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An evaluation of the disaster management function of municipalities in the Gauteng Province as at February 2008

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CHAPTER ONE: INTRODUCTION, LITERATURE REVIEW, AIMS AND OBJECTIVES

1.0 INTRODUCTION

This chapter provides an orientation to and background information about the study.

1.1 DISASTERS AS A GLOBAL PROBLEM

The term Disaster as defined by the Disaster Management Act, 2002 (No. 57 of 2002) refers to a sudden or progressive, widespread or localized, natural or human-caused occurrence which causes or threatens to cause death, injury or disease, damage to property, infrastructure or the environment or disruption of the life of the community; and is of a magnitude that exceeds the ability of those affected by the disaster to cope with its effects using only their own resources (1).

The Centre for Research on the Epidemiology of Disasters (CRED), a World Health Organization (WHO) Collaborating Centre defines a Disaster as a "Situation or event, which overwhelms local capacity, necessitating requests to national or international level for external assistance; an unforeseen and often sudden event that causes great damage, destruction and human suffering" (2).

The CRED distinguishes two generic categories for disasters; natural and technological. These are subdivided into 15 main categories, each covering more than 50 subcategories (3). For reporting purposes, natural disasters are split into two groups:

- Hydro meteorological disasters: avalanches/landslides, droughts/famines, extreme temperatures, floods, forest/scrub fires, windstorms and other disasters such as insect infestations and wave surges.
- Geophysical disasters: earthquakes, tsunamis and volcanic eruptions.

Technological disasters comprise three groups:

- Industrial accidents: chemical spills, collapses of industrial infrastructure, explosions, fires, gas leaks, poisoning and radiation.
- Transport accidents: by air, road, rail or water means of transport.
- Miscellaneous accidents: collapses of domestic/non-industrial structures, fires and explosions.

According to a WHO report it is estimated that some 75% of the world's population live in areas affected at least once by earthquake, tropical cyclone, flood or drought between 1980 and 2000 (4).
The same report indicates that up to 184 deaths per day are recorded in different parts of the world as a result of disasters triggered by natural hazards.

The report also observes that while only 11% of the people exposed to natural hazards live in countries classified as low human development, they account for more than 53% of recorded deaths.

The “2007 Disasters in numbers” summary report by the International Strategy for Disaster Reduction (UN/ISDR) (5), gives an indication of the scale of disasters world wide in Fig 1.1 below.

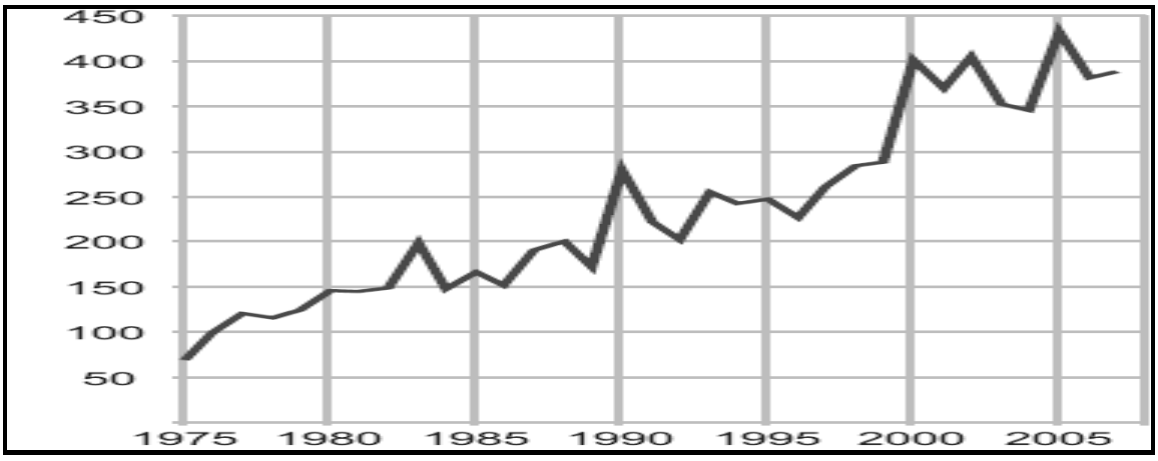


FIG 1.1 TREND OF REPORTED NATURAL DISASTERS; 1975-2007.

The same report shows the impact on human lives by disasters for the period 2007 as well as for the period 2000-2006 in Fig 1.2 below.

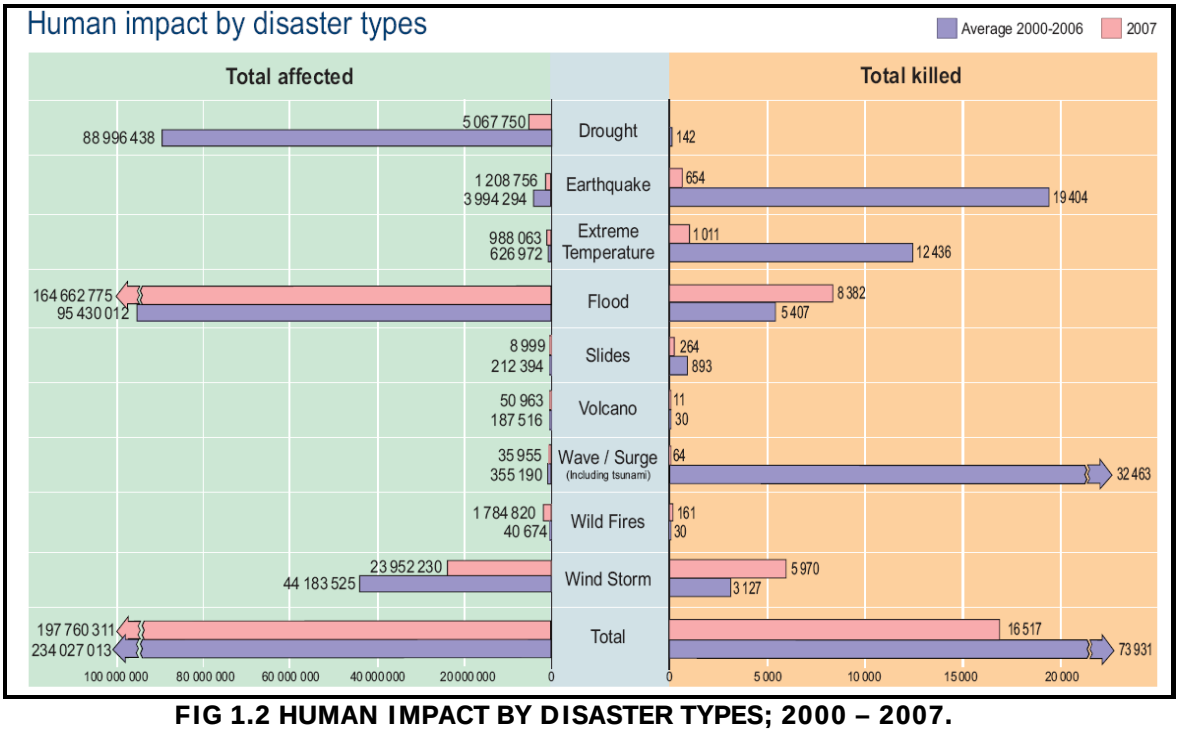


FIG 1.2 HUMAN IMPACT BY DISASTER TYPES; 2000 – 2007.

The same report also shows that the populations affected by disasters are skewed by geographical distribution with the highest number of deaths recorded in Asia at 75% of all deaths in the world. Fig 1.3 below compares the percentage of deaths for the year 2007 and the period 2000-2006.

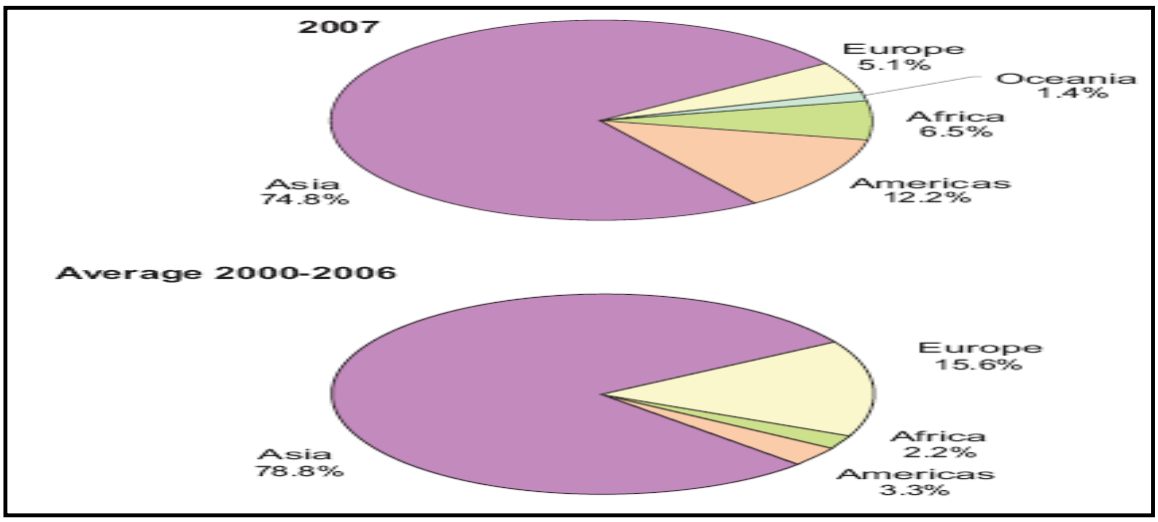


FIG 1.3 GEOGRAPHICAL DISTRIBUTION OF DEATHS 2000-2007

The same report also gives an indication of the scale of economic loss that is associated with disasters. Fig 1.4 shows the time line for 1975-2007 for the entire world.

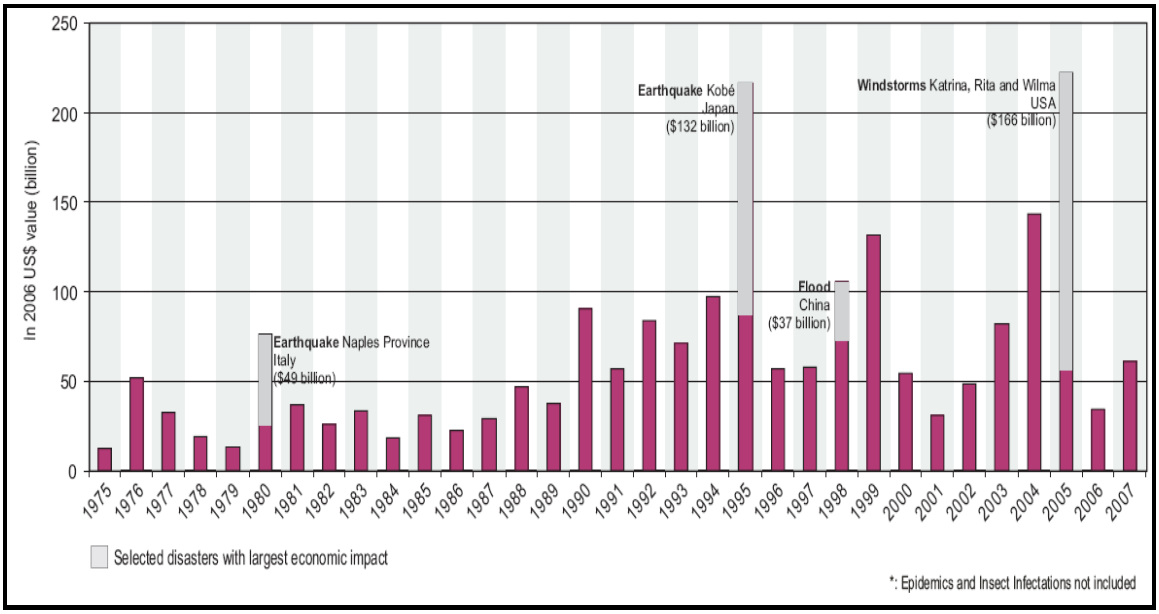


FIG 1.4 ANNUAL REPORTED ECONOMIC DAMAGES FROM NATURAL DISASTERS

In the comprehensive Annual Disaster Statistical Review 2006, the CRED (3) makes the following findings as part of its global overview;

- That for the period 1987-2006, two trends can be observed. From 1987-1997, the number of natural disasters varied between 200-250 per year whereas between 2000-2006, there was an almost two fold increase. The report attributes such a magnitude of increment partly due to increased reporting of disasters particularly by press organizations and specialized agencies.

