two prominent themes were identified: funding for disaster risk management and funding for disaster relief and recovery. It became clear that the current funding model of Government has gravitated towards this unwritten distinction. This distinction also correlated completely with the literature review, international best practices and acceptable funding mechanisms at all levels of Government. The post-disaster focus (i.e. a disaster has occurred therefore funding is needed, as opposed to integrating funding into development initiatives to reduce the risk of disasters from happening) of funding still remains one of the key drivers of funding disaster risk management, mostly due to a lack of understanding or ignorance of what disaster risk management entails. The research identified the following hinderances within the current process especially within disaster recovery and relief.

11.1 Disaster relief funding

Two broad categories exist within the South African legislative environment that addresses issues of disaster relief. These are social relief for individuals and social relief for community (Myburgh, 2005:179). According to Myburgh (2005:180) government provides community relief during community wide disaster situations (such as flooding and fires) that have caused excessive damage to both personal property and livelihood. The funding for community social relief has two main sources namely:

- General Government funds collected through taxation; and
- Fund raising activities in terms of the Fund-Raising Act 107 of 1978.

Of these two funding sources the Fund-Raising Act is crucially important, as the general funds collected through taxation are often inadequate, or some cases non-existent in most national, provincial and local government departments. The reason for this situation is that funds collected through taxation are often used for other budgets items because of the perceived impracticality of budgeting for events that might or might not happen. To serve as additional sources of funding the following funds have been set-up in terms of section 16 of the Fund-Raising Act:

- The Disaster Relief Fund;
- The South African Defense Force Fund;
- The Refugee Relief Fund;
- The State Presidents Fund; and
- The Social Relief Fund (Myburgh, 2005:181).

The Disaster Relief Fund renders assistance to any person that has suffered damages or loss caused by disaster. Importantly, a Board appointed by the Minister manages the fund. It is the responsibility of the Board to ensure that assistance is rendered where deemed necessary (Myburgh, 2005:181). The Disaster Relief Fund is managed by the Department of Social Development (DSD). Although a Board is already in place to manage the fund, a significant problem exist with its current functioning. According to officials from the DSD board members are often not all instantly available when a disaster strikes. As a consequence officials have to wait for an undefined period of time for the Board to meet on the approval of funding relief efforts.

Although the Fund Raising Act serves as a crucial source of funding for disaster relief efforts, agencies that need to respond timely to disasters often find it difficult to access the funds (Van Zyl, 2011a: 40). One of the major problems inhibiting the release of funds relates to the declaration of a state of disaster (see discussion below). According to the Fundraising Act, only once the President of the Republic has declared a disaster can the proses be initiated to release funds for disaster relief efforts (Van Zyl, 2011a: 40). This situation is not ideal because long reporting lines and bureaucratic red tape from local level were a disaster happens, to the Office of the Presidency severely hampers the flow of information and consequently the release of funds for response and relief efforts.

Currently DSD faces several challenges that hamper their ability to distribute funds to affected communities once funds have been released from the Disaster Relief fund. The first problem relates to relevant structures not being in place to streamline the distribution of funds. According to officials from DSD one major structural problem facing the department is the fact that the department currently has no disaster risk management unit as per the requirements of the DMA. As consequence there is no dedicated team of personnel to drive the disaster relief component of DSD's overall function. Another problematic structural issues is that DSD does not have offices a local government level where disaster relief is needed following a disaster impact. Funding therefore takes a long time to reach affected communities.

The differing placement of disaster risk management centers was also found to be a stumbling block to the distribution of funds following disasters. According to officials in many instances the placement of the disaster risk management centers have been found to differ from province to province, or local municipality to local municipality. These differences in location often hampers DSD ability to contact their counterparts from provincial/local DMCs. As a consequence DSD has in the past struggled to effectively coordinate the distribution funds to affected communities.

Human resource issues have also been problematic to DSD's ability to distribute funds to affected communities. Currently DSD is severely understaffed prompting national government level employees to become involved in the operational activities whenever a disaster strikes. Without anybody to play an oversight role, which is the actual mandate of the national department, there is nobody to monitor whether funds is reaching affected communities in as shortest time possible.

A final problem identified by officials relates to the current lack of adequate disbursement systems that can provide access to relevant statistics and reports on persons affected by disasters. Without an adequate statics system in place officials have found it difficult to determine how many people need disaster relief, and how much relief they need, thereby slowing the distribution of relief funds. To speed up the distribution of relief funds it was proposed that DSD should be linked to the information and database systems of both the NDMC and the Department of Cooperative Governance.

