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Disaster planning and preparedness : The case of Protea-South, Johannesburg

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CHAPTER 1: GENERAL INTRODUCTION.

Not enough is spent on prevention. Disasters have a huge impact on development. The challenge will increase as the impact of community inequality becomes more widely felt
(Benn, 2004)[1].

1.1 Background to Subject Matter

Many cities around the world at large have in the past few decades until now been experiencing numerous changes. Some of these changes comprise of; weather fluctuations, wider climatic variations, human population growth rate, consumption and production patterns including other related human activities such as excessive exploitation of none renewable resources, urban migration etc. Although natural phenomenon have contributed to most of these changing patterns, Irurah and Boshoff (2003) blame excessive human activities to have exacerbated these conditions because, they have interfered directly or indirectly with the sink limits of the planet earth[2].

The above changing pattems are further worsened by the sensitive nature of the earth, coupled to its slow pace of recovery and its finite capacity of air; land and water systems, which have all made it difficult for the earth to receive and process waste generated as by-product of human consumption and production patterns.

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[1] Benn, H., is the current British secretary of state for international development.

[2] For more, see chapter 15 of *Confronting Fragmentation*: Housing and urban development in a democratizing society. Cape Town. UCT Press, pp. 244-262.

du Plessis et al.(2003)[3] asserts that, the infinite capacity of the earth has also, (besides having an effect on the earth's sink limit) has lead to an increase in the ecological footprint of the earth which has intend influenced an overall increase in world temperature (a prelude to disasters).

This temperature increase is expected to attain a maximum of about 2 to 4^{o} C by the year 2100 world wide. If this expectation is true then undoubtedly, it will be accompanied by increased evaporation and precipitation rates on a global basis hence, triggering more geological, meteorological and physical changes, which may increase many communities' probability to become more vulnerable to common events which may lead to disasters if not well prepared for and mitigated.

Eminent disaster events associated with such global changes could include; flood, droughts, landslides, diseases, hurricanes, storms etc. Nakajima (1988) earlier propounded this view, in an annual WHO report[4]. In his view, he stated that, the increasing nature of disasters as a result of uncontrolled human activities, have not only left man and species in a dilemma, but in the most vulnerable and fragile position, hence at the mercy of nature although with lots of impact differentials.

These differences in human and species vulnerability alternate from one geographical area to another and from one community to another depending on the degree of exposure and the type of disasters exposed to, as different disasters exhibit different characteristics. These variations range from frequencies, trends, magnitude and patterns of disaster occurrences hence, creating conditions for some disasters to be classified as "slow on the onset" and others fast on the onset[5].

[3] Climate change is having a serious impact on the built environment of South Africa which increases vulnerability levels

[4] World Health Organisation meeting held in Addis Ababa, 1988.

[5] Ibid

Famine and drought are classified as of slow onset events and in circumstances where they occur; there are arguments that, even though they are slow from onset, their health effects may remain with the population long after relief has been received and circumstances improved. While on the other hand; fire, earthquakes, epidemics, floods, storms, and others related to excessive weather changes, are classified as rapid onset events because, they yield immediate casualty figures which is also argued to often lead to the need for external aid which does not completely heal disaster survivors. As a result, communities need to prepare well before hand to mitigate the effects of these disasters on man, environment and the economy[6].

Modern sophistication of technology therefore, had been expected to derive a solution for these phenomenons. Unfortunately, largely speaking, a reliable solution is yet to come. The monitoring devices, specific chemical reagents, computer modeling and seismic technologies that are supposed to provide early warning signs to vulnerable communities in order to predict and prepare them for potential disasters are not 100% effective as of past and present disaster occurrences.

From observations, disasters still occur *with maximum impacts* even in areas known to have had these early warning systems many years ago. Although their role to mitigate impacts is very significant, it is worth noting that, they are in themselves a problem because as earlier mentioned, they sometimes failed and disappoint man; thus, disasters largely remain a threat to communities and sustainable development.

Moreover, the modification or change of technology and life-style in the quest to seek for answers to poverty; underdevelopment, economic growth, HIV/AIDS etc, is also argued to have created what some authors called "disasters of development"[7]. The spill of oil in the oceans by sea vessels, radiation leaks, air pollution, solid and liquid

[6] See a WHO, (1989).
[7] Disasters that may occur during the process of research or development of a product e.g. chemical explosion

waste disposal and the depletion of the ozone layer, are some negative conditions linked to these modern changes created by man himself. Disaster from this perspective could then be sub-divided in to two categories: “man-made and natural disasters”.

Mankind is therefore faced with a destructive wrath from two fronts (man-made and natural disasters), which, as earlier mentioned, affect communities differently depending on their geography and levels of development. Poor communities in developing countries such as South Africa, suffer the hardest when a disaster strikes. Untold damages in most cases are left on scores of people who are ill prepared psychologically and other wise.

As a result, it is the exclusive responsibility of institutions (public and private) to prepare their communities against potential or anticipated disasters. But because largely speaking, they are faced also with limited resources that sometimes are required to be used for the benefit of all, disaster preparedness remains a practice that is carried out by a few and sometimes may be completely absent in other communities. Disaster Planning and preparedness hence becomes a vital tool for community sustenance as it increases their levels of resilience and a reduction in unplanned impacts.

There are activities and circumstances in many cities around the world that create vulnerable conditions for city dwellers and surrounding communities. For example, in a city such as Johannesburg there are conditions such as; the hybrid African livelihood strategies employed by most of the poor population, the city’s population growth rate, waste production, inadequate transport systems, environmental inequalities and high population densities coupled to the city’s high rate of poverty which is estimated to be affecting more than 40% of its urban population (du Plessis et al., 2003).

A majority of Johannesburg's urban poor are living in "high risk areas" such as; flood plains, slim dunes, landfills and dolomite areas as well as others living in high density informal settlements areas for example the community of Protea-South and Alexandra, while others are living along major high ways and busy train routes which all exacerbate and create susceptible disaster conditions. It is argued that; in an event of a disaster, not only are communities living in these risky areas will be affected but, the effects will also be felt on those communities residing in other parts of Johannesburg because of their externalities (Winkler et al., 2002).

This research in Johannesburg therefore reviews and evaluates institutional and communities' state of readiness in anticipation of future disaster(s). The aim is to minimise future disaster risks and impacts; create awareness in the light of sustainable development because, disasters have become part of a day-to-day living in not only the lives of Johannesburg city dwellers but that of most South African communities.

1.2 Reviewing the problem:

Burman, (1971) describes a disaster simply as "a calamity on a nation-wide scale, or misfortunes of national importance". The United Nations defines disaster as a serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources". The UN definition further states that, *a disaster is a function of the risk process. It results from the combination of hazards, conditions of vulnerability and insufficient capacity or measures to reduce the potential negative consequences of risk (*UN/ISDR*, 2005).*

The United Nations Development Programme (UNDP, 1995) defines "Disaster Risk Reduction" as the systematic development and application of policies, strategies and practices to minimise vulnerabilities, hazards and the unfolding of disaster impacts throughout a society, in the broad context of sustainable development[8].

The above definitions show how much interest the international communities or bodies have invested in disasters. Disaster is therefore not a single community's problem but a shared interest. A shared interest because, besides involving a compelling need for assistance from outside to the ravaged area or affected persons in times of a disaster, it's also a threat to development and hence undermining sustainable development that affects all directly or indirectly.

The range of support that disaster victims need would sometimes vary from an individual co-habiting or sharing with victims, to private organizations (NGOs), religious bodies, national government and international organizations assisting in one form or another. This huge burden entails social, economic and environmental cost, which is endured by even those who are not directly affected hence; prevention by means of preparedness is deemed better than cure because the current trends of disasters occurrence show that, disasters are on the increase (UN/ISDR, 2006).

[8] See www.undp.org/emergency relief items

During the period 2004-2005, the number of disasters is said to have increased by 18% worldwide although the death toll dropped compared to previous years. In 2005 alone, natural disasters killed 91,900 people as stated by official data published by the "Belgian Université Catholique de Louvain's Center for Research on the Epidemiology of Disasters" (CRED) and the United Nations International Strategy for Disaster Reduction (UN/ISDR) Geneva.

From a comparative analysis point of view, the world is said to have had 360 natural disasters in 2005 compared to 305 in 2004. This increase is argued to have emanated from the increasing number of floods and droughts around the world. Statistically, the number of floods increased as well by 57 % in 2005 that is, 107 in 2004 and 168 in 2005 and droughts alone increased by about 47 % i.e., 15 in 2004 and 22 in 2005 (UN/ISDR, 2005).

This number of incidences does not only show a rise in frequency of disasters but also an increase in the number of persons affected. 157 million people, probably seven million people more were affected in 2005, than they were in 2004 according to the same UN report. This therefore means countries that were affected needed additional resources to assist, and evacuate the injured persons and the use of scarce resources to rehabilitate others who lost their livelihoods even though this was not on an equitable basis between and within countries.

From an African context, this means more suffering to many households, as many resources are generally insufficient or deficient in quality. Even in cases where there are few of these resources, very few people are able to access them for political and power related issues. This implies institutions should better prepare vulnerable communities for eventual disasters rather than follow the normal response procedure, which in most cases often requires lot of time to deliver necessary services that could safe lives, because there are other instances where these services are not available at all.