- That for the period 1987-2006, the number of victims of natural disasters (both affected and deaths) ranged between 100,000 – 300,000 persons in almost all years. The highest figures are attributed to hydro meteorological disasters. In 1987, one drought affected 300 million people in India while in 1998 one flood affected 200 million people in China.

- That for the period 1987-2006, two major disasters stood out in variance from the trend of the economic damages due to natural disasters: the earthquake of Kobe in 1995 and Hurricane Katrina in 2005, both of which cost in excess of US $ 200,000 million compared to the trend for that duration which stands at under US $ 75,000 million.

1.2 DISASTERS AS A SOUTH AFRICAN PROBLEM

According to the South African National Disaster Management Centre (NDMC), "Most of South Africa lies within a region of southern Africa that has a semi-arid to arid climate; the region is subject to climactic extremes, including droughts, floods and forest fires. The majority of South Africa's population is living in fragile and vulnerable conditions as a result of high levels of poverty, low standards of living, high levels of unemployment, lack of access to resources, unequal patterns of asset ownership and distribution, environmental degradation and slow growth. This increases their vulnerability to disasters" (6).

The NMDC further observes in another publication that "Disasters in South Africa have been dominated by localized incidents, such as veld fires, seasonal flooding and accidents in the mining industry. At the national level severe drought has affected macro-economic growth, as well as the livelihoods of especially the poorer sections of the populations living in rural areas. It is difficult however to exactly measure the human, economic and environmental costs caused by disasters" (7). The same report gives some examples of costly disasters in the history of South Africa in table 1.1 below;

TABLE 1.1 ECONOMIC COST OF SOME DISASTERS – SOUTH AFRICA

Place	Disaster	Cost
Ladysmith	Floods, 1994	• R50 million damages • 400 families evacuated
Merriespruit	Slimes dam, 1994	• 17 lives lost • R45 million damages
Pietermaritzburg	Floods, 1995	• 173 lives lost • Emergency shelter needed for 5 500
Ladysmith	Floods, 1996	• Damages to infrastructure: R25 million
South Africa	Drought, 1991-92	• 49 000 agricultural jobs lost • 20 000 non-agricultural jobs lost • Associated with 27% decline in agricultural gross domestic product
Limpopo Province	Floods, 1996	• R105 million damages
Mpumalanga	Floods, 1996	• R500 million damages

The same report further observes that the risk of future disaster occurrences is likely to increase due to several factors related to development. The main example given is that of population growth increasing the pressure for residential, agricultural, commercial and industrial development. This in turn leads to the occupation of marginal or “at risk” areas such as arid zones and flood plains.

In addition South Africa’s extensive coastline and proximity to shipping routes present numerous marine and coastal threats. The shared borders with six Southern African neighbours present both natural and human-induced cross-boundary risks as well as humanitarian assistance obligations in times of emergency (8).

Severe floods in Cape Town's historically disadvantaged Cape Flats in June 1994 underscored the urgency for legislative reform in the field of Disaster risk management and set off a consultative process that resulted in Green and White Papers on Disaster management. Further consultation and reform resulted in the promulgation of the Disaster Management Act, 2002 (Act No. 57 of 2002) on 15 January 2003 (8).

The Act is intended to provide for among other things; an integrated and coordinated policy that focuses on preventing or reducing the risks of disasters, mitigating the severity of disasters, emergency preparedness, rapid and effective response to disasters and post-disaster recovery; the establishment of national, provincial and municipal disaster management centers (8).

The Act specifies the National Disaster Management Framework as the legal instrument to provide for consistency across multiple interest groups by establishing a "coherent, transparent and inclusive policy on disaster management appropriate for the Republic as a whole". The framework also informs the subsequent development of provincial and municipal disaster management frameworks and plans, which are required to guide action in all spheres of government (8).

1.3 THE ROLE OF LOCAL GOVERNMENT IN DISASTER MANAGEMENT

The Disaster Management Act states that each metropolitan and each district municipality must establish and implement a framework for disaster management in the municipality aimed at ensuring an integrated and uniform approach to disaster management in its area (9). The Act further requires the same municipal areas to establish municipal Disaster Management Centers and prepare disaster management plans (10). In section 54 (1), the Act then explicitly states that "Irrespective of whether a local state of disaster has been declared, the council of a metropolitan municipality is primarily responsible for the co-ordination and management of local disasters that occur in its area". The same requirement is similarly applied to the council of a district municipality (11). It is quite clear then that in the South African context, local government is at the forefront of dealing with disasters. Municipal politicians and officials are usually the first people to deal with disasters and if the disaster is not too large, the municipality is often the only government body involved (12). In practice this is further borne out by the fact that all nine Provincial Disaster Management Centers in South Africa are located within and report to each of the nine provincial departments of Local government (13).

The principle of locating disaster management primarily within the local government sphere follows International best-practice and lessons learnt. A World Health Organization (WHO) panel discussion in 2006 put forward the position that Emergency response plans are best developed at the local and community level although there is still a need for national policies, guidelines and standards (14). In January 2005, 168 governments adopted a 10-year plan of action at a World conference for Disaster risk reduction at Hyogo, Kobe in Japan. The "Hyogo framework" emphasizes that disaster risk reduction is a national and local priority. It observes that disaster risk reduction should be part of every-day decision making and that community participation is key in order to meet local needs (15).

1.4 SIGNIFICANCE OF THE STUDY

Huge strides have been made in the arena of legislation and policy making regarding Disaster management in South Africa as evidenced by the progressive development of the Green Paper (1998), White Paper (1999), culminating in the promulgation of the Disaster Management Act, 2002 (No 57 of 2002) on 15 January 2003. The Act allowed the responsible minister to provide for phased implementation of the Act by the different organs of state. The phasing in period may not exceed two years after the commencement of the Act. Key achievements since the promulgation of the Act include; the development of a National Disaster Management Framework (for implementation of the Act) in 2005; the appointment of a Head of the National Disaster Management Centre in May 2006; establishing a fully functional National Disaster Management Centre in May 2006 and the establishment of 8 out of 9 functional Provincial Disaster Management Centres by the end of the 2007 financial year (13).

There is therefore clear evidence of progress in implementing the Act within the national and provincial spheres of government. There is much less clear evidence of progress made within the local government sphere. With reference to Gauteng province, the NDMC Inaugural report of 2006/7 states that all 3 metropolitan municipalities and all 3 district municipalities in the province have completed their disaster management plans and that these have been incorporated into the integrated development plans of their respective areas (13). There isn't any consolidated information regarding the functionality of Disaster Management Centres in these municipalities or the capacity in these municipalities to implement the requirements of the Act. The NDMC has instituted a Project Portfolio Office (PPO) scorecard to track implementation of the Act. It has also developed a Self evaluation tool for all the 3 spheres of government. This tool is a comprehensive assessment of the elements of the National Disaster Management Framework which are grouped into 4 Key Performance areas (KPAs) and 3 Enablers.

The KPAs are; Institutional arrangements, Disaster risk assessment, Disaster risk reduction and Disaster response and recovery. The Enablers are; Information management and communication, Education and training and lastly funding mechanisms (16).

There is no data in the public domain that quantifies progress made by municipalities either in terms of the PPO or the 4 KPAs and 3 Enablers evaluation tool. This means that there is a gap in knowledge regarding the preparedness of the local government sphere as required by the Disaster management Act. Given that the primary responsibility to deal with disasters lies with local government, there is a need to quantify what local government has been able to achieve and what remains to be achieved. This knowledge it is hoped would inform planning processes, setting of priorities and highlight funding imperatives. The study deals with the local government sphere in Gauteng province.

1.5 STUDY AIM

To evaluate the disaster management function of municipalities in Gauteng province as at February 2008.

1.6 OBJECTIVES OF THE STUDY

1.6.1 To determine the availability of a disaster management plan for each identified municipality in Gauteng province as at February 2008.

1.6.2 To determine the degree of compliance of each municipality's disaster management plan with the standard set out in the Disaster management Act.

1.6.3 To determine the disaster management capacity of each municipality in Gauteng province as at February 2008.

1.7 CONCLUSION

In this chapter the background to this research study has been described. The study purpose, objectives and the significance of the study have been discussed. The following chapter describes the research methodology used in this study.

CHAPTER TWO: RESEARCH METHODOLOGY

2.0 INTRODUCTION

This chapter describes the research methodology used to evaluate the disaster management function of municipalities in Gauteng province as at February 2008. The selection of the study population, the procedures used for data collection and data analysis are outlined. The data collection tool used, the reliability and validity of data are discussed. Finally, the measures taken to comply with ethical standards of treating study participants are discussed in this chapter.

2.1 RESEARCH DESIGN

In order to evaluate the disaster management function of municipalities in Gauteng province and to achieve the objectives of the study, a cross-sectional descriptive survey was conducted.

2.2 STUDY POPULATION

The study was conducted in the Gauteng province which is comprised of three metropolitan municipalities, three district municipalities and nine local municipalities. The Disaster management Act requires that each metropolitan and each district municipality develops a disaster management plan. The local municipalities do not develop separate disaster management plans but form part of their respective District municipality disaster management plan (10). The study therefore evaluated all the eligible metropolitan and district municipalities in Gauteng province namely; The City of Johannesburg metropolitan municipality, The City of Tshwane metropolitan municipality, Ekurhuleni metropolitan municipality, Metsweding district municipality (incorporating the local municipalities of Kungwini and Nokeng tsa taemane), Sedibeng district municipality (incorporating the local municipalities of Emfuleni, Midvaal and Lesedi) and Westrand district municipality (incorporating the local municipalities of Mogale city, Randfontein, Westonaria and Merafong city) (17). The study therefore did not utilize any sampling but evaluated all the six municipalities in Gauteng province that are required by the Act to develop and maintain disaster management plans.

2.3 DATA COLLECTION

2.3.1 Data collection methods

Structured Key informant interviews with delegated Disaster managers for each municipality were used for data collection.
At least two weeks before each interview a structured questionnaire (appendix A) and the research protocol was given to the Disaster managers to enable them to prepare the necessary evidence for the interview. The interview was immediately followed by a site inspection of the Disaster Management Centre and the available physical infrastructure was assessed using a Check list (appendix B). The questionnaire was uniformly administered by the researcher to the participating Disaster managers. Questionnaires were administered in English. Data collection took place between the 13 February 2008 and 20 March 2008 (appendix C). All six municipalities opted to be part of the study.