11.2 Declaration of states of disasters

The DMA (see sections 23, 26, 27, 41 and 55) and the NDMF (see Key Performance Area 4 - section 4.2) make provision for the classification and declaration of states of disaster at municipal, provincial and national level. Both the DMA and NDMF call for the development of uniform standards for the assessment of a proposed disaster. One of the critiques emanating from this research centres on the guidelines which need to be developed as alluded to by the policy and legislation. The "key performance indicators" linked to section 4.2 of the NDMF all refer to "guidelines and uniform methods"; however, these standards are yet to be developed. It therefore stands to reason that the classification and declaration of a state of disaster (all levels) will remain ambiguous in the light of the above, with an obvious impact on the allocation of funding.

The first time a state of disaster was declared in South Africa under the DMA was in June 2008 due to the xenophobic attacks on foreigners in the Western Cape and Gauteng Provinces (South Africa, 2008a; South Africa, 2008b). For two years this section of the Act was never invoked. Since then a number of states of disasters have been declared, the most significant being the 2010/2011 floods in most parts of South Africa. The declaration of these events tested the functionality and measures associated with such declarations. Most of the respondents indicated that the process and procedures for declaring states of disasters are unclear and cumbersome. In almost all instances the difference between the classification and declaration was unclear (despite the explanations provided in the NDMF). Similarly the roles of the district municipalities vs those of provinces vs those of the NDMC were said to be muddled. This should, however, not be surprising especially considering the lack of clear guidance on this issue. The research found that varied opinions in this regard exist even at the national level of government. The significant emphasis on the role of the NDMC in the classification and declaration of a state of disaster is also questionable. One of the founding aims of the DMA was the decentralisation of disaster risk

management. Yet, in the classification and declaration of a state of disaster it remains the role of the National Disaster Management Centre to do such classifications. Any event remains a local disaster until the NDMC classifies it otherwise. This requirement basically disempowers municipalities from declaring a state of disaster. This situation leads to a lack of taking responsibility and the perception that the NDMC will in any event intervene.

The process of the scaling-up of a disaster due to a “new” classification by the NDMC is furthermore not clear. For example, if the NDMC classifies a local disaster as a provincial disaster after conducting their assessment, it remains the role of the Provincial Premier to declare a provincial state of disaster. Neither the DMA nor the NDMF makes provision for the process associated with such reclassification. Linked to the emphasis of the role of the NDMC in the classification of states of disaster is the question of internal capacities of the NDMC. One respondent remarked that “the NDMC can hardly do its most basic functions [with its current human resource capacities], yet the NDMC [with already limited human resources] is also expected to become involved in very operational issues”.

The last criticism of the process of the declaration of a state of disaster is the duplication in declaration which takes place once other legislation is invoked. The only other Act which makes provision for the declaration of a disaster is the Fund-Raising Act No. 107 of 1978. This legislation is administered by the Department of Social Development and requires the declaration of a disaster (as opposed to the declaration of a state of disaster by the DMA) by the President of South Africa. The aim of the Fund-Raising Act is to address the relief of social distress emanating from a disaster event. On assessment of the two Acts it is clear that contradictions and duplications exist. On the one hand, the DMA aims to decentralise the declaration of a state of disaster and makes provision for such declarations before a hazardous event has turned into a disaster (hence the “state” of disaster). On the other, the Fund-Raising Act can only be used to declare a disaster (thus an event which already exceeds the ability and resources of the affected community to deal with its consequences), and this declaration can only be done by the President (as opposed to the role of provincial Premiers and municipal councils in declaring local and provincial states of disaster). An assessment of the declared (states of) disasters since 2002 confirms this hypotheses. In all instances of disasters the Fund-Raising Act was used to declare the event. Only since 2008 has the DMA been used, but the Fund-Raising Act was also invoked, thus effecting a dual classification. The importance of aligning the DMA and the Fund-Raising Act in terms of this issue is stressed. It is thus evident from the discussion above that very clear guidelines for the assessment, classification and declaration of states of disasters must be developed and disseminated to all spheres of Government. At the end of the day it is these classifications and declarations which puts the wheels of funding in motion. Confusion in the declaration of a state of disaster hinders the allocation of funds and prolongs suffering and the recovery period.

11.3 Disaster assessment verification

Assessments related to response and recovery are currently done at all spheres of Government, i.e:

- firstly, the local Municipality conducts a rapid assessment of the damage and if it exceeds their capacity, the involvement of the relevant provincial government is requested,
- secondly, the provincial government conducts a verification assessment.
- thirdly, the process will then repeat at a national level.