Disasters in the 2004/2005 periods were generally high such that the numbers of occurrences were widespread over all the continents. The figures from the death toll were equally very high casting a general doubt as to the world's state of preparedness for these calamities as seen on the table below.

Table 1.1 Common disasters around the world: Top 10 most hit counties.

Top 10

Natural disasters by number of deaths - 2005

Earthquake, October	Pakistan	73 338
Hurricane Stan, October	Guatemala	1 513
Hurricane Katrina, August	United States	1 322
Earthquake, October	India	1 309
Flood, July	India	1 200
Earthquake, March	Indonesia	915
Flood, June	China, P Rep	771
Earthquake, February	Iran, Islam Rep	612
Measles Epidemic	Nigeria	561
Flood, February	Pakistan	520

Countries most hit by natural disasters - 2005

China P Rep	31
India	30
United States	16
Afghanistan	13
Bangladesh	12
Pakistan	11
Vietnam, Indonesia, Romania	10
Iran (Islam Rep), Russia	9
Haiti	8
Mexico, Turkey	7

Victims (killed and affected) of natural disasters per 100,000 inhabitants - 2005

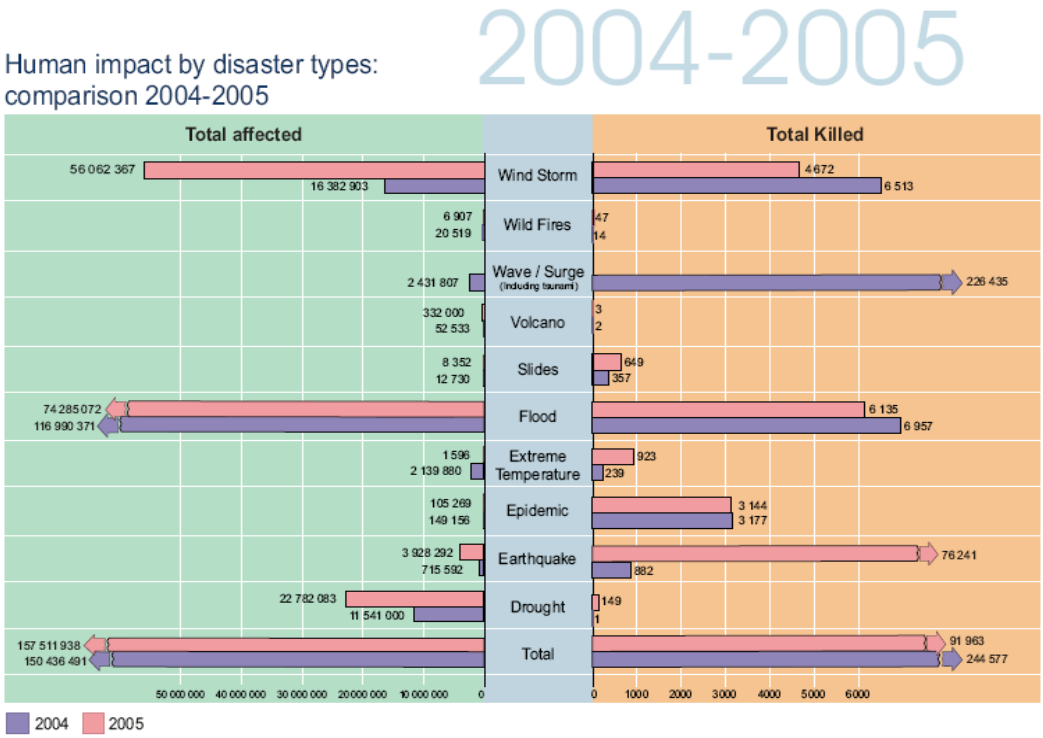
Comoros	42 512
Malawi	37 376
Guyana	35 909
Niger	30 863
Cuba	22 914
Albania	11 240
Zambia	10 666
Djibouti	9 859
Kenya	7 497
Mozambique	7 461

Source: UN/ISDR, 2006

There are many debates surrounding the number of live losses. There are arguments that, thousands of lives could have been saved had simple measures been put in place such as; better-constructed houses, schools to educate children about disasters, hospitals and the effective preparation of local communities on how to prevent and mitigate disaster impacts for example by means of repeated warnings (Annan, 2006)[9].

The years 2004-2005 indicate importance of planning for disaster. This is because; almost all the different forms of hazards were present on different continents. For example, wind storm, wild fire, tidal waves, landslides, floods, extreme temperatures, epidemics, earthquakes and drought. These hazards affected people differently as could be seen from this figure.

Figure 1.1 Disaster impacts on humans worldwide.



Source: UN/ISDR, 2006.

[9]See www.un.org/Docs/journal/asp/ws.asp?m=A/60/227

The above figures show how the numbers and frequencies of disasters are growing as well with greater socioeconomic and environmental losses. “Munich Re”, cited in (DFID, 2006)[10] one of the world’s largest reinsurance companies based in Germany asserts that, the 1990s recorded economic losses from disasters total over US$ 608 billion, 8 times greater than losses over the four previous decades combined. In 2005 alone, damages caused by disasters cost about, 159 billion US Dollars in the world at large. The number of disasters is expected to increase as climate change and global warming generate more severe weather-related events such as hurricanes.

If a consensus could be reached on (climate change and frequency of disaster occurrences) as, figure 1.2 indicates below then, serious measures need to be taken immediately so that sustainable development as well as the Millennium Development Goal (MDG) can both be attained. Some schools of thought support the importance of reaching this consensus by asserting that, sustainable development encompasses the general human wellbeing in terms of social, economic, political, institutional and cultural integration (Irurah and Boshoff, 2003). But, this may only be possible if different institutions incorporate disaster preparedness and planning/community involvement in to their development plans, as disaster reoccurrence is eminent judging from the current trends.

Table 1.2 Current disaster trends in the world

Years	1975	1980	1985	1990	1995	2000	2005	+
Number of Disasters	+100	+150	+200	+250	240	+500	+550	

Source: EM-DAT: The OFDA/CRED International Disaster Database. Belgium.

[10] British Department for International Development (DFID Policy paper) www.dfid.org

1.3 Problem Statement:

There are indications that the multiple occurrences of disasters have been combated with varying means and efforts; at local, national and at international levels. These efforts range from; giving food and medical aid to disaster victims, rehabilitating and reconstructing shelters to disaster survivors, creating financial boards as well as the development of early warning systems amongst other measures.

It is also clear that contemporary disasters, although they affect the poor most, they do not only occur in countries that have been described by some humanitarian organizations as *the poorest countries*, but also do occur in relatively wealthy countries with marginal effects in terms of death toll and property damages as revealed by the 2004/2005 periods world wide.

Looking then at disaster preparedness from a local perspective, Greater Johannesburg Metropolitan Council has equally invested many efforts to mitigate disaster impacts. Vulnerable areas and communities have been earmarked; priority areas and development strategies have been set up, detective devices have been set up for the monitoring of flood, in flood plains, as well as some provision of basic services made.

For example, water has been provided to some previously disadvantaged communities (Huchzermeyer, 2003), and legislations passed. Recently, a Disaster Relief Fund Board in accordance with section 17 of the Fund-raising Act, (Act No.107 of 1978) has been appointed aimed at giving more relief funds to survivors drawing on some experience from the effects of hurricane Katrina (Buys, 2005)[11].

[11]The South African National Disaster Management Center (NDMC, 2005)

Other local efforts include; the city of Johannesburg recruiting many qualified emergency medical technicians and placing them in different local municipalities, the provision of intensive training to all members of staff so that they can serve the public any where and at any time. The subdivision of staff in to specialties like, first and second level paramedics has also been made as a means to ensure effective and efficient emergency response (EMS, 2006)[12].

The application and enforcement of emergency regulations and building codes have been instituted by the National Department of Housing. Routine inspection of buildings, the 600kw subsidies of electricity to reduce fire in low-income households and improve affordability has been made, the building of emergency housing units have all been put in place amongst others, to reduce vulnerability and the impact of disasters on vulnerable communities (DoH, 2000).

The above activities and commitments are indications of varying inputs made by different institutions aimed at mitigating disaster impacts on vulnerable communities in Johannesburg. These are also signs that the commitment to the reduction of disaster numbers has been growing although the actual materialization is still slow.

However, human and economic losses due to man-made and natural disasters continue to rise and largely remain a major obstacle to economic growth and the redistribution programme (GEAR)[13]. This reduces the chances for Johannesburg to attain its 2030 vision. Additionally, new risks are emerging in Johannesburg every day. These range from serial killers, rapists, to other unexplained forms of death e.g. TB in some communities in Johannesburg which all constitute other forms of risks.

[12] For more on EMS, disaster preparedness, see www.joburg.org/ems

[13] See the ANC, 1996 manifesto.

Moreover statistics from Disaster Relief Fund Annual Report, (DRFAR) still show as well that from 1st April 2002 to 31st March 2003, seven disasters were declared covering the whole province of Gauteng. These disasters affected an estimated number of 61.463 persons during this same period (DRFAR, 2003). While in the Johannesburg Metropolitan area, the period between 2004/2005 witnessed an incidence increase of 8734 to 10480 by the end of December 2005 from fire related cases only[14], even though there has been series of meetings and gatherings aimed at reducing disaster incidents worldwide.