2.3.2 Data collection tools

The questionnaire (appendix A) was descriptive and structured with close ended questions. The questionnaire was divided into three parts: (a) availability of a disaster management plan, (b) compliance of the plan with the disaster management Act criteria, (c) available disaster management capacity in the municipality. All the criteria in the questionnaire were directly quoted without modification from section 53 (2) of the Disaster management Act – which stipulates the required elements of a disaster management plan for municipal areas.

The Check list (appendix B) is a scaled down modification (basic requirements) of the proposed infrastructure requirements for a Disaster Management Centre, developed by P Reid for the Ekurhuleni metropolitan municipality (18).

2.4 DATA ANALYSIS

Data was entered onto a Microsoft Excel spreadsheet by the researcher and a second person asked to cross check that it had been entered correctly. The spread sheet was formatted to generate statistical analyses that were descriptive in nature using proportions and means. The results are reported in tables or displayed in graphs.

2.5 RELIABILITY AND VALIDITY

Administration of a standardized questionnaire by the same researcher limited potential observer bias. The questions in the questionnaire were lifted directly from section 53 (2) of the Disaster management Act which stipulates the requirements of a disaster management plan (10). At the time of distributing the questionnaire, a definition of the acceptable level of evidence for each criterion to be regarded as fully compliant was supplied to the Disaster managers (under the comments column).
The researcher had two meetings with each municipality; the first for distributing the questionnaire and explaining the required level of evidence for each criterion and the second for conducting the actual assessment.

2.6 ETHICAL CONSIDERATIONS

The research protocol was presented to the Faculty of Health Sciences Postgraduate Committee of the School of Public Health of the University of the Witwatersrand. Approval was granted by this Committee as per Appendix D. The Human Research Ethics Committee of the University of the Witwatersrand issued a Clearance certificate as per Appendix E. The six municipal managers granted permission to conduct the research at each site as per appendices F – K.

Using a participant information sheet (Appendix L), the designated managers for each site were informed of the study, how much time it would take, what tools would be used and assured of their confidentiality. Participants were informed that even after consenting; they were free to withdraw from the study without any repercussions or incurring any penalties. Written consent was obtained from every participating Disaster manager (Appendix M).

2.7 CONCLUSION

In this chapter, the research study design, study population, data collection and data analysis methods were described. The ethical considerations and measures to ensure validity and reliability of the study results have also been discussed. In the next chapter the results of the study will be presented.

CHAPTER THREE: RESULTS OF THE STUDY

3.0 INTRODUCTION

This chapter presents the results of the research study.

3.1 PROFILE OF THE STUDY POPULATION

Gauteng province is made up of the following municipalities; the three metropolitan municipalities of Ekurhuleni, City of Tshwane (Pretoria) and City of Johannesburg and the three district municipalities of Metsweding, Sedibeng and Westrand (17). Fig 3.1 below shows the geographical layout of the municipalities in Gauteng province as well as a breakdown of some key demographic indicators for each municipality according to the national department of Local government (19).

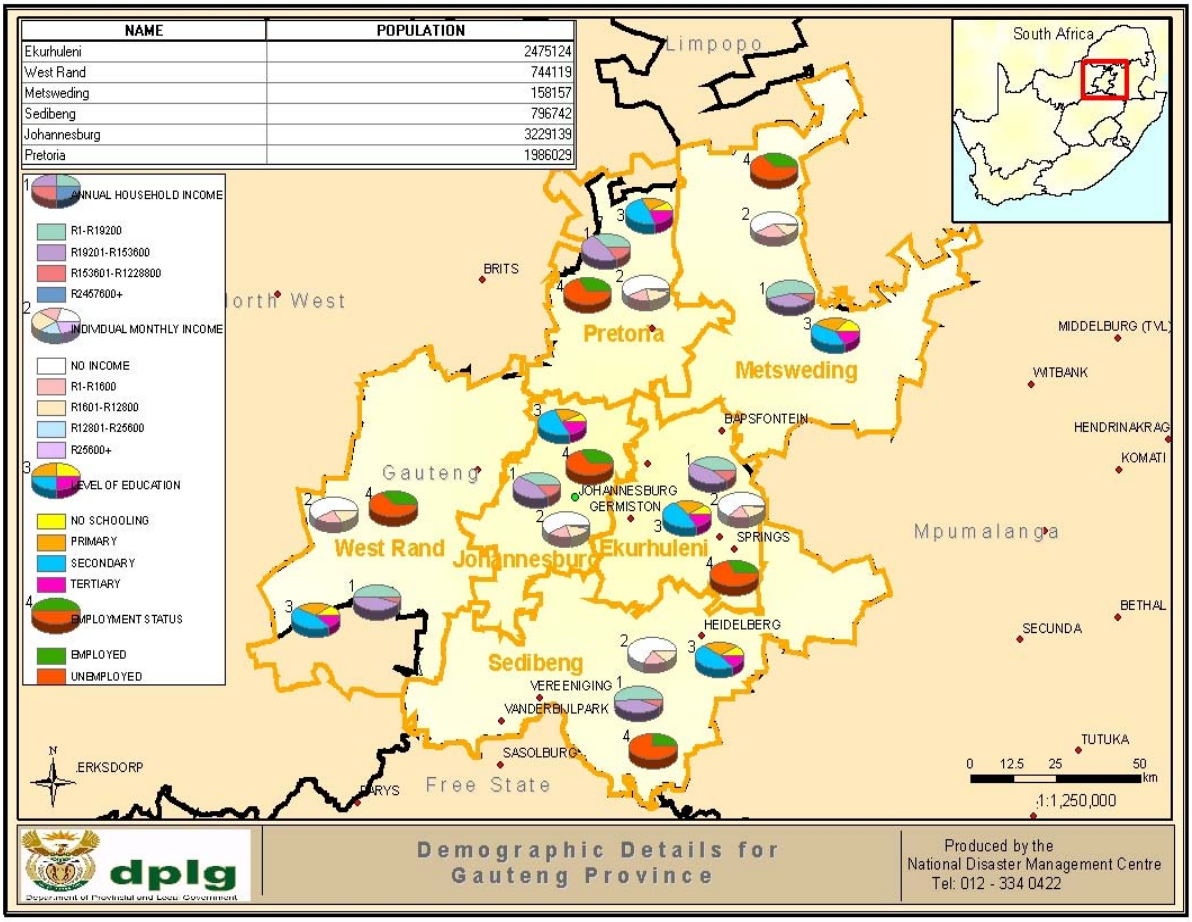


FIG 3.1 DEMOGRAPHIC DETAILS FOR GAUTENG PROVINCE

According to the Provincial profile 2004 Gauteng, drawn up by Statistics South Africa based on the Census 2001 results; Gauteng is the smallest province in the country occupying an area of 17,010 square kilometers (1.4% of the land area of South Africa). With a population of 8.8 million people it accommodates 19.7% of the total South African population and is the most densely populated province. Its population breakdown by race is approximately 74% Black African, 20% White, 4% Coloured and 3% Indian/Asian. Gauteng is the only province with more males than females (101.2 males to 100 females). More than 50% of its population is below the age of 29 years and the biggest age group is the 25-29 year group which makes up 11.8% of the population. Gauteng is the largest contributor to South Africa's Gross Domestic Product (GDP) at 33.3% followed by Kwazulu Natal province at 16.7% while the least contributor is the Northern Cape at 2.2%. Seventy five percent of adults in Gauteng province have at least a Grade 12 certificate. Unemployment stands at 29.5%. Ninety percent of households use electricity for lighting, cooking or heating (national average 80%) while 59% have piped water in their dwelling (national average 39%). Only 4% of the population use sanitation off site while 69% have access to a telephone (20). Table 3.1 below illustrates some demographic indicators for Gauteng as compared to other provinces in South Africa.

TABLE 3.1 AREA, POPULATION AND POPULATION DENSITY OF PROVINCES IN SOUTH AFRICA – 1996 and 2001.

	Area		1996		2001	
Province	km^2	%	N ('000)	Population density	N ('000)	Population density
Western Cape	129 370	10,6	3 957	31	4 524	35
Eastern Cape	169 580	13,9	6 303	37	6 437	38
Northern Cape	361 830	29,7	840	2	823	2
Free State	129 480	10,6	2 634	20	2 707	21
KwaZulu-Natal	92 100	7,6	8 417	91	9 426	102
North West	116 320	9,5	3 355	28	3 669	32
Gauteng	**17 010**	**1,4**	**7 348**	**432**	**8 837**	**520**
Mpumalanga	79 490	6,5	2 801	35	3 123	39
Limpopo	123 910	10,2	4 929	40	5 274	43
South Africa	**1 219 090**	**100,0**	**40 584**	**33**	**44 820**	**37**

Population density = number of people per square kilometre
Source: Department of Land Affairs, and Statistics South Africa, Population Census 1996 and 2001

A more recent estimate of the South African and Gauteng population demographics is the Community survey of 2007 which was undertaken by Statistics South Africa as a one-off survey to fill in the information gap between Census 2001 and the next scheduled Census of 2011 (21).
Table 3.2 below gives a breakdown of the estimates for Gauteng province at the local government level according to this Community survey.

TABLE 3.2 POPULATION OF GAUTENG PROVINCE BY MUNICIPALITY – 2007.

Municipalities	Persons		Households	
	Census 2001	CS 2007	Census 2001 *	CS 2007
Gauteng	9 178 873	10 451 713	2 735 168	3 175 579
DC42: Sedibeng	796 754	800 819	225 744	241 223
GT421: Emfuleni Local Municipality	658 420	650 867	187 044	196 480
GT422: Midvaal Local Municipality	64 642	83 445	19 653	24 265
GT423: Lesedi Local Municipality	73 692	66 507	19 048	20 479
DC46: Metsweding	162 270	153 539	45 092	46 502
GT461: Nokeng tsa Taemane Local Municipality	53 205	49 389	14 356	14 838
GT462: Kungwini Local Municipality	109 065	104 149	30 736	31 665
DC48: West Rand	533 675	539 038	151 339	186 850
GT481: Mogale City Local Municipality	289 835	319 641	83 553	94 288
GT482: Randfontein Local Municipality	128 731	117 261	36 141	40 459
GT483: Westonaria Local Municipality	109 328	99 218	29 980	50 675
GTDMA48: West Rand	5 781	2 918	1 665	1 429
EKU: Ekurhuleni	2 478 631	2 724 229	744 479	849 349
EKU: Ekurhuleni Metropolitan Municipality	2 478 631	2 724 229	744 479	849 349
JHB: City of Johannesburg	3 225 309	3 888 180	1 006 742	1 165 014
JHB: City of Johannesburg Metropolitan Municipality	3 225 309	3 888 180	1 006 742	1 165 014
TSH: City of Tshwane	1 982 235	2 345 908	561 772	686 640
TSH: City of Tshwane Metropolitan Municipality	1 982 235	2 345 908	561 772	686 640

Using the above figures, the population breakdown in terms of proportion at the municipality level would be; City of Johannesburg accommodating 37.2% of the population of Gauteng followed by Ekurhuleni with 26%, City of Tshwane with 22.4%, Sedibeng with 7.7%, Westrand with 5.2% and Metsweding with 1.5%.

3.2 AVAILABILITY OF DISASTER MANAGEMENT PLANS

Out of the six municipalities, 66.7% (the four municipalities of Ekurhuleni, Johannesburg, Sedibeng and Westrand) had Disaster management plans that had been approved and adopted by the relevant Municipal Mayoral Committee (MMC) while 33.3% (the two municipalities of Tshwane and Metsweding) had draft plans that had not yet been approved and adopted by their MMC.

