

**Albert Maipisi, Agoston Restas, Andries Jordaan**

## **A KATASZTRÓFA KOCKÁZAT CSÖKKENTÉS (DRR) EREDMÉNYEI A DÉL-AFRIKAI KÖZTÁRSASÁBAN**

### **Absztrakt**

A Dél-afrikai Köztársaság Afrika déli részén fekvő, hazánk területénél tizennégyszer, lakosainak számát tekintve kb. hatszor nagyobb ország. A kormányzat célul tűzte ki, hogy csökkentse a katasztrófák kockázatát, amelyhez korábban nem alkalmazott katasztrófakezelési módszert használt. Módszer: a szerzők áttekintették a nemzetközi szakirodalom releváns részeit, értelmező vitákat folytattak, valamint tanulmányozták az érintett ország lakossági véleményezéseit. Eredmények: A kutatás eredményeként megállapítható, hogy a Dél-afrikai Köztársaság katasztrófa kockázatának csökkentési lehetőségei eltérnek az európai országokban tapasztaltaktól. Ennek oka az országra jellemző politikai és közigazgatási különbség, ami eltérő katasztrófa kockázati kihívásokat generál. Ennek eredményeként jelentős tanulságokat lehet megfogalmazni.

**Kulcsszavak:** katasztrófa kockázat csökkentés, kockázat kezelés, hatékony kommunikáció, Dél-afrikai Köztársaság

## **RESULTS OF DISASTER RISK REDUCTION (DRR) INITIATIVES IN SOUTH AFRICA**

### **Abstract**

South Africa is a developing country in the southern part of Africa. The country embraced disaster risk reduction (DRR) as its new disaster risk management (DRM) approach although that was being implemented differently in specific countries. Methods: An in-depth and extensive review of relevant literature was carried out. After that, findings were validated through discussions and circulation of results to appropriate authoritative citizens of relevant

countries for comments which were subsequently incorporated to this paper. Results: The study revealed that, South Africa has a different DRR implementation levels that other countries. The approaches were customised to suit specific country's prevailing political and administrative systems that resultantly, their DRR challenges and successes also varied.

**Key words:** disaster risk reduction (DRR) interventions, disaster risk management (DRM) frameworks, fail-safe communication, South Africa

## 1. INTRODUCTION

South Africa was selected for study mainly because of specialities. South Africa legislatively adopted the Hyogo and Sendai framework provisions in their systems. Notwithstanding the noticeable DRR achievements, this country was also facing challenges. In that respect, a discussion of the country' background, DRM frameworks and practices, ensue. If we want to make researches in that country, we have to know about the background. The Table 1 shows the most important information in connection with South Africa. We can check the total population, the disaster incidences and the associated data.

Table 1: Disaster data summary for South Africa: Source: authors

<b>Type of disasters</b>	<b>South Africa</b>
Total country population as of 2014	52 981 991
Floods	37.9%
Droughts	Insignificant
Landslides	Insignificant
Storms	33.3%
Wildlife induced disasters	13.6%
Extreme temperatures	Insignificant
Earthquakes	6.1%
Other disasters	9.1%
Floods	55.9%
Storms	17.9%
Earthquakes	Insignificant
Wildlife induced	13.6%
Floods	30.4%
Storms	20.8%
Droughts	33.4%
Wildlife induced	14.7%
Earthquakes	Insignificant

## **2. DISASTER RISK MANAGEMENT (DRM) IN SOUTH AFRICA**

South Africa has already made giant steps in implementing DRR in its legal and other institutional frameworks. Reflecting a higher level embrace of the DRR concept including climate change related issues. [1] The country enacted the Disaster Management Act (No. 57 of 2002) and then developed the National Disaster Management Framework (NDMF) of 2005 to guide the implementation process. In the same respects, South Africa Disaster Management Act was further amended in 2015. It is important to note that the Act and framework possessed characteristics of the nation's constitutional and political systems belief. South Africa adopted an interdependent and interrelated DRR governance structure in

central government, metropolitan provinces, districts and local municipalities. [2] And, it was advantageous that the country's government system further spanned to the grassroots levels. There also existed the Intergovernmental Relations Framework Act Evolution and Practice (No. 13 of 2005) that was meant to reduce role duplication in government, coordinate government efforts, save government costs and reduce responsibility disputes between government departments since DRR can be a whole-of-government business.