The World Summit for Sustainable Development (WSSD) held in Johannesburg 2002 is one of such meetings aimed at reducing human and material vulnerability in areas such as high poverty levels and environmental degradation. But since 2002, poverty rate in Johannesburg has been worsening, as there are increases in population growth rate without a corresponding increase in income levels and as a result, this will increasingly lead to resource depletion and environmental degradation.

Evidence lies in the fact that, the concept of poverty is directly related to human welfare and the state of the environment[15]. In Johannesburg, more than 80% of the population is *Africans,* who still do not have sufficient basic services such as adequate water supply, food, shelter, clean air and basic health and sanitation services, hence high levels of susceptibility to common disaster events (Goetz, 2004).

Some of the *African* areas that have high levels of susceptibilities and poor environmental quality in Greater Johannesburg are found in the northern part of the metropolitan area; (Diepsloot and Zevenfontein), Alexandra (east of Sandton), the mining and industrial belt and the Klip River area as well as the Roodepoort vicinity. The area around Soweto, Orange Farm and Poortjie are inclusive as well. High disaster trends in these areas show low levels of community resilience and these

[14] EMS, 2006
[15] Irurah et al., 2002)

coincidentally, are all previously disadvantaged areas. Their incorporation into the Strategic Metropolitan Development Framework[16], and also specifically identifying Soweto, Alexandra, the Southern Development Corridor, and the Klip River areas as Priority Intervention Zones (PIZ) by the GJMC[17], are supporting evidence that many communities in Johannesburg are still highly vulnerable to disasters thus largely remain at risk.

This therefore means, *the sophistication of means and methods of combating disasters in Johannesburg, has not reduced the propensity of previously disadvantaged communities to be at high risk, and vulnerable to all forms of disasters.*

Hence, these communities largely remain at the mercy of nature implying, that GJMC and their policy makers, planners, sociologists, economists etc must pay more attention to identifying practical ways to incorporate risk reduction measures into actions in the fight to reduce poverty and attain the 2030 vision for, poverty can not be reduced amidst disaster conditions.

[16] Strategic Development Framework is a developmental (guide) document that forms part of the IDP
[17] See the Johannesburg IDP, 2005/2006

1.4 Research Question

Disaster planning and preparedness is said to be the most effective way of "reducing disaster risks and community vulnerability"[18]. *How can institutions, and other interested stakeholders plan and prepare a vulnerable community such as Protea-South (previously disadvantaged community) in Johannesburg such that future disasters could have minimal impacts (reduce risk) on the lives, property and the environment in the context of sustainable development?*

The main argument in attempting to provide answers to this question is that, the different institutions responsible for disaster planning and the preparation of disaster-prone communities in Johannesburg are not doing enough in terms of information dissemination, planning of settlements in potentially high risk areas, cleaning the environment, supporting livelihoods, and speedily allocating funds to disaster victims after a disaster has occurred as will be reviewed latter. As a result, most disaster-prone communities in Johannesburg, continue to remain at high risk and vulnerable even to small scale hazards, which could be reduced with minimal resources.

Evidence lies in the high levels of incidence in previously disadvantaged areas; large scale of pro-respond activities taking place in Johannesburg, and the high level of ignorance that exist amongst many community members. Experience has shown that, the four main phases of disaster and risk management cycles are rarely followed by many public institutions in Johannesburg as stipulated in the WHO, (1987) report despite being some useful ways to mitigating disaster impacts. These phases include; the pre-disaster phase, the impact phase, the emergency phase, and the reconstruction and rehabilitation phase (WHO, 1987).

[18] See Annan, 2004 at www.UN.org/ISDRAfrica

To come up with some useful proposals as to how to sustainably prepare and mitigate disasters in our communities, this research then reviews the state of environment in Johannesburg; -assess the different types of hazardous conditions and community levels of vulnerability. It also looks at what is being done by different institutions (plan and prepare) in response to, mitigate disasters, and then ends up by suggesting some possible ways forward with the aim to achieve a sustainable form of community.

1.5 Conceptual Framework

This study is located in the field of disaster risk management but grounded around the paradigm of integrated sustainable development, specifically within the context of disaster planning, prevention, mitigation and preparedness as these are the key phases of the disaster risk management. Disaster patterns have changed dramatically for the past three decades Worldwide[19], thus the need to tackle them using innovative and simple practical methods that can be understood by all; children, the old, literates and none literates etc (CRED, 2006).

In my opinion, *effective disaster management and mitigation* requires a continuous chain of activities by state institutions, communities and private sector which include; hazards mitigation, preparedness, emergency response, relief and recovery as well as including activities such as: the fast reconstruction of infrastructures and the rehabilitation of shattered lives; continuous education/warnings, livelihood support, and community participation because they are the only ways to attain this objective. A conducive environment for these, will exist only when different stakeholders in Johannesburg; the private-public-communities, in a *collaborative planning process,* work in partnership; plan and prepare for disasters with the sole aim to reduce community's risk to disasters (Healey, 1997).

[19]CRED: International Disaster Database. (*Belgian Université Catholique de Louvain's Center for Research on the Epidemiology of Disasters* can be found on www.em-dat.net .

Involving the beneficiaries regardless of the technicality of the plans is argued to be a form of integration as it enhances sustainability and community empowerment[20]. For example, when a disaster occurs, most often the people on the scene are the community members long before any form of emergency arrives which implies, if community members lack the capacity, to help each other in such event, the casualty ratio is bound to increase (Beall, 2002).

This area of participation is not fully exploited by most institutions in Johannesburg as many vulnerable communities are not involved in the planning of their own projects as displayed by the high level of vulnerability and ignorance. e.g. simple disaster prevention techniques like turning of a coal stove after use, is largely ignored and basic first aid principles such as, laying an unconscious patient who is not breathing on his back and giving him a "mouth-to-mouth" resuscitation is not known by many.

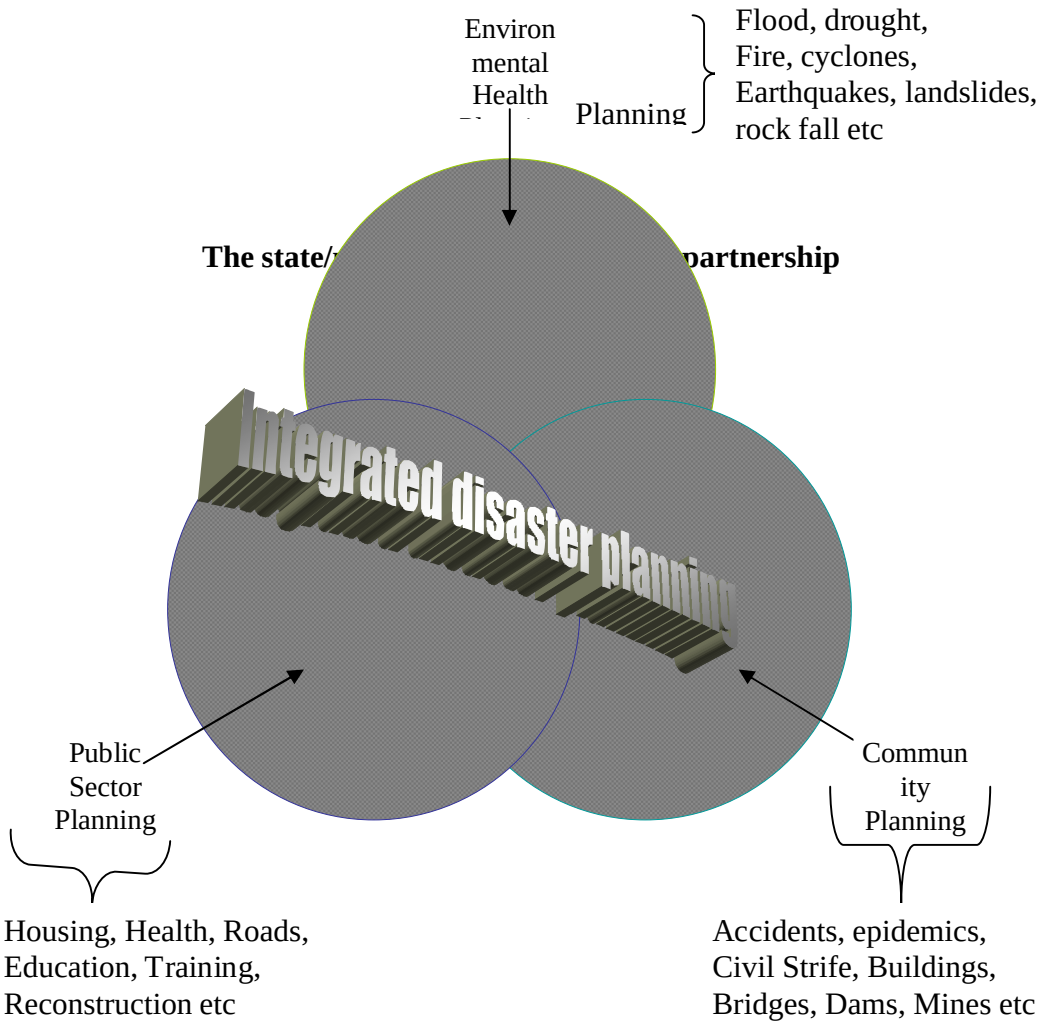
By implication, there is need for the integration of different sectors, which requires the inclusion of the civil society, communities, the private sector, research institutions and academics in planning and preparing for disasters because through this process, wider information is passed on to a generation of people. The integration of sectors can be done also for example, by merging the construction of water supply with an on-going development activity such as community mobilization to further improve the water supply systems or by involving the community in the piping process. Involving the community will strengthen their organizational and technical capacity and improve methods of providing early warnings of hazards and efficient disaster response since they will have to manage their own affairs long after such a project is completed.