All the plans both approved and the draft forms are 100% still level 1 disaster management plans.

3.3 COMPLIANCE OF DISASTER MANAGEMENT PLANS WITH THE ACT

The evaluation tool had 16 criteria in the section that assessed the compliance of each municipality's disaster management plan against the requirements set out in section 53 (2) of the Disaster management Act. For each fully compliant criterion a score of 2 was assigned with 1 for partially compliant and 0 for not compliant. The total scores and the percentage scores (as a percentage of the maximum attainable score) are indicated below in Fig 3.2. The percentage compliance scores range from Metsweding at 65.6% to Tshwane at 84.4%. In general the district municipalities appear to score below the metropolitan municipalities with the exception of Westrand which scores the same as Ekurhuleni at 75%.

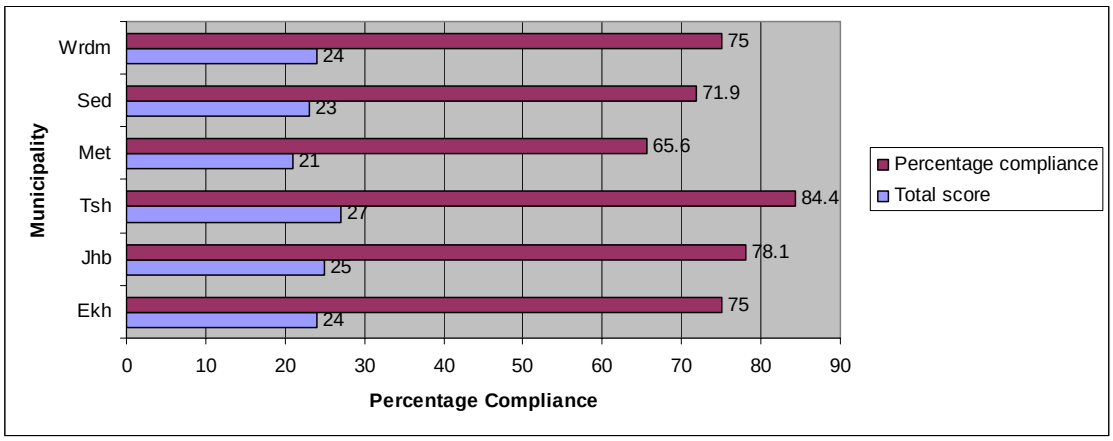


FIG 3.2 PERCENTAGE COMPLIANCE BY MUNICIPALITY

When each criterion is aggregated across all the municipalities, it's possible to get a sense of which areas the municipal disaster management plans tend to cover well and also which areas compliance tends to be poor. Figure 3.3 below represents this data. There are criteria which all municipality plans fully comply with (100% score); these include integration into the Integrated Development Plans (IDPs), identification of hazards, vulnerability reducing measures, prevention and mitigation strategies, contingency plans, allocation of responsibilities and communication strategies. There are also areas where compliance was very poor like the use of indigenous knowledge (scored 8.3% due to only 1 municipality partially complying); identification of incentives at 25%, promotion of research at 33.3% and submission of plans to the NDMC at 33.3% fall in the same category of very poor compliance across municipalities.

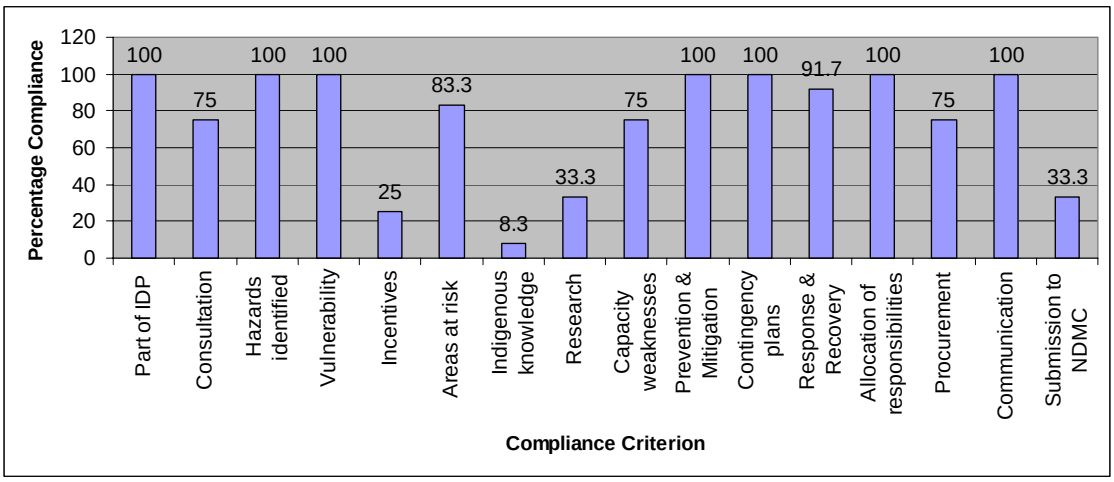


FIG 3.3 PERCENTAGE COMPLIANCE BY CRITERIA

When the individual municipality scores were aggregated, the average compliance score for Gauteng province was found to be 75% (total score of 144 out of a possible maximum of 192).

3.4 DISASTER MANAGEMENT CAPACITY IN MUNICIPALITIES

The evaluation tool assessed capacity according to 7 criteria – each with a maximum score of 2 if compliant, score 1 if partially compliant and score 0 if not compliant. The total scores and percentage scores for each municipality are shown in Fig 3.4 below;

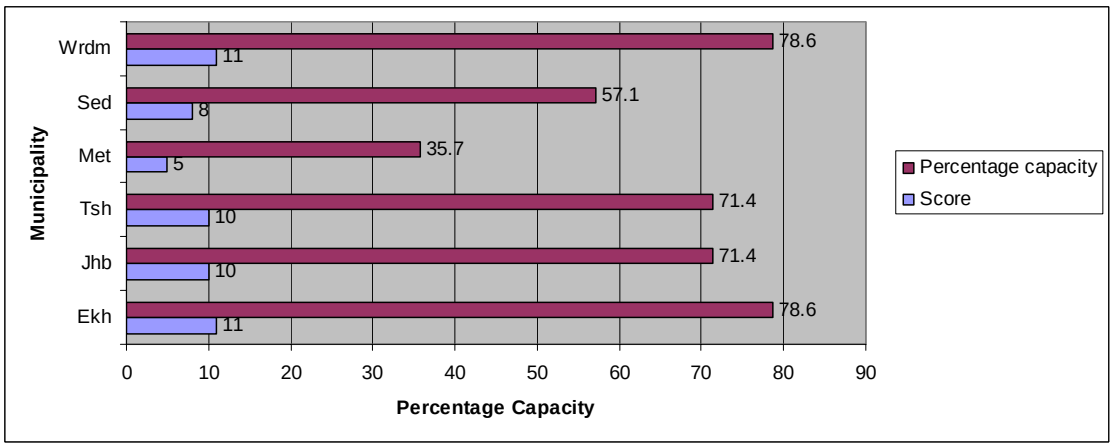


FIG 3.4 DISASTER MANAGEMENT CAPACITY BY MUNICIPALITY

The percentage capacity scores for the municipalities range from a very low 35.7% for Metsweding to the top score of 78.6% for Ekurhuleni and Westrand. The provincial average score for capacity was 65.5% (total score of 55 out of a possible 84 for all municipalities combined).

The district municipalities again appear to trail the metropolitan municipalities with the exception of Westrand.

When each of the capacity criteria was aggregated across all municipalities, the results obtained are presented in Fig 3.5 below. In only one of the capacity criteria was there full compliance across all municipalities (100% score for the availability of a budget for disaster risk reduction activities). The greatest gaps in capacity in general are the availability of memoranda of understanding with key partners (only 33.3%), the availability of an appointed Head of the Disaster management center with a job description (only 50%), the availability of ancillary staff (58.3%) and the availability of an integrated information system (58.3%).

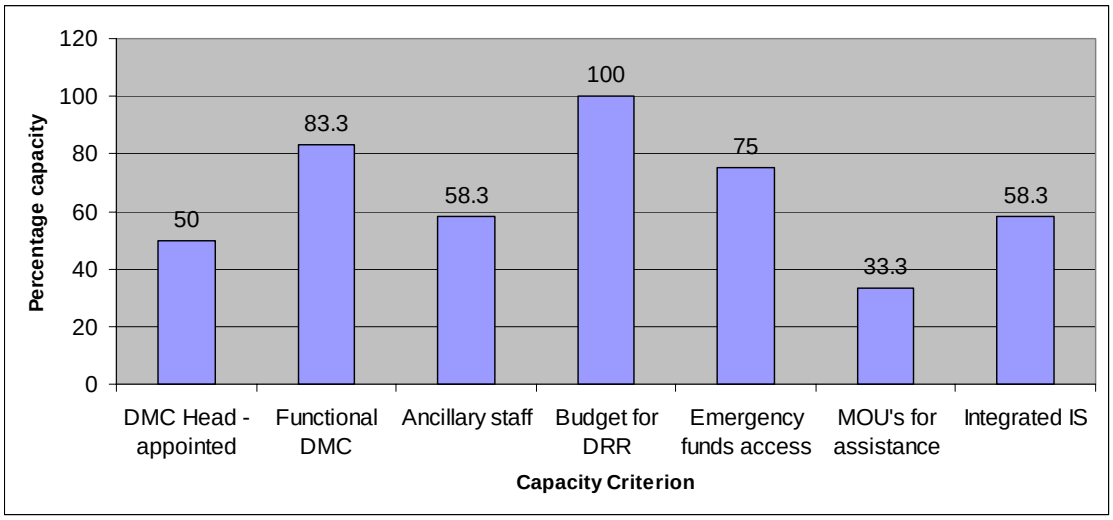


FIG 3.5 DISASTER MANAGEMENT CAPACITY BY CRITERIA

The last part of assessing capacity was the evaluation of the availability of a Disaster Management Centre for each municipality and the adequacy of its infrastructure measured against a minimum checklist. For purposes of scoring the infrastructure, only 11 key functional areas were considered with full availability of that function scoring 2, partial availability scoring 0.5 and non-availability scoring 0. Table 3.2 below gives a breakdown of how each municipal disaster management centre performed.

Clearly standing out is Metsweding which does not have a Disaster Management Centre but has two dispatch centres for each of its two local municipalities (Nokeng tsa taemane and Ekangala) from where the emergency services are coordinated. When the need arises, the Municipal boardroom is utilized as a Joint Operations Centre.