### **3. DRR INSTITUTIONS, ADMINISTRATIVE STRUCTURES, DELIBERATIVE PLATFORMS AND FUNDING**

The National Disaster Management Centre (NDMC) which was established to coordinate DRM activities in South Africa was being led by the director general and it was located in the department of cooperative governance. It can impress to note that the director general's position was hierarchically reporting directly to the responsible minister of government (Long Term Adaptation Scenarios). [3] [4] The department also had powers to monitor related stakeholders to ensure they complied with the national DRR laws.

Further, the department was legally empowered to initiate and facilitate access to DRR funding, facilitate stakeholder interaction, information sharing and learning; nationally, regionally and internationally. In that view, South Africa through the Act, undertook to assist fellow Southern Africa region states whenever need for disaster related support was found necessary. The major challenges in South Africa's DRR endeavour were lack of well-articulated DRR roles and responsibilities among personnel in some local municipalities as well as general non-appointment (inaction) or appointment of junior officers to be the DRR focal persons for government departments and for participation in deliberative forums. As a result, certain decisions were being delayed in instances where junior officers in those forums needed to consult with their seniors before arriving at a decision. That wasted time unnecessarily, delayed other subsequent processes and negatively affected the need for quick adaptation to changing community needs and circumstances. Further, some fire departments in municipalities were getting more burdened and involved in disasters outside area of speciality mainly because such institutions had not transformed towards DRM activities

beyond traditional fire management. Though the Act required all tiers of government to increase their DRR capacities through training, education, research and overall disaster classification and zonation throughout the country. [3]

#### **4. EARLY WARNING SYSTEMS, INFORMATION DISSEMINATION AND MANAGEMENT**

Early warning systems (EWSs) development was also enshrined in the South Africa DRM Act and framework. The South Africa Weather Services (SAWSs) was capacitated with efficient and effective hazard monitoring and forecasting infrastructure as required by the Weather Services Act of 2001. SAWSs has been producing weather data for export to other African states and the institution was a certified member of the World Meteorological Organisation (WMO). Which is meant, it met international standards due to the country's investment in it. More-so, the SAWSs had 24 regional weather offices, 166 automatic weather stations, 169 automatic rainfall stations, 1214 manual rainfall stations, 122 climate stations and 1512 rainfall stations [3;33] In ending, following South Africa's commitment to regional development that spans to DRR issues as noted above, the country was host to the Southern Africa Development Community (SADC) region meteorological training school.

In addition, the National Forecasting Centre (NFC) in Pretoria had been cooperating with the NDMC and the Department of Water Affairs and Forestry Flood Forecasting Services (FFSs), to guide the nation on potential hazards and severe impending hazards. So that early warning could be issued-out to citizens at least seven days before the hazard event manifests. Hence, the specifically responsible department led in administering EWSs under their jurisdiction in collaboration with the NFC. The Department of Water Affairs and Forestry was in charge of riverine disasters while that of Agriculture mainly focussed on the drought hazard. In-spite of similarities like between Zimbabwe and South Africa, the latter had managed to integrate DRR into most of its government departments in addition to having better DRM infrastructure and systems when compared to the former.[4] The SAWSs had in its possession a research unit that was dedicated to ensuring continuous development of EWSs in the country [3] It is also important to further note that SAWS was disseminating

early warning information to all levels of its society. Through print and electronic media, cell-phone technologies and many other modern technology related platforms. Though in practice, some communities were unable disaggregate received data for local use [3]

The Act provided that the government DRR database management system had to be quality certified while education, training, research and other resource needs were to be identified and addressed too [4] A stance that is significant because it ensures effective public service delivery expected from any government organisation by stakeholders (Mbeki, 2003). However, a research conducted by LTAS [3] revealed that DRM in South Africa had been lacking human resources. That in 2011, 72% and 50% of its local and district municipalities had no basic volunteer unit and, general lack of consistent communication between NDMC, PDMCs and MDMCs was noted. Also, the proposed DRR data base management and communication system, were broadly not existing in many government departments observed.

South Africa's DRM framework enshrined that a DRR Day had to be celebrated every first Wednesday of October every year [4] and that is an important tool for marketing DRR. The NDMC had been meeting its obligations also through maintenance of a functional and up-to-date website containing relevant DRR information. [5] Another output that reflected NDMC's effectiveness in addition to the recent amendment to the main Act noted before. That shows that the results of DRR monitoring and evaluation were being harnessed for further institutional learning and development. The amendment co-opted the South African Defence and Police Services in DRM. Though Beck (2006:338) registered reservations on that. Noting that generally science, the state and military, were increasingly becoming part of the problems they would normally purport to solve. Without spending time on that issue, it was further stated that in South Africa, an understanding of DRR principles at both local and national level was low as reflected by key departments without DRM structures. Conversely, in instances where structures existed, they had limited functions. [3] In that regard, it can be concluded that in South Africa, DRR was more visible at central government level and fewer local government institutions that, more DRR knowledge should be disseminated to lower tiers of the broader South African society.

