ASSESSING DISASTER RISKS IN ALEXANDRA TOWNSHIP: TOWARDS A DISASTER RISK INVENTORY.

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A research report submitted to the Faculty of Science: University of the Witwatersrand in partial fulfilment of the requirements for the Degree of Master of Science in the School of Geography, Archaeology and Environmental Studies.

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DECLARATION

I declare that this research report is my own work. It is being submitted for the Degree of Master of Science by course work in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in any other University.

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ABSTRACT

South Africa faces increasing levels of disaster risk. The country and citizens are exposed to a wide range of weather hazards, including drought, cyclones and severe storms that can trigger widespread hardship and devastation. The country's extensive coastline and proximity to shipping routes present further numerous marine and coastal threats.

Despite ongoing progress to extend essential services to poor urban and rural communities, large numbers of people live in conditions of chronic disaster vulnerability. They are located-in underserved, ecologically fragile or marginal areas, where they face recurrent natural and other threats that range from drought to repeated informal settlement fires. Several literature on Disaster Risk Management identifies a number of risk factors that people can be exposed to. These include:

- Proximity/exposure: people who occupy or, for their livelihoods depend on areas of high hazard's risk,
- Capacities and resources: people who have limited means and capacity to mobilise them in order to increase their defences against hazard and
- Disadvantaged or marginalized people: people who are vulnerable due to gender, race, ethnicity and class.

The assessment and evaluation of risk to a range of hazards therefore becomes a necessity as it provides a sound basis for planning and for allocation of financial and other resources, as well as designing interventions and future mitigation activities.

Valid and systematic information on disasters and their impacts has, however, not been widely available within local development programmes. More often, information pertaining to disaster risks is not available, and where it is, it is in fragmentary bits usually derived from different sources and stored in different formats. These data shortcomings have been to the obvious detriment of effective relief and mitigation, both at international, national and local municipal levels. Alexandra Township, located to the north of Johannesburg is facing a problem of a usable and comprehensive disaster data inventory.

In this research report, an initial disaster inventory for Alexandra Township has been undertaken. Available data on disasters that have occurred in Alexandra Township for over the decade (1991-Aug 2005) are collected. These data are drawn from various sources including newspaper clippings, community- based records, data from the Red Cross, data from the City of Johannesburg Metropolitan Municipality and others. The beginning of such an information gathering system is a basic requirement for a coherent disaster programme.

While in no way as rigorous as the data capturing methods and systems as those adopted in LA RED, South America or in MANDISA (University of Cape Town), where the disaster capturing data systems are more advanced, this report begins to illustrate some of the preliminary results that can be used to begin to develop an effective data management system for Alexandra Township. Such data also should be able to determine the detection of trends, that can begin to inform a more systematic and rigorous identification of complex disaster risks in urban settings. Some of these preliminary trends are profiled in this report.

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GLOSSARY OF TERMS

Hazard	A rare, extreme, natural or human-made event that threatens to adversely affect human life, property or activity to the extent of causing a disaster.
Natural Hazard	A natural phenomenon which occurs in proximity and poses a threat to people, structures or economic assets and may cause a disaster.
Risk	The expected losses (lives lost, persons injured, damage to property and disruption of economic activity or livelihood) caused by a particular phenomenon.
Risk Assessment	A process of determining the nature and the scale of losses and damage due to disaster which can be anticipated in particular areas during a specific time period.
Vulnerability	The extent to which an individual, community, sub-group, structure, service or geographic area is likely to be damaged or disrupted by the impact of a particular hazard.
Vulnerability Assessment	The process of estimating the vulnerability of specific elements at risk to potential disaster.
Disaster	A serious disruption of the functioning of the society, causing widespread human, material or environmental losses which exceed the ability of the affected society to cope when relying only on its own resources.
Disaster Management	A collective term encompassing all aspects of planning for and responding to disasters, including both pre-and post-disaster activities.
Disaster Mitigation	A collective term used to refer to measures which can be taken to minimize the destructive effects of the hazards and thus lessen the magnitude of a disaster.
Preparedness	Measures to ensure the readiness and ability of society to forecast and take precautionary measures in advance of an imminent threat, and to respond and cope with the effects of a disaster.

(*Adapted from*: von Kotze and Holloway, 1996)

ACRONYMS

AIDS	Acquired Immuno Deficiency Syndrome
ADRC	Asian Disaster Reduction Centre
ASD	Asian Tsunami Disaster
COJ	City of Johannesburg
COJDMC	City of Johannesburg Disaster Management Centre
DIMP	Disaster Mitigation for Sustainable Livelihoods Programme
DMA	Disaster Management Act
DMC	Disaster Management Centre
DPLG	Department of Provincial and Local Government
EMA	Emergency Management Agency
ESS	Emergency Services System
FFL	Friends For Life
HIV	Human Immunodeficiency Virus
ICDM	Intergovernmental Committee on Disaster Management
IDNDR	International Decade for Natural Disaster Reduction
IFRC	International Federation of Red Crescent and Red Cross Societies
IPCC	Intergovernmental Panel on Climate Change
IUPHC	Institute for Primary Health Care
MANDISA	Monitoring and mapping of disaster information in South Africa
NDMC	National Disaster Management Centre
PDMC	Provincial Disaster Management Centre
MDMC	Municipal Disaster Management Centre
NDMF	National Disaster Management Framework
PLWA	People living with AIDS
SAHRC	South African Human Rights Commission
SAWS	South African Weather Services
STD	Sexually Transmitted Disease
UCT	University of Cape Town
VCT	Voluntary Counselling and Testing