TABLE 3.3 DISASTER MANAGEMENT CENTRE INFRASTRUCTURE

Municipality	Ekh	Jhb	Tsh	Met	Sed	Wrdm
1a Access Control	1	1	1	0	1	1
1b Power/Water back up	0.5	0.5	1	0	0.5	0.5
2. Communications Centre	1	1	1	0	1	1
3. Disaster Operations Centre	1	1	1	0	1	1
4. Conference/Training Centre	1	1	0.5	0	0	1
5. Information/Media Centre	1	1	1	0	0	1
6. Reception Area	1	1	1	0	0	0
7. Office Accomodation	1	1	1	0	1	1
8. Ablution facilities	1	1	1	0	1	0.5
9. On-site Catering facility	1	1	1	0	0	1
10. Rest room facility	0.5	0.5	1	0	0	0.5
Total score	**10**	**10**	**10.5**	**0**	**5.5**	**8.5**
% score	**91**	**91**	**95.5**	**0**	**50**	**77.3**

The graphical presentation of the same table is set out in Fig 3.6 below;

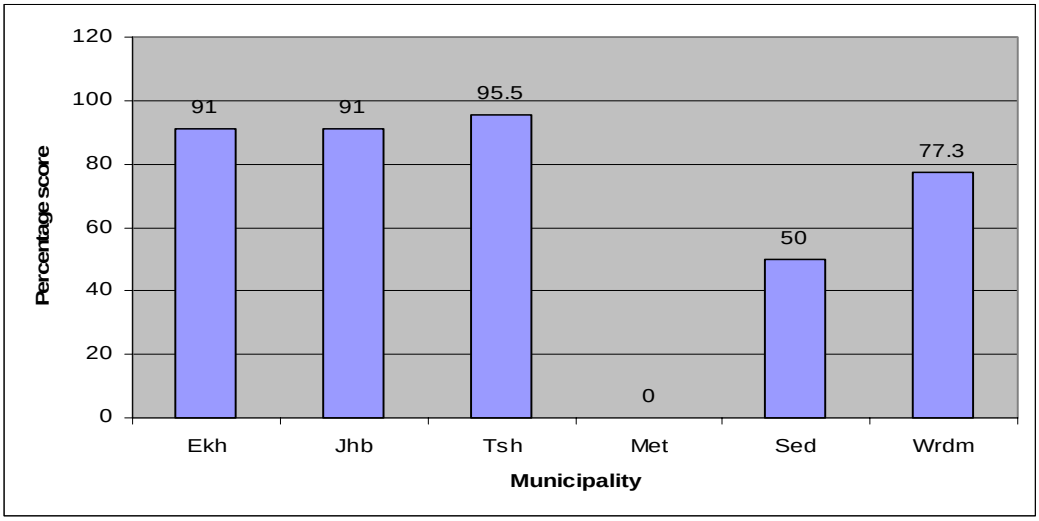


FIG 3.6 DISASTER MANAGEMENT CENTRE INFRASTRUCTURE

Again a similar trend where the district municipalities perform below the metropolitan municipalities is even further accentuated when it comes to the infrastructure of the Disaster Management Centres (the best district municipality scores 77.3% compared to the least of the metropolitan municipalities at 91%).

When all the municipal disaster management centres were aggregated, the data for each functional area of infrastructure came out as presented below in Fig 3.7;

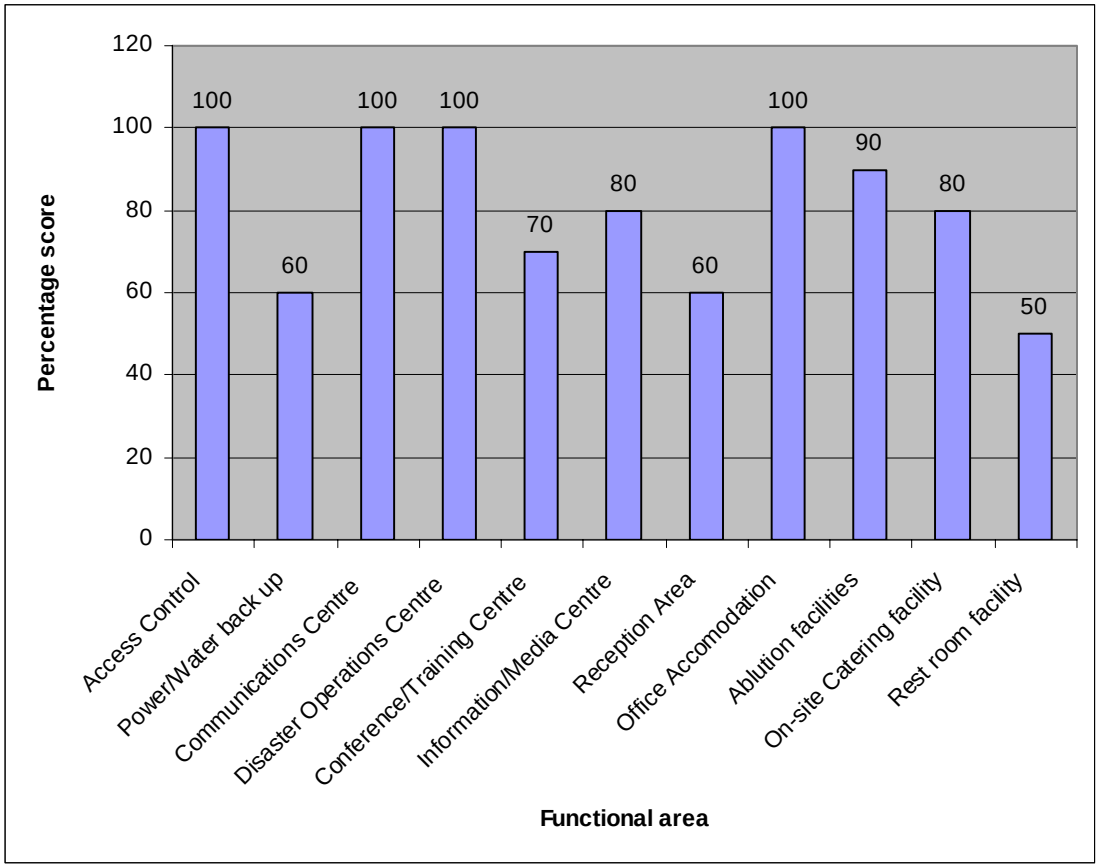


FIG 3.7 DISASTER MANAGEMENT CENTRE INFRASTRUCTURE BY FUNCTION

The above data shows that for the municipalities with DMCs, there are areas of strength where they all comply with the minimum standard (score 100%), like the availability of access control, communication centers, disaster operations centers and office accommodation. The gaps in infrastructure are most noted with the availability of rest room facilities (50%), reception areas (60%) and availability of both electricity and water back up facilities (60%). Only one facility had an on-site back up water storage tank (Tshwane), they however all had back up electricity generators.

3.5 COMPARISON BETWEEN METROPOLITAN AND DISTRICT MUNICIPALITIES.

When the average performance of the metropolitan municipalities is compared with that of the district municipalities; the following outcome is obtained;

3.5.1 Availability of disaster management plans; Both the metropolitan and district municipalities score the same as two out of three in each group had disaster plans; with a single municipality in each category still having a draft plan (Tshwane and Metsweding respectively).

3.5.2 Compliance of disaster management plans; the average of the scores for compliance of the disaster management plans of the metropolitan municipalities is 79.2% while that for the district municipalities is 70.8%. When the average for each criterion is taken and compared between metropolitan and district municipalities, the breakdown appears as in figure 3.8 below;

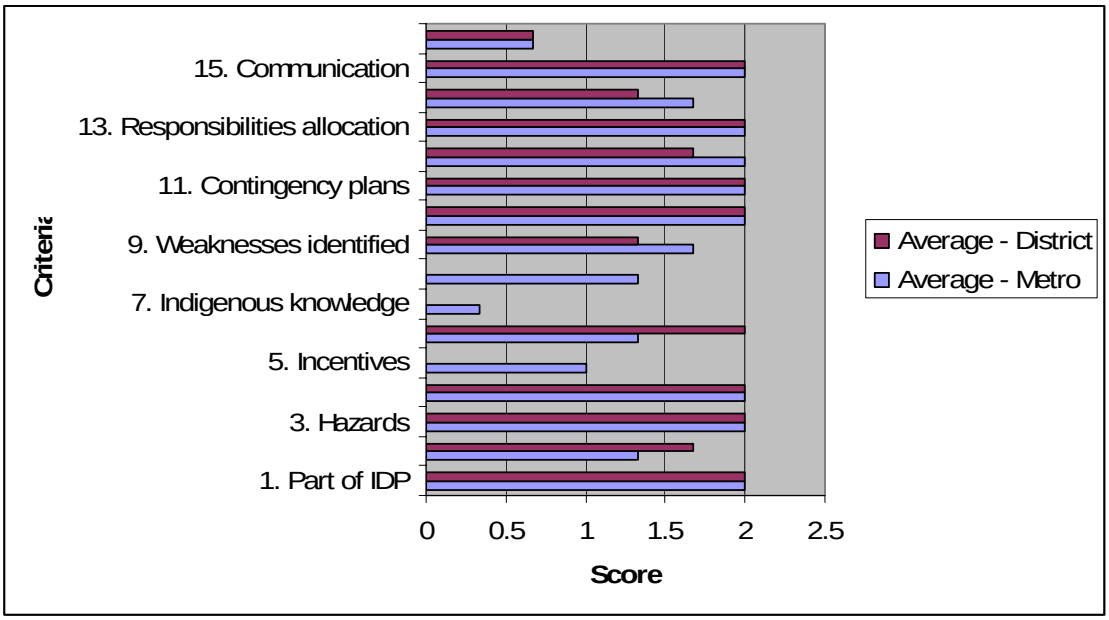


FIG 3.8 METROPOLITAN vs DISTRICT MUNICIPALITY – COMPLIANCE.

It is evident that in eight out of sixteen criteria, both the metropolitan and district municipalities perform the same. The metropolitan municipalities outperform the district municipalities in six out of the sixteen criteria (and very significantly so in the areas of incentives for disaster management, use of indigenous knowledge and research). The district municipalities however also outperform the metropolitan municipalities in two criteria out of the sixteen (consultation with stakeholders and disaster risk assessment).

3.5.3 **Disaster management capacity**; the average score for the metropolitan municipalities is 73.8% while that for the district municipalities is 57.1%. When the assessment between the two categories of municipalities is broken down per criterion of capacity, the average scores stand as indicated in figure 3.9 below;

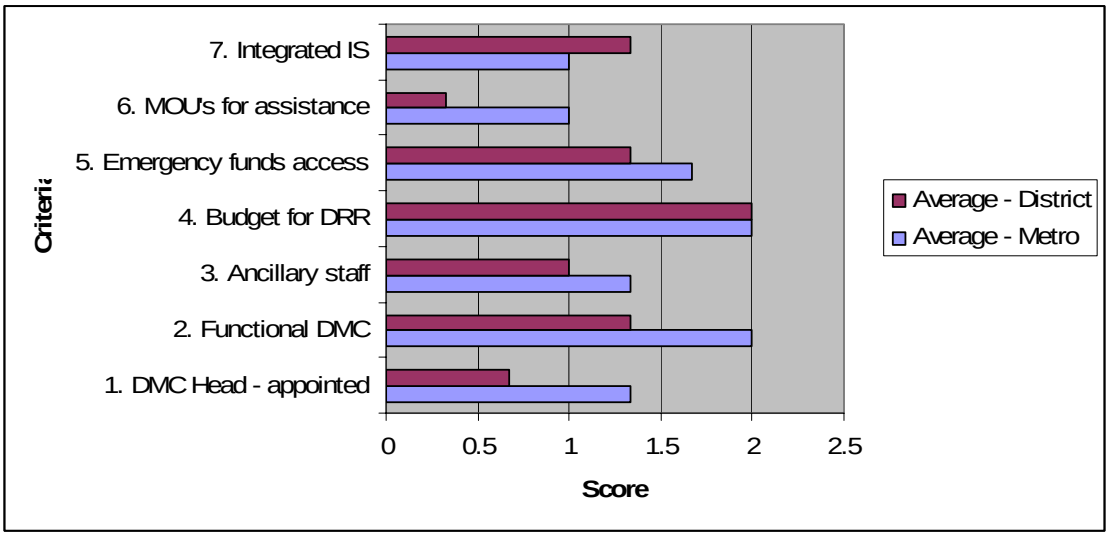


FIG 3.9 METROPOLITAN vs DISTRICT MUNICIPALITIES – CAPACITY.