## **5. RESULTS: DRR IMPLEMENTATION CHALLENGES IN SOUTH AFRICA**

DRR implementation challenges noted in South Africa were many despite presence of key legislation and administrative structures. For example since 2005, significant DRR funding was disproportionately targeting post-disaster initiatives while specific DRR funding in most local government institutions generally lacked. Where the fund existed, it was mostly reserved for relief and recovery. In addition, resources located in the NDMC generally remained uneasily accessible by lower level government institutions. Due to stringent minimum requirements to be fulfilled before the fund could be released. Also, there was lack of knowledge in some local governments, about those minimum requirements while the ability to meet those requirements generally lacked and therefore, there was not hope for ever receiving the funds in some instances. The other problem was in the formulation of national DRR policies and programmes. Consultancies were contracted for the tasks and surely, absolutely best theoretical documents were being developed but they were proving difficult to implement at local levels since most of their views were rarely considered during policy and programmes formulation phases. [3] Therefore, since DRR is a cross-cutting and whole of community endeavour, the same approach should be employed when developing relevant national development policies and plans. [6] On the other hand, the role of the Intergovernmental Relations Framework Act stated above was constrained because its powers were subordinate other Acts of Parliament except by-laws. [7] So, South Africa should make the Intergovernmental Relations Framework Act Evolution and Practice more binding to ensure stronger DRR coordination within and between departments. The challenges which prevailed in South Africa validates the claim by Raubenheimer that many countries were interested in DRR but some were backing-down on implementing provisions which had to promote full realisation of the concept locally.

## 6. REFERENCES

- [1] RSA (2015). Disaster Management Amendment Act No. 16 of 2015. Department of Provincial and Local Government. Cape Town.
- [2] Humby, T. (2011). Analysis of legislation related to disaster risk reduction in South Africa. IFRC. Geneva (<http://drr-law.org/resources/South-Africa-Case-Study.pdf>) downloaded on 12 November 2015.
- [3] LTAS (2014) Climate information and early warning systems for supporting the disaster risk reduction and management sector in South Africa under future climates: Report No. 2 of the Scenarios Flagship Research Programme (LTAS). South Africa Department of Environmental Affairs. ([https://www.environment.gov.za/sites/default/files/reports/ltasphase2\\_climateinformation\\_earlwarning.pdf](https://www.environment.gov.za/sites/default/files/reports/ltasphase2_climateinformation_earlwarning.pdf)) downloaded on 12 November 2015.
- [4] RSA (2009). National Disaster Management Framework of 2005: A policy framework for disaster risk management in South Africa. LexisNexis. Durban.
- [5] NDMC (2015). *International Decade for Disaster Reduction 2015 invitation to the Minister of Corporate Governance Traditional Affairs* (<http://www.ndmc.gov.za/LinkClick.aspx?fileticket=l6qPfU61irs%3d&tabid=39&mid=611>) viewed on 12 November 2015.
- [6] Picard, M. (2014). IFRC and UNDP - Effective law and regulation for disaster risk reduction: a multi country report. UNDP. New York.
- [7] RSA (2005). Intergovernmental Relations Framework Act Evolution and Practice Act No. 13 of 2005. Department of Provincial and Local Government. Pretoria.

### **Albert Maipisi**

PhD student, Disaster Management Training and Education Centre for Africa  
Faculty of Natural and Agricultural Sciences University of the Free State, South Africa  
Thanks for ERASMUS program studied at Institute of Disaster Management, National  
University of Public Service, Budapest, Hungary

[albamaipisi@gmail.com](mailto:albamaipisi@gmail.com)

Orcid: 0000-0003-3827-2434



**Andries Jordaan**

Director, Disaster Management Training and Education Centre for Africa

Faculty of Natural and Agricultural Sciences University of the Free State, South Africa

[jordaana@ufs.ac.za](mailto:jordaana@ufs.ac.za)

Orcid: 0000-0002-5169-7851

**Agoston Restas**

Head of Department, Department of Fire Protection and Rescue Control, Institute of Disaster

Management, National University of Public Service, Budapest, Hungary,

[restas.agoston@uni-nke.hu](mailto:restas.agoston@uni-nke.hu)

ORCID: 0000-0003-4886-0117

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Lektorálta: Dr. Pántya Péter, Nemzeti Közszolgálati Egyetem Katasztrófavédelmi Intézet