This system often resulted in discrepancies and duplication of assessments. Another problem is the amount of time to do the assessments, whilst funding for recovery and relief are needed urgently.

11.4 Adjustment budget

Funds for disaster recovery and rehabilitation are made available through the present budgetary process, known in the main budget, which started long before any disaster is reported (the exception might be a prolonged drought). The Medium Term Budget Policy Statement (MTBPS) on the other hand are normally made in October/November each year, when funds can be made available for any unforeseen expenditure such as disasters. This poses a serious challenge to areas experiencing disasters in between the two processes (ironically it is the Western Cape Province which is the most hazard prone in South Africa which falls within this category). In some cases it is due to the nature, magnitude and severity of the disaster i.e. droughts, or repair of infrastructure impossible to the funds in a particular financial year and it becomes inevitable that the surplus funds has to be rolled over to the next financial year which also poses it own particular problems.

11.5 Municipal Infrastructure Grant (MIG)

Upon approval, requested funds are made available through the MIG structure. The following conditions are applicable to this funding mechanism which a municipality must comply with:

- submit its financial statements to the Auditor-General on time;
- demonstrate that it has the capacity to manage the infrastructure investment programme;
- prepare and submit all monthly reports on how it has used the grant in a prescribed format by a specified time;
- allocate MIG funds in the municipal budget;
- prepare a project business plan for each project (which conforms with the requirements of the MIG programme); and
- register projects on the national MIG database.

The current system of channelling funds is a source of frustration for municipalities and the relevant Government departments; firstly a business plan has to be compiled and approved at a provincial and national level, before it can be registered as Provincial MIG.

A large number of bottlenecks in the management of the projects registered under MIG structure have been noted and the NDMC need to discuss the matter on an urgent basis with the relevant Authorities to find a solution.

11.6 Integrated Development Plan (IDP)

Section 25 of the Local Government: Municipal Systems Act, 2000 (Act 32 of 2000) requires that each municipal council must adopt a single, inclusive and strategic plan for the development of the municipality which amongst others:

- (a) links, integrates and co-ordinates plans and takes into account proposals for the development of the municipality;
- (b) aligns the resources and capacity of the municipality with the implementation of the plan;
- (c) forms the policy framework and general basis on which annual budgets must be based;
- (d) is compatible with national and provincial development plans and planning requirements binding on the municipality in terms of legislation.

In terms of section 26 of the Local Government: Municipal Systems Act, 2000 (Act 32 of 2000), an integrated development plan must inter alia reflect:

- (a) the municipal council's vision for the long term development of the municipality with special emphasis on the municipality's most critical development and internal transformation needs;

- (b) the council's development priorities and objectives for its elected term, including its local economic development aims and its internal transformation needs;
- (c) the council's development strategies which must be aligned with any national or provincial sectoral plans and planning requirements binding on the municipality in terms of legislation;
- (d) applicable disaster management plans.

Cognisance must, however, be taken of section 164(1) (a) (i) of the Local Government: Municipal Finance Management Act, 2003 (Act 56 of 2003) (MFMA) which reads as follows: "No municipality...may conduct any commercial activities otherwise than in the exercise of the powers and functions assigned to it in terms of the Constitution or national or provincial legislation..."

Performing a function without the composite constitutional mandate accordingly has serious consequences for a municipality as any associated act would be unlawful and unconstitutional. Schedule 4 and 5 of the Constitution lists Disaster Management as a concurrent National and Provincial legislative competence. This function is not given to the local sphere of Government. There are thus some obvious issues around the unconstitutionality of the allocation of the function to local government. Furthermore, would expenses therefore be incurred in relation to disaster management, it would in fact be in violation of the MFMA.

11.7 Environmental impact assessment process

Some rehabilitation projects may require more consulting services (e.g. environmental impact assessments: EIA) than other projects. This reflects both their urgency and the particular acute problems of absorptive capacity as Government has to cope with both the consequences of a disaster and additional disaster related events. EIA processes often take longer than anticipated due to the nature of the projects and the area to be rehabilitated. Section 30 of the Environmental Management Act, 1998 (Act No.107 of 1998), exempt applicants from conducting EIA when rehabilitation is to take place within 14 days after a disaster has occurred. This however is not applicable to applicants who have to wait for funding approval from National Government. Provincial Departments were very outspoken that the present system of obtaining EIA reports is too cumbersome and need to be re-looked.