The metropolitan municipalities outperform the district municipalities in five out of seven criteria; both perform equally in one criterion while the district municipalities outperform the metropolitan municipalities in one criterion (integrated information systems).

When the average of the scores for the physical infrastructure of the DMC is considered; the metropolitan municipalities stand at 92.5% while the district municipalities score 42.4%. The result for the district municipalities is skewed by the lack of a municipal DMC in Metsweding. However even after excluding Metsweding, the average score for Sedibeng and West Rand is still a relatively low 63.65%.

3.6 CONCLUSION

This chapter has described the study results. In the next chapter a discussion of the main findings and conclusion of the study will be presented. A summary of the study, its limitations and recommendations will also be presented.

CHAPTER FOUR: DISCUSSION, MAIN FINDINGS, CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS.

4.0 INTRODUCTION

This chapter presents a discussion of the main findings and conclusions of the study. It also reviews the limitations of the study and finally sets out recommendations to address the gaps identified in the availability of disaster management plans, the compliance of those plans to requirements in the Disaster management Act as well as the capacity of municipalities in Gauteng province to carry out their disaster management function.

4.1 DISCUSSION OF THE MAIN FINDINGS AND CONCLUSIONS DRAWN FROM THE STUDY.

4.1.1 Availability of disaster management plans

The study findings were that 66.7% (4 out of the 6 municipalities) had approved disaster management plans while the remaining two had draft plans that were still going through the administrative process of being adopted by their respective Municipal Mayoral Committees (MMC). In addition, all the plans are level 1 disaster management plans.

The above findings need to be interpreted in the light of the guidelines set out in the National Disaster Risk Management Framework (DRMF). The DRMF is the legal instrument specified by the Disaster management Act to address issues of guiding the development and implementation of disaster management as envisaged by the Act (8). The DRMF stipulates that at a minimum; within two years of promulgating the Act all national, provincial and municipal organs of state should have submitted a level 1 plan to the NDMC; within three years of promulgating the Act, they should have submitted a level 2 plan and that within four years of promulgating the Act, they should have submitted a level 3 plan. A level 1 plan focuses primarily on establishing foundation institutional arrangements, putting in place contingency plans for known priority threats as identified in a preliminary risk assessment. A level 2 plan then adds on supportive capabilities by establishing processes for a comprehensive disaster risk assessment, development of disaster reduction projects after due consultation and introduces a supportive information management and communication system. A level 3 plan in addition to all the foregoing must demonstrate alignment to governmental initiatives, evidence of informed disaster risk assessment, evidence of ongoing disaster risk monitoring capabilities, as well as developmental measures to reduce vulnerability of disaster prone communities (8).

Given that it is five years since the promulgation of the Act in January 2003, the expectation is that all entities including municipalities should have developed level 3 plans at a minimum. The DRMF allowed for a phased-in approach to the implementation of disaster management plans because there was recognition that capabilities and skills would differ across the different spheres of government.

4.1.2 Compliance of disaster management plans to the requirements of the Disaster management Act

The study findings show that in terms of compliance the district municipalities score between 65.6% - 75% while the metropolitan municipalities score between 75% - 84.4%. The overall average score for Gauteng province was 75%. It is therefore evident that in general, the metropolitan municipalities prepare better (more compliant) disaster management plans than the district municipalities. This in itself is not surprising since the metropolitan municipalities will tend to have bigger budgets and therefore afford bigger staff complements and probably better retain required skills. The development of disaster management plans by it's very nature is a time consuming process and requires relevant skills and capacity. As will be seen later in the discussion about capacity, with the exception of the Westrand district municipality, the availability of ancillary staff in the other district municipalities is still a huge challenge.

When compliance is measured by each criterion across the province, it is quite clear that there are criteria which all municipalities perform well (100% score for those criteria); there are those where performance is less than 100% (most municipalities fully comply with the criterion and a few do not) but the average score is still relatively high; and lastly there are those criteria where the overall score is poor because most municipalities do not comply with the criteria. The municipalities therefore are all doing well against criteria like; Integration with IDP's, Hazard Identification, Vulnerability Assessment, Prevention and Mitigation, Contingency Planning, Allocation of responsibilities and Communication strategies. However there should be deep concern with criteria like; Use of indigenous knowledge (8.3% compliance), Incentives for disaster management (25% compliance), Research in disaster management (33% compliance) and Submission of plans to the NDMC (33%).

The possible reasons for the very low compliance scores in the above four criteria appear to be the following; a) The particular criterion is not deemed to be as urgent or pressing compared to other criteria such as having contingency plans and emergency procedures in place. With a finite amount of time and resources, municipalities may have prioritized what things need to be done first. This approach would be reasonable especially in the development of a Level 1 disaster management plan. However it would not be acceptable in preparation of Level 2 and 3 plans; b) There is no clarity or guidelines as to what is expected under that criterion. This was especially the case with the criterion pertaining to use of incentives in disaster management where four out of the six municipalities were not even partially compliant and indicated a lack of clear direction as to how this was to be done; c) There is no documentation in the disaster management plan about work already done with regard to that criterion. This was especially the case with regard to the use of indigenous knowledge criterion and submission of plans to the NDMC criterion. None of the municipalities could provide documentary proof of work in progress regarding the use of indigenous knowledge and it was also difficult to obtain documentary evidence of plans having been submitted and received by the NDMC from most municipalities; d) The lack of adequate human resources (both numbers and skills) can limit compliance with some of the criteria. A case in point is the Metsweding district municipality where the disaster manager was practically the only member of staff running this function in the municipality (apart from the staff in the emergency dispatch centers of the two local municipalities) – such a person can not be realistically expected to have time to perform meaningful research.

Lastly looking at the different municipalities in those criteria where there was full compliance; it is possible by going back to the various disaster management plans to identify some areas of real strength which are excellently done and could be used as models for “best practice” within the province. Some of these observed areas of strength are;

- Tshwane metropolitan municipality documents comprehensive Hazard identification and Vulnerability assessments down to the ward level (22). Westrand district municipality similarly documents an exhaustive hazard identification component in their plan (23).
- Metsweding district municipality documents a very comprehensive profile of the municipality with detailed and well referenced indicators about the municipality (24).
- Ekurhuleni metropolitan municipality shows great strength in the management of the political and administrative processes required to support disaster management. They had documentary proof of MMC resolutions establishing the DMC, designating the Head of the DMC, adoption and approval of the disaster management plan and letters of appointment and job descriptions dating back to 2006 (25).

- Johannesburg metropolitan municipality and Sedibeng district municipality do a very commendable and practical job of identifying their capacity weaknesses and constraints that have a bearing on the implementation of their disaster management plans (26, 27).

4.1.3 Disaster management capacity of municipalities

The study findings show that in terms of capacity to carry out their disaster management function; the range of scores is from 35.7% - 78% with the average for the province standing at 65.6%. It is evident that there are great challenges with capacity across the board although they are worse in some municipalities than others. Again the pattern where metropolitan municipalities perform better than the district municipalities (with the exception of Westrand district municipality) is upheld with the capacity scores.
The range for district municipalities is from 35.7% - 78.6% while the metropolitan municipalities score between 71.4 – 78.6%. Metsweding is in a particularly vulnerable position (35.7%) as it scored 0 in four out of the seven criteria that were assessed in terms of capacity. Significantly Metsweding is the only municipality in Gauteng without a Disaster Management Centre. It is a good indicator of the economic disparity across the province. However even the municipalities with the highest scores (Ekurhuleni and Westrand at 78.6%; followed by Johannesburg and Tshwane 71.4%), are indicative of significant gaps/challenges in terms of capacity across the whole province and this is borne out by the low average score of 65.6% for the whole province.

When the capacity scores are analyzed per criterion across all municipalities, there is only one criterion where every municipality was fully compliant – the availability of a budget for disaster risk reduction activities. The study did not evaluate or quantify the size of this budget for each municipality but simply checked for the availability of a line item or standard item on the budget that referred to disaster risk reduction activities on the overall budget of the Disaster Management Centre (or in the case of Metsweding, the municipal budget).

The criteria with the lowest scores in terms of capacity were; availability of MOUs for assistance (33.3%), availability of an appointed Head of the DMC (50%), availability of ancillary staff (58.3%) and availability of an Integrated Information system (58.3%). The availability of an appointed Head of the DMC is surprisingly low at 50% mainly due to the politico-administrative processes of making substantive appointments and where they were made, job descriptions were not available in some cases. The other observation was that there were no guidelines or norms on the staffing requirements of a Disaster management centre, within the province or nationally. The staff establishments for each DMC are therefore not similar or standardized.

As part of the assessment of capacity, a site inspection of the physical infrastructure of the DMC in all the municipalities was conducted. The results again reflect the disparity between the metropolitan municipalities (range of scores 91% - 95.5%) and the district municipalities (range 0% - 77.3%). The 0% score is for Metsweding which does not have a DMC. The infrastructure was measured against a draft recommended list of requirements, in the absence of an approved list of requirements. The DRMF stipulates the minimum requirements but still states that the NDMC should release guidelines for the infrastructure requirements of a DMC. The results show that for all the DMCs assessed, there were functional areas that were present at all the facilities visited (score 100% for that functional area). These areas were access control, communications centers, disaster operations centers and office accommodation. However the greatest gaps were observed in the functional areas pertaining to rest room facilities (50%), reception areas (60%) and electrical power and water back up facilities (60%). The score for the availability of electrical power and water back up is surprisingly low for a DMC and this was due to the fact that although all sites had electrical power generators as back up, only 1 site had a water storage back up facility on site. The availability of conference/training facilities (70%), information/media centers (80%), on-site catering facilities (80%) and ablution facilities (90%) all fall in between the lowest and highest scores. The availability of ablution facilities is surprisingly not at 100% simply because the requirement of that criterion was that there should be shower facilities as well – and these were not available in one facility.

4.1.4 Conclusions drawn from the study

The study is able to give a “snap shot” view of the performance of the disaster management function by municipalities in Gauteng province as at February 2008. This snap shot view is based on the assessment of three parameters namely; the availability of approved disaster management plans; the compliance of these plans to the requirements of the Disaster Management Act and lastly the Capacity available for disaster management.

The study results show that only four out of six municipalities (66.7%) have approved disaster management plans. More worryingly however is the fact that all the plans (approved and drafts alike) – are level 1 disaster management plans. This is significantly behind the schedule envisaged by the national DRMF which stipulates that four years after promulgation of the Disaster management Act, all spheres of government should have developed and submitted level 3 plans. The study was conducted five years after the promulgation of the Act (which occurred in January 2003).

The study results show that the available disaster management plans to a fair extent comply with the requirements of section 53 (2) of the Disaster management Act – the provincial average score for compliance is 75%. The study findings indicate that the criteria where municipalities have shown least compliance are; use of indigenous knowledge, incentives for disaster management, submission of plans to the NDMC and research in disaster management. The first three are largely due to a lack of clear non-ambiguous implementation guidelines while the last one depends on available capacity. The results also show that there are criteria which are very comprehensively and well done by some of the municipalities and these could serve as best-practice models for other municipalities.