[20] See chapter 8 of Beall, J. 2002.

It is therefore necessary for different institutions to work together as one. For example, in environmental health management, the effort of the public sector would be more efficient if (e.g. health, housing and public works) combine efforts with those of the private sector: construction, engineering, design and conservation coupled with local communities' (labour, local building material etc). This is regarded as a very vital step in disaster management as close coordination amongst sectors means effective emergency response as well as a long-term disaster prevention, emergency preparedness and planning. This strategy will help in the planning of the social, economic and environmental life of the communities involved or affected hence, using minimal resources but amounting to greater efficiency.

Figure 1.2

A conceptual collaborative disaster planning approach



1.7 Methodology

This research comprises both qualitative and quantitative methods. Qualitatively, this research involves fieldwork and interaction between the people of Protea-South and the author. This is done in a bid to understand from a humanistic point of view, the daily struggle and personally experience what the community is experiencing in terms of levels of disaster vulnerability. This will provide a better picture of life events, which may lead to a better form of assessing levels of both community and institutional preparedness. The result of the findings will be purely descriptive by way of words and pictures.

A survey will be conducted in the community of Protea-South. Questions included in the questionnaire will be those that need explanation and those that do not. Trended questions such as the relationship between institutions and community e.g., the health care system and the people will be asked, the willingness and ability to evacuate Protea-South if the need arises, state of community preparedness, perceptions, and other questions pertaining to emergency planning and response will also be asked.

The survey will be conducted exclusively in English because of the author's inability to speak the local language. Respondents will be chosen as follows; Five households will be chosen from "section 1", five from section 2 until section six. This will give a total of 30 households from a total of about 6000 households. It is assumed that, proportionately choosing five households from each section will help to authenticate the results as every section is evenly represented.

These interviews will be complemented quantitatively by a literature review, theories and statistics that have influenced disaster preparedness not only in communities around Johannesburg but vulnerable communities in other mega cities such as El Salvador, Manila etc. This is done with the hope to draw practical lessons from international best practices.

1.8 Data Collection:

A vulnerability assessment method was used and followed five major steps;

- Firstly, I was trying to gain an understanding by identifying vulnerable conditions and community capacity to cope with these risks. That is why the researcher had to conduct interviews to get the historical background, socioeconomic conditions, common and frequent hazards in the area, as well as the technical and human resources available in Protea-South that could be use to mitigate disasters. Through group discussions, different perceptions were tested to identify how people think and feel about disasters such as fire liking this to the literature review.
- The second point of emphases was laid on how people would be able to cope with their present houses in extreme weather scenarios or in an event of a fire break-out. This question was posed mostly to households that were very poor determined from the structural presentation of their home, livelihood strategy and the state of physical health.
- Questions were asked to the authorities representing different and public and private institutions; for example the Protea-South health post and the Johannesburg fire department.
- Find out the confidence of self-protection (if they could be build a permanent home) and a tenure be given. This was just what the community members were waiting to here though the researcher did not promise them of the realization of that question any time soon. The purpose was to find out if they were satisfied with their present condition or they needed a change that could help mitigate common hazards such as fire.
- Lastly, the researcher tries to find out means of livelihoods and survival strategies employed by the community of Protea-South.

CHAPTER TWO: LITERATURE REVIEW ON DISASTERS.

While many theorists have managed to improve the level of awareness of the terrible impact of disasters throughout the world, few have understood the causes of increased levels of vulnerability, hence have not responded in a way that could possibly reduce risk and vulnerable conditions of local communities… thus many still Live with Risk (Annan, 2004)[21].

2.1 Introduction

Contemporary disasters have attracted a large number of theorists from amongst others such as; planners, architects, sociologists, environmentalists, economists, and to a larger extent, meteorologists more than before due to their catastrophic nature. Disasters have destroyed economies, ruined lives, chattered the living environment and natural systems thereby instilling fear in to the minds of many who would love to see disasters reduced but do not know how. This is because largely speaking; many have not understood the causes of increased vulnerability and disasters to a greater extent. While others who do, have been blindfolded by the myth and perceptions that surround disasters hence, haven't responded in a way that could possibly reduce community's risks and vulnerability.

Some of the common responds to disasters range from; unilateral aid and donations to disaster survivors (medical, food and specialists assistance); to the putting in place of physical mitigating structures like; fire fighting machines, helicopter water bombs, the re-construction of roads in affected areas, bill-board displays etc all with the hope to mitigate and reconstruct the lives of the present and the future communities. Policies such as the South Africa housing code which regulates housing standards i.e.

[21] See www.UN.org/ISDRAfrica

by providing basic services such as electricity, water and sewerage to reduce vulnerability have been passed; a disaster relief fund board created as well, the setting aside of an international day for disaster reduction on October 12th, 2005 amongst other policies have been put in place to mitigate disaster impacts on community (DoH, 2000).

However, after decades of attempts by local, national and international bodies such as CBOs, NGOs, WHO, UN, UNICEF, UNESCO, UNDP, UNCHS and the World Bank to combat and reduce disaster impacts as well as, reduce the vulnerability of disaster-prone communities, disaster occurrences still remain as high as 360 natural disasters worldwide hence, putting more families at risk (2005 statistics alone). This poses a huge challenge to development planning as; infrastructure, economies and human development are constantly being threatened by disasters (DFID, 2006)[22].

There is little consensus on what causes a disaster situation. Environmentalists have blamed disaster threats on man's over-interference with the natural environment hence, referring to human development activities such as deforestation and poor agricultural practices amongst others; while economists and world body such as UNCHS, have equivocally blamed these threats on globalization, overproduction and the high inequitable levels of income between communities as well as between countries of the North and those of the South (UNCHS, 2001)[23]

Other humanitarian organizations have as well cited that the trends in the number of past disaster occurrences have been increasing *geometrically* although the number of deaths is argued to have been growing *arithmetically* hence suggesting that community's level of vulnerability is gradually reducing, although many families and

[22] See the UK Department for International Development at the World Conference for Disaster Reduction in Kobe, Hyogo-Japan . www.undp.org/bcpr/disred/rdr.htm#top

[23] See the United Nations Centre for Human Settlements 2001 global report.

communities largely remain unprotected (UNDP, 2004)[24]. This decrease is attributed to advanced technology in medicine but does not cancel out effective community planning because remote communities in most parts of Africa are yet to rip this scientific benefit of improved technology.

Increased disaster numbers from this perspective remain the world's greatest challenge despite multiple efforts to mitigate negative impacts. As a result, it poses difficulties to plan for human health, HIV/AIDS, poverty, economic growth and sustainable development especially in an African context where, a healthy life-style still depends on meeting basic minimum needs such as; basic hygiene, safe water supply, sanitation and energy (Tomlinson, 2003).

This chapter seeks to discuss the different theories about why so many efforts have been invested into disaster mitigation but communities' vulnerability levels are not reducing proportionately to the efforts invested. This explains why planners and policy makers and other specialists in other fields, before venturing to enter the business of disaster planning, should look at the characteristics that mark-out disasters; that is, identify the risk, analyse it then respond. The reason is because; risk analysis enables decision makers to improve the quality of their judgments in order to make best decisions as disasters differ widely with the day-to-day activities of communities and vary from one community to another.

[24] See *World Population Prospects on* www.unfpa.org/profile/notes.htm cited on the 23/4/2006.

2.2 Definition of Disaster.

The United Nations defines a disaster as "a serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources". It further states that*, a disaster is a function of the risk process. It results from the combination of hazards, conditions of vulnerability and insufficient capacity or measures to reduce the potential negative consequences of risk (*UN/ISDR, 2005*).*

2.2.1 Disasters and their Classification

One of the reasons why disaster mitigation and preparedness have yielded less impact in some communities is because the classifications of disaster widely differ from one area to another even though it can be argued that, the rates at which these disasters affect communities differ as well from one geographical area to another which explains why they are classified differently.

Disasters are classified as geophysical (earthquake, volcanic eruptions, tsunamis); hydro meteorological (floods, and wind storms); and geomorphologic (landslide); Man-made (fire, accidents etc). These disasters are further classified according to their speed of onset (sudden or slow), their causes (natural or man made), and their scale, (minor or major) (Blaikie et al., 1994).

Many institutions have classified disasters using different criteria. Some have used the number of casualties as their unit of measurement and others have used the monetary value of property lost in classifying disasters. Better still; some countries have used the definition and classification of disaster for legal or diplomatic purpose. An example of this political classification could be seen when deciding to declare an area a "disaster area or zone". Declaring an area a disaster area for example, would

imply money flowing out of government's coffers to the disaster affected communities. An area with a small disaster magnitude can be declared a disaster area, while another area experiencing disaster of a larger magnitude, may not be declared a disaster area, but called a hazard zone. These all depend on the political intentions and the connotations attached to the said area or region. This means that community members, that happen to be residents of the affected area named a hazard zone, will continue to be vulnerable to subsequent disasters as nothing is done to remedy the situation.