There should be mechanisms for determining those circumstances under which it would be appropriate to incorporate greater consideration of environmental and social factors into the design and implementation of projects. Most projects relating to rehabilitation have provided a cursory assessment of the environmental impacts of projects, arguing that since the projects rehabilitated destroyed facilities, they therefore have no environmental impact. In reality, however there may have been environmental changes in a particular area since mayor activities were last undertaken. In this instance the reduction of future disaster risk through recovery efforts becomes relevant.

A list of exemptions for the obtaining of EIA reports is one of the aspects the NDMC should discuss with the relevant Department. It seems that disasters like veld fires, drought, hail damage, should typically be exempted from EIA.

11.8 Monitoring and evaluation

Certain problems have been experienced relating to the quality of work undertaken and the more general maintenance of facilities supported under rehabilitation. In some cases such difficulties may have seriously reduced both the expected life of facilities and their capacity to withstand further disasters. Moreover, a number of rehabilitation projects have not included monitoring and evaluation as an essential component in the plan. As a result there has also been misappropriation of funds and much greater attention therefore needs to be paid to these aspects of rehabilitation.

Mechanisms for reducing delays in the processing and administration of requests needs to be developed (the length of time passed between the occurrence of a disaster and funds request and approval is too long and frustrating). Such delays have reflected problems in damage assessment, providing of information on the scale of damage and related requirements, and in timely issues of emergency relief acts. Project review and monitoring arrangements are needed in order to ensure rapid and smooth implementation. Rehabilitation assistance often requires considerable monitoring.

Much greater attention needs to be given to aspects of rehabilitation. In order to ensure improved maintenance, for example various measures could be introduced including the increased allocation of funds for this purpose, increased monitoring, and greater public participation. Mechanisms or strategies for each type of disaster differ, although the basic principles or approach to disaster risk management is the same, each disaster needs a different approach in assessment, response and recovery. These varied approached has different funding requirements.

12. RECOMMENDATIONS

Following the literature study as well as the empirical findings the research makes the following preliminary recommendations:

- A combination of private risk financing arrangements and pool of funding from the government (hybrid pool of resources to fund disaster risk management) as varied approach to different funding is required.
- A healthy process of the diversification of publicly owned assets must be introduced.
- Catastrophic risk models as part of disaster risk assessments are needed to assess the number of people that are likely to be homeless and the number of buildings that will have to be rebuilt. In the case of reconstruction operations, disaster risk modelling techniques can be used to estimate the potential damage to the infrastructure, as well as to any public and private property. This can help the authorities determine the budgetary needs caused by any such potentially catastrophic events.
- Ex ante strategies such as investing in disaster risk reduction methods through proper and integrated development planning, land use planning, buildings standards, and EIAs for sustainable financing is necessary.
- Implement (through proper guidelines) reserve funds, insurance and contingency reserves for disaster relief.
- Development and regulation of domestic insurance markets including the introduction of innovative market based financing of disaster relief and recovery such as sovereign insurance, risk pooling, reinsurance, index-based insurance, weather derivatives, micro-insurance, and catastrophe bonds, should be investigated.
- Specific reserve funds based on either strategic investment or risk based insurance is necessary. This recommendation is in line with the FFC's previous recommendation of two reserves: one for macroeconomic stability and one for the response to disasters.
- Norms and standards must be introduced: minimum guidelines on the funding mechanism in place need to be prescribed and costed as acknowledged by the National Disaster Management Policy Framework.
- Disaster reviews to be conducted on past disasters so that costs inform the planning and budgeting as done internationally.
- Clear guidelines for the assessment, classification and declaration of a state of disaster need to be developed.
- Top-up of disaster risk reduction funding through other funds such as the National Lottery must be considered.
- Fair and quick reimbursement of provincial or local by national once certain disasters falls out of their ambit.

- Disaster risk reduction methods must be integrated in development plans of all sectoral departments as a matter of urgency.
- The placement of the various Disaster Risk Management Centres need urgent attention. The incorrect placement of these centres has a significant impact on the perceived importance of disaster risk management and thus also an influence on adequate funding for disaster risk management.
- The distribution of social relief following a disaster to be cascaded down to become a provincial government level competency.
- To speed up the distribution of relief funds it was proposed that DSD should be linked to the information and database systems of both the NDMC and Department of Cooperative Governance.
- A new budget line item for all sector departments called: “disaster risk management” to be introduced and funded through the equitable share. This item must be management by very strict spending guidelines.
- The NDMC must, as a matter of urgency, develop, publish and distribute any outstanding guidelines as called for by the DMA and NDMF.

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