The study also shows that there are very serious challenges with regard to the capacity within municipalities to carry out their disaster management function. The average for the province is a low 65.5%. The biggest deficits are noted in Metsweding where there is no Disaster Management Centre and the staff establishment is least populated. The criteria with the lowest scores point to the areas that need priority attention and these are; availability of MOU's for assistance, availability of appointed Heads of DMCs, availability of ancillary staff and availability of integrated Information systems. In addition the study established that there are no guidelines or norms available for the staffing of DMCs or the minimum physical infrastructure requirements for a DMC for municipalities.

4.2 LIMITATIONS OF THE STUDY

The study focuses on three objectives (availability of disaster management plans, compliance of plans to requirements and available disaster management capacity) to evaluate the disaster management function of municipalities in Gauteng province. By focusing to a large extent on disaster management plans the study may not recognize or capture other significant activities being undertaken by municipalities in the field of disaster management.

The study is a very high level measurement of the capacity available in municipalities to execute their disaster management function. It does not explore or establish the details of certain variables. For example the study only evaluates whether Heads of Disaster management centres are appointed; it does not evaluate their knowledge or qualifications. Similarly it only evaluates the availability of a budget for disaster risk reduction but does not go on to quantify the amounts and their suitability to the task.

The study was also limited to some extent by having to evaluate certain parameters in the absence of established guidelines or norms for the country or province. A case in point was the evaluation of the staffing of disaster management centers.

In essence this study is best viewed as one that aims to establish baseline data about disaster management across municipalities in Gauteng province and should serve as a precursor to further research in this area.

4.3 RECOMMENDATIONS

4.3.1 Availability and Compliance of disaster management plans

Given that all the municipalities have only completed (or are in the process of completing) level 1 disaster management plans – they are all behind the schedule envisaged by the national DRMF (which is a level 3 plan by this stage). The NDMC and the Provincial DMC are therefore faced with the obligation to revisit the initial time frames and set new targets that are achievable and to which municipalities can be held accountable to meet.

Municipal DMCs do indeed face a complex task. The national DRMF (from which provincial and municipal frameworks are derived) for example has 4 Key Performance Areas (KPAs) and 3 Enablers each of which has several objectives and each objective has several more Key Performance Indicators (KPIs). The entire national DRMF actually translates into 34 objectives and 156 KPIs (8). The provincial and municipal DRMFs are likely to be dealing with more or less the same number of objectives and KPIs. The development of disaster management plans is only one of the five objectives under KPA 3.

However the development of disaster management plans is a legal requirement and it is critical to the implementation of the Disaster management Act. The non-compliance to this element is not only a legal breach but it also means that effective implementation of the Act is doubtful and haphazard. The NDMC in its inaugural annual report of 2006/2007 (released in June 2008) reports on progress made with establishment of the Gauteng province DMC and municipal DMC. Reference is also made of activities at municipal DMCs and the availability of a software programme through out all DMCs to enable tracking of projects and reporting on them to the NDMC – called the Project Portfolio Office programme (13). In spite of this tracking programme, the annual report is not able to give specific details of progress made in implementation of the Disaster management Act at municipal level; neither does the report acknowledge the delay in municipalities in complying with the appropriate level of disaster management plans or capacity gaps such as the absence of a DMC for Metsweding.

The first recommendation of this study is therefore that the NDMC and subsequently the PDMC need to come up with a Remedial plan of action that takes into consideration the following points;

- The setting of new time frames for complying with the availability of appropriate disaster management plans (level 3) that are realistic.
- The prioritization of what objectives and KPIs in the DRMF are critical to deliver now and which ones will be done later; this will enable disaster managers to focus on manageable chunks of activities and deliver tangible results. Strategy consultant Tony Manning refers to this as the "ten-buck" test. He states that "We have 'ten bucks' worth of resources – time, energy, intellect, money – and countless ways to use them... Officials drive themselves into a frenzy thinking that they have to be here, there, and everywhere, doing everything for everyone – and all at the same time! They confuse their people and ensure that resources are poorly used and largely wasted" (28). Tom Peters and Robert Waterman refer to the same activity of prioritization as "chunking" – where objectives are broken up to into manageable chunks to encourage fluidity and action. Once a problem is prioritized, all efforts are directed toward it for that period of time (29).
- The priority activities should focus on those areas where compliance with the requirements of the Act was poor. These were areas municipal disaster managers did not have clarity on how to implement them. The NDMC therefore has to develop guidelines for areas such as the use of incentives and research in disaster management. The other weak areas can be easily fixed by insisting on documentation of work already done (that is the use of indigenous knowledge and submission of plans).
- It is not enough to have a monitoring programme if there is no feedback and follow through to institute corrective action. An American study reports that "at least half of corporate initiatives never make it from meetings to implementation and more than 83% of corporate failures are driven not by external circumstances, but by simple failure to follow through" (30).
- There are areas of strength within the various municipalities to the extent that some of the available disaster managers and professionals in the province could be utilized as "Internal consultants" to assist struggling municipalities with their particular expertise.

4.3.2 Availability of Disaster Management Capacity in municipalities

The second specific recommendation of this study concerns the establishment of a Disaster management center for Metsweding district municipality. Enabler 3 of the DRMF refers to funding arrangements for disaster risk management. One of the KPIs under this item is that conditional grants to fund the start-up costs of DMCs in provinces and municipalities have been established and allocated. The implication therefore is that Metsweding would have to draw up its own project plan to engage with the PDMC and NDMC to agree to specific time frames and deliverables to establish their DMC.

The third specific recommendation of this study is that the NDMC and PDMC need to provide guidelines on the standards/norms for the staffing requirements of a DMC as well as the physical infrastructure requirements for a municipal DMC. This will enable the municipalities to have a standard to comply with and aim for and be reliably measured against.

4.3.3 Further research opportunities

There are areas that in the course of conducting this study have become evident as opportunities for further exploration with a view to improving operational understanding and performance. Examples of these are; what impact have disaster management plans had so far? How adequate are the various municipal budgets for disaster risk reduction?; How many of the identified risk reduction projects have been implemented and completed per municipality? What capacity is available in the country to perform comprehensive disaster risk assessments?

4.4 CONCLUSION

In this last chapter of the research report, a discussion of the main findings and conclusions from the study were described. The limitations of the study were also discussed and finally recommendations based on the findings of the study were made to address the key deficiencies in the availability of disaster management plans and the disaster management capacity within municipalities in Gauteng province.

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APPENDIX A: EVALUATION TOOL FOR THE DISASTER MANAGEMENT FUNCTION OF MUNICIPALITIES.

A. Disaster Plan availability.

	NC	PC	FC	Comments
Disaster plan available				

B. Compliance of Disaster Plan with the Disaster Management Act.

Criteria	NC	PC	FC	Evidence & Comments
1. Is an integral part of the Integrated Development Plan.				
2. Consultation with local community was undertaken.				
3. Identifies potential hazards in the area served.				
4. Identifies measures to reduce vulnerability of areas at risk.				
5. Identifies incentives for disaster management in municipality				
6. Identifies areas, communities and households at risk.				
7. Makes use of indigenous knowledge about disasters.				
8. Promotes Disaster management research.				
9. Identifies and addresses weaknesses in capacity.				
10. Indicates Prevention and Mitigation strategies.				
11. Indicates Contingency plans and Emergency procedures.				
12. Indicates Response and Recovery strategies.				
13. Indicates allocation of responsibilities to role players.				
14. Identifies means for procurement of goods and services.				
15. Indicates Communication strategy.				
16. Disaster Plan has been submitted to the NMDC.				

C. Available Disaster Management capacity in the Municipality.

Criteria	NC	PC	FC	Evidence & Comments
1. A Head of the Disaster Management Centre is appointed with a job description.				
2. There is a functional Disaster Management Centre.				
3. The DMC has required ancillary staff.				
4. There is a budget for disaster risk reduction activities.				
5. There is a mechanism to access emergency funds for response and recovery.				
6. Memoranda of Understanding for assistance are in place.				
7. An integrated Municipal Disaster information system is designed and implemented.				

NC = Non-compliant PC = partially compliant FC = fully compliant

APPENDIX B.

CHECKLIST FOR THE ASSESSMENT OF PHYSICAL INFRASTRUCTURE AT MUNICIPAL DISASTER MANAGEMENT CENTRES.

Infrastructure	Component	Present	Absent
1. General	Access control		
	Independent Power & Water supply backup		
	PA system		
2. Communications Centre	Switchboard		
	UPS facility		
3. Disaster Operations Centre	Seats at least 30 people		
	Mapping facilities		
	Computers & Printers		
	Separate Telephone lines		
	Internet & E-mail access		
	Data Projector & Screen		
	Air conditioning		
	TV Monitor		
	Radio communication		
	UPS facility		
4. Conference/Training Centre	Seats about 60 people		
	Overhead projection facility		
	Video facility		
	Whiteboards & Flipcharts		
5. Information Centre/Media Room	Seats at least 12 people		
6. Reception Area	Small area for visitors		
7. Office Accommodation	Adequate for all personnel		
8. Ablution Facilities	Including Showers		
9. Catering Facilities	Fully equipped kitchen on site		
10. Rest Room Facility	Lounge area with TV & Radio		
	Sleep over rooms for 6 people		

APPENDIX C

SCHEDULE OF INTERVIEWS WITH DISASTER MANAGERS.

Municipality	Date of Interview
City of Tshwane [1]	13/02/2008
City of Johannesburg [1]	14/02/2008
Ekurhuleni [1]	22/02/2008
Sedibeng [2]	10/03/2008
West Rand [2]	11/03/2008
Metsweding [2]	20/03/2008

Note:

1 Metropolitan municipality

2 District municipality

APPENDIX D

APPROVAL BY POSTGRADUATE COMMITTEE OF THE SCHOOL OF PUBLIC HEALTH (1).

Faculty of Health Sciences
Medical School, 7 York Road, Parktown, 2193
Fax: (011) 717-2119
Tel: (011) 717-2075/6

Reference: Mrs Alison Mclean
E-mail: mcleanam@health.wits.ac.za
14 May 2007
Person No: 9812403V
PAG

Dr PEM Ddungu
No 59 Sixth Avenue
Roodeport North
Johannesburg
1724
South Africa

Dear Dr Ddungu

Master of Public Health (Disaster Management): Approval of Title

We have pleasure in advising that your proposal entitled "*An evaluation of the disaster management functions of municipalities in the Gauteng Province as at December 2006*" has been approved. Please note that any amendments to this title have to be endorsed by the Faculty's higher degrees committee and formally approved.

Yours sincerely

Mrs Sandra Benn
Faculty Registrar
Faculty of Health Sciences

APPROVAL BY POSTGRADUATE COMMITTEE OF THE SCHOOL OF PUBLIC HEALTH (2).

Faculty of Health Sciences
Medical School, 7 York Road, Parktown, 2193
Fax: (011) 717-2119
Tel: (011) 717-2745

Reference: Ms Tania Van Leeve
E-mail: tania.vanleeve@wits.ac.za
13 May 2008
Person No: 9812403V
TAA

Dr PEM Ddungu
3 Lucas Bull Street
Discovery
Johannesburg
1709
South Africa

Dear Dr Ddungu

Master of Public Health (Disaster Management): Change of title of research

I am pleased to inform you that the following change in the title of your Research Report for the degree of has been approved:

From:	**An evaluation of the disaster management functions of municipalities in the Gauteng Province as at December 2006**
To	**An evaluation of the disaster managment functino of municipalities in the Gauteng Province as at February 2008**

Yours sincerely

Mrs Sandra Benn
Faculty Registrar
Faculty of Health Sciences

APPENDIX E

HUMAN RESEARCH ETHICS COMMITTEE CLEARANCE CERTIFICATE.