There is a general perception as well that natural and man-made phenomena such as fire, flood, drought; landslide, accidents and rock falls are disasters. However, Blaikie, et al. (1994) argues that, these phenomena in themselves are really not disasters but hazards. They become disasters only when they hit vulnerable areas and or communities that are characterized by low levels of *resilience.* He further emphasizes that, a disaster would occur when a hazard exceeds an affected community's capacity to cope and manage its own resources and that; the effects of these disasters may sometimes cause physical and psychological damages, high degree of human casualties which may also lead to the disruption of livelihoods (Ibid).

There are further arguments that natural hazards such as earthquakes, torrential rain, mudslide, landslide, hurricanes or typhoons, volcanic eruption, flood, fire etc are considered as natural events that may threaten human life but, would only become disasters if they interfere with human activities because, they in themselves are not a threat; assuming they occur in areas with no immediate economic potentials. An example would be a volcano erupting in a desert in the absence of man and animals. But many are opposed to this view as they argue that, if disaster events do occur whether in the desert or not, they will still have impacts-basing their argument on the concept of externalities which supports Smith, (1992)'s earlier arguments.

2.2.2 Disasters and Hazards

Distinguishing disasters from hazards in terms of sizes, Smith (1992) differs with Blaikie, et al. (1994)'s version of what a disaster should be. He argues that, the development of disasters in most cases do not always start at a big scale. Small hazards that have limited damaging impacts can also serve to develop the capacity to do big and damaging impacts if not well controlled and prepared for.

The existing patterns and reoccurrence of every-day hazards and 'small' disasters, Smith (1992) argues, are indicators of people's vulnerability to large disasters. For example an overcrowded poor household is vulnerable to fire especially when they are using crude sources of energy for daily lighting and cooking with coal dust or the use of candles for lighting in households that are over crowded with children. This means that preparing and intervening in a disaster situation should not be based on the size and magnitude of the disaster event but should be based on levels of household vulnerability and exposure to risk. After all, there is no greater or smaller life if lose. Impacts may differ but the pain from a disaster is largely the same.

2.2.3 Disasters and Unfamiliarity

It is apparent that if disasters could be predicted, they can be avoided. This is a fundamental problem in most communities who live in disaster-prone areas even though it can be argued that some people do not live in these places by choice. It is also clear that certain types of situations are more likely to produce major incidence than others. For example, major high ways, busy airports, large crowd assemble such as political rallies, soccer stadia etc. But many hold the opinion that, it is quite difficult to predict or to know the *when and where* disaster would strike hence, people will continue to be at risk as disasters cannot be avoided.

There are other situations, which *everybody* often turns to under-look, as no one perceives these places to be that dangerous. These include places such as; shopping malls, town parks, petrol stations, school campus etc. This perception we must admit, has contributed to the difficulties of planning in such environments, as the risk factors are sometimes not very distinct. For example, a stamped in a stadium is difficult to predict but can be planned for. A deadly accident is as well very difficult to predict but also can be planned for by creating emergency routes that could help during times of such event and strict rules to reduce speed limits hence, vulnerability is reduced.

The Ellis park catastrophe could have been avoided had it been officials had incorporated safety measures into their construction plans. Stadia should have excess emergency escape routes that are not used during events but should be put on alert and well marked out. If such measures are implemented before hand, impacts from disasters will be mitigated, as disasters are highly unpredictable and do not carry warning signs except for some natural disasters.

Disaster planning and preparedness remains a lasting solution for disaster mitigation for it reduces community's chances of being at high risk thus, the perception that because disasters are unfamiliar in nature and cannot be avoided in my opinion remains a weak argument.

2.3 Disasters and Risk

2.3.1 Risk and Uncertainty

Many public institutions, private business groups and individuals draw up development plans with wide expectation for a better future that is largely unknown or uncertain. The aspect of not knowing puts these plans at risk. But hardly have many considered the element of risk that may be involved in such development plans or projects. As a result, these fanciful plans end up not being realized when a disaster suddenly strikes.

Along this line of understanding, Raftery (1993) asserts that, “risk and uncertainty characterize situations whereby the actual out come of a particular event or activity is likely to deviate from the initial estimate or forecasted value”. This therefore means that, risk forecast should be applied to development plans or projects because of the cost factor that may be added on to the initial capital cost in a situation where a disaster sets in. Experience shows that, many development plans have been abandoned before completion both from individual and national levels.

Buildings have been washed down before completion by storms and flood as well. Some completely washed down and abandoned permanently and others partially and temporarily abandoned; work delayed, and cost increased because of the lack of a proper risk assessment. Risk is therefore, the probability of a disaster event looked at as a ratio of the magnitude of losses entail. These losses from a disaster point of view can be ensured and hence, could be regarded as another form of disaster preparedness since victims of disasters are often left stranded after a disaster has occurred.

This explains why disasters of a similar magnitude e.g. earthquake, may strike two regions with the same force but the pace of recovery between the two places will greatly differ. For example, the recent storm in Bangladesh and the hurricane Katrina (2005) in the United States of America. American victims are argued to have recovered faster than victims in Bangladesh as a result of some Americans haven taken insurance policies against disasters. It is therefore more proper for people to take up insurance policies as a form of disaster preparedness when they are most uncertain about a disaster situation. This will increase their level of resilience, and lower their level of vulnerability in case of a disaster event.

Uncertainty on the other hand, is used to describe a situation where it is not possible to attach a probability to the likelihood of the occurrence of a disaster situation. Unfortunately, uncertainty cannot be insured. This then cast doubts on the practical usefulness of the distinction between the two concepts (risk and uncertainty) more

especially because business decisions or development plans are made based on assumptions, subjective judgments that are sometimes backed by quantitative analysis. But proponents of this distinction argue that, this distinction does have some values, even though very conceptual.

For example, Raftery, (1993) asserts that, uncertainty attached to high impact events such as flood, wild fire, earth tremor and land slide, represent greater unknowns thus should be more prepared for than a quantified risk attached to the same event.
Therefore we as development planners should not only be concern with risks that can be quantified but also with opinions, professional judgments and degree of believe about these events as we pursue our community development planning objectives. Hence, the distinction of uncertainty and risk does not really matter as it lies in the degree of personal knowledge about future events. Preparing communities for disasters should also remain a priority in any developmental policy especially as regards to disaster-prone communities, which we are not very sure about what the next day would bring for them.

2.4 Disaster Myths and Realities

2.4.1 Epidemics

Generally, people have the tendency to either overestimate or underestimate potentially dangerous situations and sometimes relatively less dangerous situations based on their personal affiliations or interest groups. An expert would prefer to warn of some possible dangerous (though unlikely) outcomes and be proven wrong, than to have not predicted the situation at all. This attitude is regarded by many as good practice on like not indicating the probability of an event happening at all. But experts have been caught in their own trap as well (overconfidence) in their judgments when announcing the probability of a potential epidemic disaster occurrence.

This is the case with warnings that are made by some institutions about the possible out break of an epidemic after a natural disaster has occurred. After geophysical disasters such as earthquakes, volcanic eruptions, landslides and tsunamis, media reports have always stress the risk of epidemics. Whether this news about the "risk of epidemic" is genuine or not, it remains under debate because, many have largely considered it as a myth and hence *propaganda news.*

According to the Center for Disease Control and Prevention (CDC), an epidemic is the occurrence of more cases of disease than expected in a given area or amongst a specific group of persons over a particular period of time. But for many, the word epidemic is associated with large numbers of deaths and poor living conditions, such as those that sometime occur in refugee camps. The term outbreak is said to be synonymous with an epidemic and it is sometimes preferred because it may not evoke the sensationalism associated with the word epidemic (CDC, 1992).

It is worth noting that, the media is not the only organization that falsely announces an epidemic out break after a disaster has taken place in an area. For example, three weeks after the earthquake in Bam-Iran in December 2004, the World Health Organisation (WHO) is said to have warned that there is a potential out-break of cholera, typhoid fever, malaria, *leishmaniasis* etc and that these were its major concerns (Zarocoster, 2004). WHO is also said to have issued what we call in South African jargon, *falls alarm warning* about the risk for possible epidemics that could develop after the 2004 tsunamis.

Statements such as "there is an immediate INCREASED RISK of water borne diseases, i.e. cholera, typhoid, and hepatitis A and B, and the out break of these diseases could occur at any moment", are some of the comments made by WHO, in its 2005 annual report. There were reports equally from local news papers about possible epidemic out break, supporting WHO's stands during the same period. In response to this, other humanitarian organizations and agencies invested efforts, time,

and personnel, stocking up of ant-microbial drugs, rehydration fluids, and money in preparation for a potential epidemic, which never came.

Disaster experts are divided on this concept of epidemic outbreak after realizing that this concept is rare existence of epidemic after a major disaster. For example, Noji (2005) argues that, disasters do not usually result in the outbreak of epidemics but may increase disease transmission especially under poor health and sanitary conditions. Conditions that may quicken disease transmission are; fecal contamination of water, the spread of air born diseases such TB and measles in transition camps, poverty and bad weather conditions such as continuous down pour of rain or, weeks of snow fall including storms since disaster victims are largely housed in tents, caravans, transit camps and parks.

This view is supported by Woersching, et al., (2004), who conducted a survey of 100 refugee households that were living in *disaster refugee camps* in El Salvador, 2001. In their research they found out that, people were dieing more from the dusty environment because people spend most of their time in these hazardous conditions. Food conditions in the camps were assumed to be extremely difficult as 22% of the 100 households were infected with diarrhea diseases even though these victims were mostly children, the old, and the disabled.

Nathan, 2006 also holds a view similar to that of Woersching, et al., (2004). Nathan observes that after the Hurricane Katrina storm in New Orleans-USA, the least people to receive out side aids and who were disproportionately affected by the storms were the old, children and the sick. These are some of the conditions that could lead to massive death not just because of the occurrence of a natural disaster like many proponents of the concept of epidemics would assert.

Another group of researchers still very concern with the epidemic issue after a disaster breakout made an analysis of about 600 different disasters. Floret, et al., (2006) argues that, following their analysis of medical literature and data from humanitarian agencies and the World Health Organisation from 1985 to 2004, the number of epidemics recorded after such an event were very negligible.

Of the more than 600 geographical disasters recorded during this period, only 3 are reported to have followed by epidemic outbreaks (Ibid). One of these outbreaks was *measles* reported after the eruption of the Pinatubo Mountains (1991) in the Philippines, one of *coccidioidomycosis* after an earthquake in California, and another one of *Plasmodium Vivax malaria* in Costa Rica which was related to an earthquake and heavy down pour of rain. Although these statistics do not show any danger as portrayed by most Medias, the humanitarian role to help prevent epidemics is still as important as preparing for an epidemic situation. This view supports (Smith, 1992, and Blaikie, et al., 1994)'s earlier arguments about conditions that leads to community's high levels of vulnerability and risk.

False perception about possible epidemic outbreaks is not only dangerous to the affected community but to donors as well. The affected community will be deprived from visitors who may have loved to visit affected areas and render some kind of help, but because of the wrong information that has been passed around, they become numbed and largely unable to visit victims. Annan, in his (state of world health, 2006) report calls this attitude *infodemic*[25], possibly implying dangerous information or distorted/inaccurate information that is a disincentive to invest in disaster areas. Another negative effect linked to such wrong information about the aftermath of disaster is the possible slow growth of a country's economy in the case where tourism is the main source of foreign earning hence creating vulnerable conditions for communities living in the affected area due to little or no source of income.

[25] Read more on, www.un.org/Docs/journal/asp/ws.asp?m=A/60/227

This means most families that depended on tourism as a form of livelihood support, will become poor, others possibly loosing their homes because they can no longer afford payments and become homeless. These are the conditions that will collectively increase levels of community vulnerability and hence they will continue to be at high risk to disasters. It could also be a disincentive factor for future response to most organizations that spent time and money to react to other situations that might be more serious than the former and need urgent help.

Conclusively, it will be preferable to use a group of experts to analyse a disaster situation than an individual or a single organization before declaring the prevailing conditions in any disaster situation. By using different Groups, it means each expert would have just a little to contribute to the global information, which may improve the quality of research and subsequently eliminate biased information.

2. 4.2 Disasters and vulnerability

Vulnerability is described as, the degree to which an individual, population, or organization is unable to anticipate, cope with, resist and recover from the impact of disaster (Blaikie et al., 1994). They further assert that, a disaster such as flood may affect a vulnerable population such that the lifelines that support their day-to-day livelihood is disrupted temporary or permanently. Hence, an indirect or a temporary disruption of livelihood may not warrant an emergency need but might open people's vulnerability for future disasters.

For example, a gas leak or an explosion in a factory may not kill any worker but may leave many workers unemployed during which their families have no subsistence means of income. The lack of money and proper planning may affect family affordability in terms of diet, medical health care, rentals etc. This creates open sores for family that are already wounded by poverty and hence become vulnerable to all other kinds of disaster persists.

Vulnerability is said to be a function of *susceptibility* (the factors that allow a hazard to cause a disaster) and *resilience* (the ability to withstand the damage caused by emergencies, disasters and to recover). Vulnerability concept, is then about trying to identify those members of the population who are most likely to suffer from hazards. The consequences of poverty; malnutrition, poor housing, destitution and homelessness are said to be major contributors to community's high level vulnerability though this does not affect every one at the same degree. Women, the old, people with disability and children suffer most during an emergency disaster situation (Walsh, 1992).

2.4.3 Disasters and Susceptibility

This concept refers to communities or individuals who reside on places like flood plains, low lying islands prone to storms, mines dunes, dolomite areas, and unprotected coast-lines or locations near industries that use or discharge poisonous gases. These conditions are very visible in most urban areas where land is very scare and expensive. An example could be seen in Rio de Janeiro where self-built houses are located on a steep slope or in a zone subject to earthquake in (San Salvador). Heavy rains are said to have killed 30 000 people in Venezuela due to unplanned settlements built on hill slope combined with deforestation (UN-Habitat, 2003).

The above situation is what leads to **"Emergencies"** condition, which is marked by a reduction in the ability of people to sustain their normal living. This may results to the damage of livelihoods, lives, health and property. Nathan, (2006) states that, these emergency conditions can easily be reduced by emergency officials if a more detail understanding of emergency planning, better preparation of long-term care facilities as well as the use of mitigative measures such as evacuation, relief and rehabilitation has been made; only then will there be a guarantee to reduce vulnerability and mortality.

But Pecki, (2006) contests that, at the onset of a disaster, people should expect and prepare to be on their own for some length of time before any form of help can arrive. As a result, people may have to rely on their own resource and ingenuity to cope with a social meltdown. He further states that this may look very disturbing from the onset especially for people who may be expecting immediate help but it is real that no such help will be available instantly because, disasters have always occurred with different characteristics thus difficult but not impossible to predict.

This therefore implies that, the ability of intervention facilities to perform well, should always be checked and people have to prepare and plan for disasters because, some catastrophes have completely rendered some facilities dysfunctional despite their history of effective ability to mitigate disasters. For example, evacuation vehicles that could easily safe lives became under-operational in the New Orleans disaster because all roads were damaged by storms. Some lives that may have survived died because of the lack of timely support. Had it been these communities had incorporated disaster planning and preparedness into their daily "business", casualty levels may have been reduced hence vulnerability and susceptibility to the high risk of disaster could have been reduced as well.

This therefore reminds us that, regardless of the amount of preparations that may have been made at institutional level, it is still vital for institutions during any development planning process to involve communities so that they can be more prepared, to self manage their risks and can be able to self-defend themselves as well as withstand disasters during bad days hence reducing vulnerability and impact levels.

CHAPTER THREE: THE CONCEPT OF DISASTER RELIEF AID

"Whilst many nations and communities are increasingly being attacked and affected by extreme events and hazards which undermine their development initiatives, this does not mean many nations are increasingly becoming beggars for relief aid"[26].

3.1 Introduction

Many nations around the world have increasingly become under the attack of disasters and common hazards. These disasters have reduced people's livelihoods and degrade some environments and lives such that some communities have been forced to flee and seek refuge in other areas of safety. Some nations that have been affected by disasters have responded by developing disaster management strategies while other nations which have not experienced any form of disaster in recent times, have yet to develop any mitigating strategies although there are arguments that the ability to do so depends on the political will and the regime in power (Liz, 2001).

Large-scale movements of people during an emergency situation mean large-scale interventions from multiple-sectors. Many institutions have been confronted with this challenge, as they are not able to plan and meet the basic needs of disaster victims. As a result, during a major emergency situation such as flood, there is convergence of long-term planning resources to short-term response and rehabilitation needs. This has caused economic, social development and the growth of economies to be postponed at the expense of limited local resources thus necessitating the need for external assistance due to unplanned shortages which may, result to a dependency situation.

This chapter examines the flaws of disaster aid relief for it is assumed that disaster aid does not (largely speaking) help in the reduction of conditions that create

[26] Author's version

community's high levels of susceptibility and vulnerability even though other proponents of aid relief argue that it dose helps in increasing levels of resilience.

3.2 Why Disaster Response and Relief?

Many institutions that are directly related to disaster risk management and mitigation are blamed to have largely been response oriented despite its perceived limitations during and after the relief operation. It has been widely acknowledged that, the devastation caused by some disasters exceed the capacity of the affected population and country as mentioned above hence, calls for external assistance in one form or the other. This relief usually comes from International aid agencies, foreign nationals, NGOs, national governments, CBOs, and friends and neighbours. These sources are said to be the providers of direct and first hand relief to victims but this does not go without criticisms (Kanti, 2006).

The United Nations Center for Human Settlements (UNCHS, 1994) argues that, the effectiveness of disaster relief organization or agencies is what determine the level of disaster impacts on the affected population especially in a third world context. However, disaster experts would want to differ with this view as they question whether disaster problems should be resolved by relief efforts in the first place (Susman, et al. 1983; Blaikie, et al. 1994; Hewitt, 1997; Bolin and Stanford, 1999; cited in Kanti, (2006) pp. 211-223).

The above argument is based on the context of numerous relief efforts that have in recent times, been fruitlessly invested in for example, a country such as Bangladesh, yet results do not seem to reflect inputs. The relief was done with the assumption that, Bangladesh like most third world countries, faces related challenges such as; unemployment, poverty, malnutrition, high national debt etc and could not cope using its own resources to help victims of natural disaster yet, this relief programme largely failed to *relief* or realize its aims to reduce vulnerable disaster conditions and hence, a debate.