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Division of the Deputy Registrar (Research)

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)
R14/49 Ddungu

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER M070734**
PROJECT	An Evaluation of the Disaster Management Function of Municipalities in the Gauteng Provence as at December 2006
INVESTIGATORS	Mr PEM Ddungu
DEPARTMENT	School of Public Health
DATE CONSIDERED	07.07.27
DECISION OF THE COMMITTEE* from the Municipal sites	Approved subject to submitting written permission

Unless otherwise specified this ethical clearance is valid for 5 years and may be renewed upon application.

DATE 07.10.25 **CHAIRPERSON** .....
(Professors PE Cleaton-Jones, A Dhai, M Vorster, C Feldman, A Woodiwiss)

*Guidelines for written 'informed consent' attached where applicable

cc: Supervisor : Prof S Naidoo

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10005, 10th Floor, Senate House, University.
I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee. **I agree to a completion of a yearly progress report.**

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

APPENDIX F
LETTER OF PERMISSION – EKURHULENI METROPOLITAN MUNICIPALITY.

Ekurhuleni
METROPOLITAN COUNCIL
Head Office
Corner Cross and Roses Streets
Germiston

Private Bag X1069
Germiston 1400
South Africa

www.ekurhuleni.com

DISASTER MANAGEMENT CENTRE DIVISION
3 Hawley Road
Bedfordview 2008

From: Ms B F Swart
My file no.: 17/8/8
Email: bswart@ekurhuleni.com
Tel: 874-5110
Fax: 874-5166
Cell: 082 774 5508

Date: 18 February 2008

Dr P EM Ddungu
59 Sixth Avenue
Roodepoort North
Johannesubrg
1724

Dear Dr Ddungu

SUBJECT: **RESEARCH PROPOSAL : REQUEST FOR PERMISSION TO CONDUCT RESEARCH STUDY : EKURHULENI METROPOLITAN MUNICIPALITY : DISASTER MANAGEMENT CENTRE DIVISION**

This letter serves to inform you that permission was granted by the City Manager, Mr P Flusk to include Ekurhuleni in your research study.

We wish you well with your studies and are looking forward to receive your research results.

Yours faithfully

B F SWART (MS)
DIRECTOR: DISASTER MANAGEMENT CENTRE DIVISION

/bfs
/letter to dr ddungu re research

APPENDIX G
LETTER OF PERMISSION – CITY OF JOHANNESBURG.

Joburg
a world class African city

City of Johannesburg
Emergency Management Services

EMS Head Quarters
195 Main Road
Martindale

PO Box 1496
Johannesburg
2000

Tel +27(0) 11 756 2000
Fax +27(0) 11 756 5253

www.joburg.org.za

18 December 2007

Dr P E M Dungu
No 59 Sixth Avenue
Roodepoort North
Johannesburg
1724

Dear Dr. Dungu

Re: Letter of permission

Permission is hereby granted for you to conduct research on the Disaster Management Function of Municipalities in the Gauteng Province. Hereunder are some of the critical issues as you conduct the study.

- Kindly ensure that the services are not disrupted in any way during this study.
- Before questionnaires are administered must be communicated to Mrs Mekgwe .
- There maybe some information that may need to be dealt with confidentially and as such an indication will be made.
- A preliminary report will be discussed with the City Of Johannesburg (EMS).
- Over and above the overall report specific to the City will be developed.

Your contact persons are:

Ms. Marietjie Joubert
Tel: 082 786 5685
Mr. Mario Wilton
Tel: 083 447 3264

We hope this study will also assist in benchmarking with other similar organizations.

Should you have any queries or wish to discuss your research further, please do not hesitate to contact me.

Enjoy your study.

TMekgwe

Mrs N Mekgwe
Director: Disaster Management and PIER
Tel:011 758 9523
Fax:011 381 9093



APPENDIX H

LETTER OF PERMISSION – CITY OF TSHWANE.

CITY OF TSHWANE
"We are the same"

COMMUNITY SAFETY DEPARTMENT

Tel: 012 358 2225
Fax: 012 358 2003
Email aneb@tshwane.gov.za

PO Box 440
Pretoria
0001

Disaster Management Centre, Pieter Delport Centre, 133 Beckett Street, Arcadia

My ref:
Enquiries: Ané Bruwer
Date: 18 December 2007

Tel: 012 358 2225
Fax: 0866377608
Email: aneb@tshwane.gov.za

Dr PEM Ddungu
No 59 Sixth Avenue
Roodepoort North
Johannesburg
1724
South Africa

Dr Ddungu

RESEARCH PROPOSAL - REQUEST FOR PERMISSION TO CONDUCT STUDY

Your e-mail and telephone conversation on 12 December 2007 has reference.

Thank you for your research proposal and that you decided to include Tshwane in your research study. You are welcome to conduct the research in the City of Tshwane.

We wish you well with your studies and we are looking forward to receive your research results.

Yours sincerely

Bruwer

Mr H. Msimang
ACTING STRATEGIC EXECUTIVE DIRECTOR: COMMUNITY SAFETY

APPENDIX I
LETTER OF PERMISSION – METSWEDING DISTRICT MUNICIPALITY.

METSWEDING DISTRICT MUNICIPALITY

COMMUNITY SERVICE DEPARTMENT
PRIVATE BAG X 10579 BRONKHORSTSPRUIT, 1020
MEEC BUILDING
287 IRIDIUM STREET EKANDUSTRIA 1021
TEL: (013) 93 33483 FAX: (013) 93 33593 sjkgalake@metsweding.com

Enquires: SJ Kgalake

20 March 2008

Dr. P.E.M. Ddungu
N0. 59 Sixth Avenue
Roodepoort North
Johannesburg
1724
South Africa

Dear Dr. Ddungu

Re: Request for permission to conduct a research strudy

The above mentioned matter refers.

I would like to inform you that the Metsweding District Municipality has granted you a permission to conduct a research study in the area of our municipal jurisdiction on the evaluation of the disaster management functions of municipalities in Gauteng Province.

The municipality wish you well with your studies and we are looking forward to receive a copy of the research report after the conclusion of the study.

Kind Regards

Mr. SJ. Kgalake
Manager, Disaster Management

APPENDIX J
LETTER OF PERMISSION – SEDIBENG DISTRICT MUNICIPALITY.

Community Services
Disaster Management

Sedibeng District Municipality
P O Box 471
Vereeniging, 1930
Republic of South Africa
Tel: +27 16 450 3105
Fax: +27 16 450 3126

E-mail: pietern@sedibeng.gov.za

10 February 2008

RE: Research Proposal – Request For Permission to conduct Study

Permission is hereby granted for you to conduct research on the Disaster Management function in the Sedibeng District Municipality. Hereunder are some of the critical issues as you conduct the study.

- Kindly ensure that the services are not disrupted in any way during this study.
- Before questioners are administered must be communicated.
- There maybe some information that need to be dealt with confidentially and as such an indication will be made.
- Sedibeng be able to include the final report in the gap analysis.

Your contact person is
Mr. PJ Nieuwenhuizen
Tel: 082 901 5726

We wish you well with your studies and we are looking forward to receive your research results.

Yours faithfully

PJ Nieuwenhuizen
Disaster Risk Manager

APPENDIX K
LETTER OF PERMISSION – WEST RAND DISTRICT MUNICIPALITY.

JJ/WRDM/Letters2008/005

WEST RAND
DISTRICT MUNICIPALITY

RESCUE 10/7

DIRECTORATE PUBLIC SAFETY
OFFICE OF THE EXECUTIVE MANAGER

(011) 411-5203 **FAX**: 086 612 4882 **E-Mail**: jjordaan@wrdm.gov.za

'Live responsibly – or the next life we have to save might be yours'
REMEMBER: 107 FOR ALL EMERGENCIES

Monday 10 March 2008

Ref: 12/11-JJ/cvn

Dr P E M Ddungu
59 Sixth Avenue
Roodepoort North
JOHANNESBURG
1724

Doctor

REQUEST FOR PERMISSION TO CONDUCT RESEARCH STUDY: DISASTER MANAGEMENT

With reference to the abovementioned and our discussion on 10 March 2008 you are herewith informed that you are welcome to conduct the research in this district.

We wish you well with your studies and we are looking forward to receiving your research results. Your contact person for purposes of liaison will be the Manager: Disaster Management, Mr Wiekus Myburgh.

Yours truly

J JORDAAN
EXECUTIVE MANAGER: PUBLIC SAFETY/REGIONAL SUPPORT

Private Bag X033, RANDFONTEIN 1760
Cnr 6th & Park Street, RANDFONTEIN 1760
Tel: (011) 411-5000/412-2701 Fax: (011) 412-3663
E-mail: wgsc@netline.co.za

APPENDIX L
PARTICIPANT INFORMATION SHEET AND INFORMED CONSENT FORM.

PART A

Study Number : M070734

Study Title : "An Evaluation of the Disaster Management function of Municipalities in Gauteng Province as at February 2008."

Investigator : Dr Peter. M. Ddungu

Institution : University of the Witwatersrand, School of Public Health

Contact Number : 012 529 3880 or 082 900 2171.

PART B

Good day,
My name is Peter Ddungu, a student from the University of the Witwatersrand School of Public Health. I am conducting a study to evaluate the Disaster Management function in municipalities in Gauteng province. Since the inception of the Disaster management Act No 57 of 2002, municipalities form part of the National Disaster Management frame work. Municipalities are now required to formulate, maintain and implement Disaster management plans.

You are therefore invited to consider participating in this research study. Your participation in this study is entirely voluntary. Before you participate it is important that you read and understand the explanation of the purpose of the study and the study procedures. This information sheet is to help you decide if you would like to participate. If you have any questions, do not hesitate to ask me. You should not agree to take part unless you are satisfied about the procedures involved. If you do agree to take part in the interview, you are still free to withdraw from the study at any stage and this will not be held against you. If you decide to take part in this study, you will be asked to sign this document to confirm that you understand the study and agree to take part. You will be given a copy of the findings to keep.

The focus of this study is on the availability of Disaster management plans; the compliance of these plans with the Act and the capacity to implement these plans. An Evaluation tool and facility checklist will be administered among all the municipalities in Gauteng province. There will also be a key informant interview to verify the findings of the evaluation tool. The interview will take about 20 minutes and the study is expected to be carried out from February – March 2008.

There are no risks involved in participating in this study. The benefit of this study is to identify where the gaps in implementation and capacity are with regard to disaster management in the municipalities with a view to making recommendations to the Gauteng department of Provincial and Local government. All information obtained during the course of the study will be kept strictly confidential. Data that may be reported in scientific journals will not include any information that identifies you as a participant in the study.

PART C

Informed Consent

I hereby confirm that I have been informed by the study investigator Peter Ddungu, about the nature, conduct, benefits and risks of the study. I have also received, read and understood the above written participant information sheet regarding the study. I am aware that the results of the study will be anonymously processed into a study report and that I may at any stage without prejudice withdraw my consent and participation in the study. I have had sufficient opportunity to ask questions and of my own free will declare myself prepared to participate in the study.

Participant (Municipal Disaster Manager):

_____	_____	_____
Printed Name	**Signature**	**Date and time**

I, Peter Ddungu, herewith confirm that the above participant has been fully informed about the nature and conduct of the above study.

Study Investigator

_____	_____	_____
Printed Name	**Signature**	**Date and time**