3.3 Disaster relief debate

3.3.1 National governments versus NGOs

The relief for disaster victims has always been channeled through national governments and NGOs. They have traditionally claim responsibility for organizing emergency assistance for disaster victims. But the 2004 Indian ocean tsunami that killed 220 000 people and affected 12 countries over two continents is argued to have been the only disaster that numerous foreign nations, volunteers, military, church groups etc, participated directly in providing direct assistance to the survivors themselves (Kanti, 2006).

There are increasing debates that, governments of the third world countries as a result of economic hardship, have for the past few decades, increasingly depend on International Organisations and NGOs for the distribution of relief items to victims of disasters. But (del Ninno, and Doros, 2002) argue that since the 1970s most third world countries have met decreasing success in drawing emergency aid and development assistance from the developed nations.

This view was latter supported by Townsend et al. 2004; cited in Kanti, 2006) who asserted that, not to give relief assistance through national government was more necessary because, NGOs have proven over the years to be more efficient, effective and impartial from the disbursement of resources, to the relief of survivors than most government agencies had. Hence, in a country such as Bangladesh, NGOs are about to take over the traditionally government performed function of disaster relief since disaster relief largely does not help to reduce people's levels of vulnerability.

Opponents of disaster relief aid have the strong feelings that, regardless of who manages the relief process, there will still be no effective results because, man as a being is full of selfishness and have always had *hidden agendas* which may not be visible at an initial stage but as time progresses, his intentions change. Therefore, "it

is better to teach a man how to catch fish than continuously provide him with fish" This implies that it would be better to teach communities how to fight and protect themselves against disasters than to continuously provide them with relief aid as it is a disincentive to disaster planning and preparedness, coupled to the little reduction of vulnerable conditions amongst other criticisms as further examine below.

3.3.2 Distribution issues

There are increasing agreements on the criticism that disaster relief initiative has suffered widespread corruption and large-scale irregularities especially when done by the public sector. This stands resulted from the fact that relief aids sometimes do not reach the intended beneficiaries or victims on a proportional basis. This view was first propounded by (Smith, 1992) and is increasingly being supported by Nathan, and Kanti, (2006).

They all assert that although consensus had been reached that geographically, no two regions have the same characteristics and disaster impacts which may influence relief and distribution patterns, this notion of environmental inequality paradigm held by most politicians has been pushed forward as a defense mechanism. This is because people from some locations, regions, races and gender have completely been left out of relief aids programmes and others, delayed because authority argue that the terrain is not good for the transportation of relief material. This inequality in distribution, have not reduce the vulnerability of all affected persons who are at risk hence the need to question its use in the first place.

The aspect of irregularity of relief aid process is also argued to have in some extreme scenarios, led to the discrimination against marginal groups such as; the poor, women, and religious minorities because, there have been issues of power struggle in most national governments[27]. As a result, this biased and inequitable distribution of disaster relief products to deserving victims, has led to some marginalised group(s)

[27] Blaikie et al., 1994

benefiting least even though they might have deserved a larger share (Blaikie et al., 1994).

3.3.3 Quantity and Quality of goods distributed

There have been conflicting arguments as to whether the beneficiaries of aid relief really do have a choice as to what they should receive in times of relief. For example, in the 1976 earthquake in Guatemala provoked arguments that, some drugs sent by foreign donors had an expiry date of August 1934 (Alexander, 2000; cited in Kanti, 2006. pp.213).

While in 1988, the earthquake that killed 25 000 people in Armenia, foreign donors are said to have sent 5000 tons of questionable drugs and consumable medical supplies. Autier et al. (1990) argue that, not one-third of the medicines were immediately usable; 11 % of the remaining was “inappropriate”, 8% had expired and largely wrongly labeled (Autier et al. 1990; and Alexander, 2000; cited in Kanti, 2006 pp.213).

Another example of lack of consideration of the choice of beneficiaries by relief donors could be seen after the 1974 flood in Bangladesh, which resulted in a nation wide famine. There are arguments that Western nations donated large amounts of canned pork to “help” flood victims yet Bangladesh is a Moslem country and Moslems do not consume pork (Rahman et al. 1993 cited in Kanti, 2006pp. 214).

Similarly, in the 2004 tsunami, that affected Indonesia and Sri Lanka most, there are reports that Western nations sent heavy blankets, winter coats etc instead of items that could give immediate help regardless of the fact that these countries are tropical countries with very high temperatures. Despite the good intentions that surround the concept of relief aid, it has in most cases not met its ultimate goal of reducing levels of vulnerability hence; preparing communities against disasters is regarded more efficient and effective than food aid respond and relief programmes.

3.3.4 Cost of relief aid versus beneficiaries' satisfaction

Flying from Europe with disaster relief items for example entails a huge cost compared to the value of the transported items in terms of beneficiary satisfaction. Tin food has always been very expensive to transport especially by air for long distances because of its weight. More over, there is no guarantee that the tin food has not expired, let alone the fact that it still has to go through the process of custom checks, which often takes long to complete. During this time period, (everything being equal) much has degenerated in terms of the health of the disaster victims.

As it has often been said; "in a disaster situation, every minute counts." If there is a general agreement that every minute counts, and that there are delays during the delivery of aids to victims amongst other problems, why don't (the institutions responsible) plan and prepare their communities or better still, plan for disaster-prone communities in anticipation of disasters so as to be more efficient and effective? For; by planning and preparing safes lives, property and the environment well in advance on like soliciting aids, which may never meet, demanding needs (norms and values).

The United Nations (UN, 2005) acknowledges this view by highlighting the fact that, "the distribution of inappropriate relief items hurt the feelings of disaster victims of developing countries, and this can be detrimental to the victims' dignity" (UN, 2005). An example of this, many argue, could be seen where copies of the Holy Bible are distributed amongst Moslem victims of the 2004 tsunami in Indonesia and Bangladesh. This is assumed to have carried out by foreign Christian NGOs, which created tension amongst victims instead of relieving them from trauma (Matin and Taher, 2005).

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3.3.5 Disaster relief versus self reliance

Many researchers have as well supported the view that emergency aid is counter-productive. Dependency is said to increase and can lead to continue marginalization of disaster victims especially in the context of the less develop countries. This is because, disaster relief is often reactive and not pro-active hence works on a short-term basis and not a long-term basis, which is subsequently not sustainable. As a result, the status quo is often maintain by recycling dependency that leads to underdevelopment which creates high levels of vulnerability amongst communities hence, leads to disasters once more (Burnham, 2006).

Some other criticisms would include for example, that of the International Strategy for Disaster Reduction's (ISDR) director Briceno, who said; "The key issue to remember about disasters, is not the number of disasters attended but, their economic and social impact on development and in particular on vulnerable populations. Just one disaster can wipe off the economy of a whole region or country and put hundreds of thousands of people at the risk of economic and social marginalization"[28]. This means that, giving relief sometimes would not be able to reverse the impacts caused by disasters thus preparing vulnerable communities on how to mitigate impacts is the best way forward.

Briceno's argument supports the researcher's view that disaster management by means of response, relief and recovery are useful but not as much as preparedness because of the irreversible nature of impacts. Disasters in 2005 are said to have cost a total of 159 billion USD worth of damages caused to property excluding human life. Had 1/10 of the above amount been invested in preparing communities and infrastructure hence, being (pro-active), the amount of death toll, may have been lesser than these figures portray (UN/ISDR, 2005).

[28] ISDR director: For more see: www.inisdr.org/

More over, international disaster relief efforts in the researchers' opinion can serve as a disincentive to disaster planning, preparing and mitigation because groups of people are argued to have become rich or wealthier as a result of benefits from disaster relief programme. This is one of the reasons why Umemoto, (2006) metaphorically describes disasters as a mixed fortune although some hazardous areas and communities have gained proper town planning, design and rezoning scheme as a result of past disaster effects.

3.3.6 Disaster aid versus production capacity

Many authors argue that the organisation of agricultural products to improve nutritional health value by means of providing genetically grown grain to communities affected by a disaster, has limited benefits in terms of reducing poverty which is the main condition that gives rise to high levels of vulnerability even though the importance of this can not be undermined.

From a sustainable point of view, the "Aid for Victims" approach is yet to be sustainable. And like Buys (2006) argues, "The real disaster is not what is displayed over the television but what happen afterward to the victims. However, genetically grown grain (food aid) is necessary if targeted to victims that are worst off or to communities that are most vulnerable (Buys, 2006).

But it will be more preferable if local and regional production is use for food aid rather than importing, in order to avoid distortion in local markets and to encourage local production. Furthermore, a full recovery for disaster victims requires immediate actions, and for this action to be sustainable there is need for the empowerment of victims. For example, seed grain and other agricultural inputs that farmers need should be provided to households that do not have the means to purchase them at the long run; than for them to rely on the grain that is provided at the time of incidence for immediate consumption as food. This view supports that of Lazzari, (1988) who earlier stated that, the impacts of disasters by virtue of their nature, live fare much

longer than the first phase of event would normally prove; thus preparing communities to be self supportive after a disaster has occurred is the best thing to do.

There are other arguments put forward that when large scale disasters occur, the attention of donors and relief organizations is most often focused on saving and re-instating lives as well as re-building the damaged infrastructure. Where-as, on the other hand; Albala-Betrand, (1993) argues that, small-scale disasters or daily hazards, which are common in many communities, are largely neglected. Blaikie, et al. (1994) supports this argument by asserting that, despite the lethal reputation of natural hazards such as epidemics and famine, the lives of many people in the world is being shortened by unnoticed daily events such as illnesses, hunger, and poverty that are generally perceived to be normal hence many people continue to be at high risk to disasters (Blaikie et al., 1994).

The above arguments therefore indicate that, the sustainability of “relief aid for victims” approach may only be meaningful if disaster support initiatives are not separated from everyday living and the reduction of vulnerability of local communities to potential risks. Achieving this may be a long process that involves time; money and other resources thereby reiterating the need to adequately prepare vulnerable communities to be able to protect themselves through self reliance projects like sharing building information and techniques, sound agricultural practices, first aid treatment techniques and moving away from potential disasters areas hence the reduction of the risk of disasters.

3.3.7 Disaster relief and Cost

Putting the South African situation into context, although disaster relief is generally considered a short-term (tentative programme) to reduce damages caused by disasters, studies carried out in several countries for example; Indonesia, Bangladesh and South Africa, suggest that in monetary terms, in recent years, many respondents or affected communities to an extent, have received more emergency assistance than the monetary damages incurred as a result of a particular disaster although there is no doubt that some few people too have actually loose more than they ever expected.

This looses and gain paradigm can be clearly seen when we looked at the South African relief fund annual report for 2002-2003. The fund indicates that there are millions of Rands spent for the relief of disaster victims every year. Each disaster affected household if located in an area that has officially been declared a disaster area, is entitled to a maximum housing amount of R.3000; Clothing, 500; Furniture, 1500; Appliances, 1000; Household utensils, 200; Orthopeadic appliances, 1000; and Livestock and crop amount of R.1000 (DRFAR, 2003).

These above figures indicate that at least not less than R. 10,000.00 will be spent on each household in times of a disaster. These sums are tradeoffs from some other developments that were suppose to be used to further development in lagging communities. But now have to be channeled to households who may abuse these sums and still seek for other social benefits.

However, this does not counteract the need to help disaster victims when need arises but points out rather the need to better plan and prepare vulnerable communities for any anticipated events on like waiting to meet the basic needs of survivors.

Table 3.1 Shows how Disaster Relief Fund was distributed to victims: 2002 financial year in Johannesburg.

A	HOUSING: R.3000.00 (MAXIMUM	
	- FORMAL	R.3000.00 (If no insurance)
	- INFORMAL	R.1000.00
	- TRADITIONAL	R 400.00
	- CARAVAN	R 400.00
B	CLOTHING: R 500.00 (MAXIMUM)	
	- ADULTS	R 260.00
	- CHILDREN	R 200.00 (Age 0-6)
C	FURNITURE: R 1500.00 (MAXIMUM)	
	- METRASS AND BED	R 600.00
	- WARDROBE	R 600.00
	- TABLE	R 150.00
	- CHAIRS	R 150 (6X R 25.00)
	- KITCHEN CUPBOARD	
D	APPLIANCES: R. 1000.00 (MAXIMUM)	
	- GAS STOVE	R 200.00
	- ELECTRIC STOVE	R 500.00
	- TWO PLATE STOVE	R 100.00
	- FRIDGE	R 500.00
	- PRIMUS STOVE	R 50.00
	- COAL STOVE	R 700.00
E	HOUSEHOLD ITEMS:	R. 200.00 (MAXIMUM)
	- KETTLE	R 50.00
	- PLATES	R 30.00
	- CUPS	R 30.00
	- POTS	R 30.00
	- BUCKETS	R 10.00
F	ORTHOPEADIC APPLIANCES:	R 1000.00 (MAXIMUM)
	- WHEEL CHAIR	R 1000.00
	- CRUCHES	R 200.00
	- BLIND STICK	R 200.00
G	LIVESTOCK AND CROPS	R 1000.00 (MAXIMUM)
	- CATTLE	R 1000.00 each
	- PIGS	R 100.00 each
	- SHEEP	R 120.00 each
	- GOATS	R 120.00 each
	- CHICKENS	R 20.00 each
	- SEEDS	R 200.00

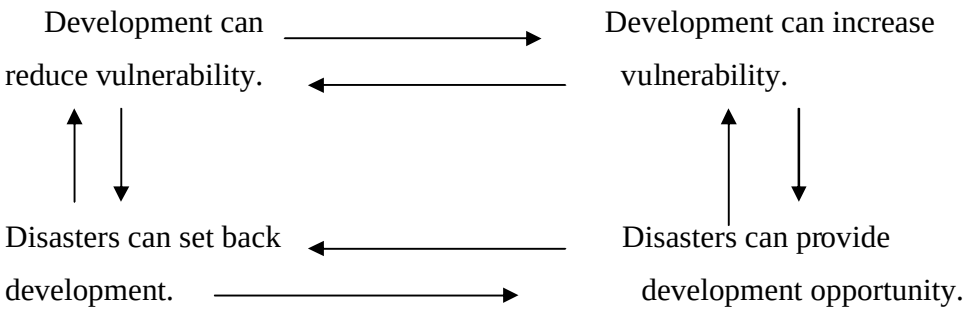
Source: The Department of Social Development: 2002 Annual Report.

The above amounts from an affluent household point of view, looks very small considering the amount of physical investment that has been loose and the inconveniences incurred. But from an average household point of view, this might just be enough for a new beginning. Looking at this from the perspective of the poorest of the poor, this might be too much money to deal with and hence starts to pose a financial management problem, which may lead to the abuse of funds.

However, the government does not see it in this light. They see the allocation of relief funds as rehabilitating and reconstructing the livelihoods and lives of those who have been affected by disaster hence reducing their levels of vulnerability. But this is fare from being true. Development planners may argue that, the disruption of victims' livelihoods and social connections and linkages is a disincentive to any form of investment and as a result, many victims may never venture in to businesses which could have taken them to another level had it been they were integrated into disaster reduction programmes. Hence, there may still be increased poverty and misery in vulnerable communities despite having been aided thereby still leading to conditions that initially placed the victims at risk.

This suggests that the distribution of disaster relief aids has not largely worked as intended and that, it is time governments and NGOs bring the most deprived class of society under the umbrella of development and poverty alleviation for poverty and vulnerability to an extent are identical. Hence, these three elements are linked together; Development can reduce vulnerability by addressing the root cause of disaster risk (poverty) and the lack of access to economic and political tool (wealth creation). But development without poor community participation will not reduce vulnerability and hence, disasters in communities may become a circle.

Fig. 3.1 The relationship between development, vulnerability and disasters.



3.4 Conclusion

The above reviews have to an extent revealed that disaster relief is a short-term process even though it is helpful. But because there are substantial evidence that man still has to live with disasters at least for the next two decades or more, as a result of changing elements such as; global warming, environmental degradation and rapid urbanization which continue to create conditions of vulnerability to millions of people, there is great need to plan and prepare disaster-prone communities against hazards.

Evidence presented in both chapters clearly suggest that institutions still have a long way to go when it comes to the theoretical ability to reduce vulnerable conditions in disaster–prone communities. Although some of the arguments made in the disaster literature review in topics such as disaster and risk, disaster and vulnerability and against the provision of emergency relief for disaster victims are no longer current in some areas of Johannesburg for example and other cities in developing countries, they were at least 1 or 2 decades ago.

However, despite inherent shortcomings and criticism, emergency aid for example, still flow from outside sources in the aftermath of a major disaster in both the affluent and the less affluent communities and countries because largely speaking, no single country in the world is self-sufficient. Experience and media reports have shown that in the world at large, disaster victims expect and anxiously wait for disaster assistance from both public and private institutions.

This assistance saves lives, reduces suffering, and help to mitigate disaster losses if delivered in time. In addition, if emergency aids and insurance policies do not compensate all losses caused by disasters, they at least smoothen from necessary and immediate relief to long-term reconstruction, rehabilitation and redevelopment without which many victims presumably would die from starvation and other circumstances.

There are arguments that, in every disaster, much knowledge still goes unused. The assessments of needs are not always completed before assistance begins as information collected through surveillance methods do not always inform decision making. Evidence of this could be seen in the amount of waste medicine, clothing and at times food that are dump at both sea and air ports intended for disaster victims by little informed helpers. While at local level evidence can be seen from the types of tents that are hurriedly built to accommodate disaster victims some time without the immediate provision of water and food let alone beds to sleep on (Alexander, 2000).

There is need for our scientific and media communities instead of just showing pictures of disasters alongside it victims, there should be a search for what is called “evidence-based approach” whereby, a concise evaluation of needs are made; done by working in partnership with the affected community hence, helpers could be guided from time to time by some informed community members. After all, experience has shown that most community members know what they need better than helpers and world wishers but only limited by the inability to afford.

In addition, disaster relief is not just about meeting immediate needs but also about building capacity for future responses and mitigating the conditions that created community's vulnerability to the disaster. Many regard disasters as long-term threats that hinder development, which takes a long-term process to achieve. Therefore, by linking disaster and development through mitigation and disaster preparedness measures, it will be possible to minimize the physical, psychological and material consequences of future disasters in a city such as Johannesburg. Hence, institutions and communities in Johannesburg should see disaster preparedness and mitigation as a top priority that could enable the city to attain the 2030 vision.