

Table 1: Incidents Data from COJDMC (July 2002-August 2005)

DATE/YEAR	LOCATION	TYPE OF INCIDENT	DAMAGED STRUCTURES	FATALITIES/DEATHS	INJURIES	NO. OF PEOPLE AFFECTED
22/07/02	Setswetla, Alex	Fire	57 shacks	0	0	158
30/07/02	6 Ave. no 40	Fire	1 shack	0	0	4
5/08/02	Alex	Fire	171 shacks	1	0	355
16/08/02	13 th Ave	Fire	18 shacks	0	0	36
5/09/02	5 th Ave no. 63	Fire	15 shacks	0	0	62
12/09/02	12 th Ave	Fire	1 shack	0	0	3
24/10/02	4 th Ave	Fire	1 house	0	0	11
07/11/02	8 th Ave	Fire	40 shacks	0	0	87
28/11/02	Mayibuye, Alex	Fire	1 shack	1	0	2
4/01/03	5th Ave Cnr London	Fire	4 shacks	1	0	9
11/02/03	11 th Ave no 40	Fire	100 shacks	0	0	168
1/4./03	9 th Ave no 55	Fire	7 shacks	0	0	8
01/05/03	17 th Ave no. 34	Fire	3 shacks	0	0	6
2/06/03	19 th Ave no. 49	Fire	1 shack	0	0	02
2/06/03	2 nd Ave no. 47	Fire	9 shacks	0	1	19
11/06/03	17 th no 49	Fire	3 shacks	0	0	6
11/06/03	7 th Ave & Selbourne	Fire	2 shacks	0	0	12
14/06/03	10 th Ave no 8	Fire	1 shack	0	0	6
18/06/03	17 th Ave no. 34	Fire	4 shacks	0	0	4
27/06/03	19 th Ave no 97	Fire	14 shacks	1	1	109
10/07/03	4 th Ave no. 9	Fire	1 shack	0	0	3
16/07/03	3 rd Avenue	Fire	13 shacks	0	0	40
24/07/03	11 th Av no98	Fire	1 shack	1	0	1
6/08/03	3 rd Ave no 107	Fire	3 shacks	3	0	3
8/08/03	Setswetla	Fire	117 shacks	0	0	230

4/9/03	3 rd Ave	Fire	5 shacks	0	0	8
9/9/03	5 th Ave London	Fire	190 shacks	0	0	215
26/09/03	3 rd Ave	Fire	8 shacks	0	0	11
27/09/03	8 th Ave	Fire	5 shacks	0	0	12
18/10/03	7 th Ave no 20	Fire	3 shacks	1	0	6
21/10/03	16 th Ave no137	Fire	1 shack	0	0	1
29/10/03	16 th Ave no 85	Fire	3 shacks	0	0	5
13/11/03	14 th Ave no 158	Fire	36 shacks	0	1	132
15/11/03	6 th Ave	Fire	1 shack	0	0	5
8/12/03	8 th Ave	Fire	9 shacks	0	0	13
22/12/03	10 th Ave	Fire	20 shacks	0	0	53
01/01/04	Setswetla	Fire	67 shacks	0	0	230
7/03/04	5 th Ave	Fire	11 shacks	0	1	24
7/05/04	Setswetla	Fire	1 shack	0	0	2
12/05/04	12 th Ave no 114	Fire	4 shacks	0	0	2
6/6/04	8 th Ave no 15	Fire	12 shacks	0	0	12
6/6/04	8 th Ave no 12	Fire	6 shacks	0	0	12
6/6/04	2 nd Ave no 87	Fire	39 shacks	0	0	83
14/07/04	9 th Ave	Fire	5 shacks	0	0	12
08/08/04	3 rd Ave	Fire	7 shacks	0	0	7
13/08/04	8 th Ave	Fire	22 shacks	0	0	88
26/08/04	4 th Ave	Fire	35 shacks	0	0	112
28/08/04	3 rd Ave	Fire	1shack	0	0	6
09/09/04	14 th Ave	Fire	1 house	0	0	8
10/09/04	3 rd Ave	Fire	54 shacks	1	0	189
25/09/04	Setswetla	Fire	6 shacks	1	0	0
28/09/04	17 th Ave	Fire	10 shacks	0	0	33
01/10/04	10 th Ave	Fire	15 shacks	0	0	35
10/10/04	11 th Ave	Fire	29 shacks	0	0	124

13/10/04	14 th Ave	Fire	2 shacks	0	0	9
14/10/04	3rd Ave	Fire	2 shacks	0	0	5
03/11/04	6 th Ave	Fire	7 shacks	0	0	21
17/11/04	7 th Ave	Fire	3 shacks	0	0	3
28/11/04	17 th Ave	Fire	1 shack	0	0	1
16/12/04	1 st Ave	Fire	11 shacks	0	0	40
26/12/04	4 th Ave	Fire	4 shacks	0	0	1
27/12/04	7 th Ave	Fire	1 shack	0	0	1
27/12/04	18 th Ave	Fire	4 shacks	0	0	5
07/01/05	8 th Ave	Floods	20 shacks	0	0	100
11/01/05	5 th Ave	Fire	72 shacks	0	0	155
04/04/05	15 th Ave	Fire	29 shacks	0	0	60
17/05/05	18 th Ave	Fire	50 blankets	0	0	80
14/08/05	12 th Ave	Fire	49 shacks	0	1	7
28/08/05	12 th Ave	Fire	3 shacks	0	1	7

Source: *City of Johannesburg Disaster Management Centre*

Table 2: Incidents Data from the Alexandra Fire Station.

DATE	ADRESS	NATURE OF CALL	DEATHS	CAUSES	METHOD OF CALL	LOSSES
11/05/99	22 nd Avenue	Fire	-	Unknown	Telephone	-
20/05/99	Jukskei Informal settlement	Water/floods	-	Rain	Automatic alarm	-
17/10/99	165-8 th Avenue	Water	-	miscellaneous	Telephone	-
09/11/99	Jukskei Informal settlement	River water level rising	-	-	Telephone	-
21/03/00	Jukskei Informal settlement	River water level rising	-	-	Telephone	-
22/03/00	London Road	Fire	-	Children playing with matches	Telephone	-
03/06/00	Roosevelt	Fire	-	-	Telephone	-
26/01/01	18 th Ave	Fire	-	Smoking	Telephone	-
28/01/01	Jukskei Informal Settlement	Fire	-	-	Telephone	-
13/06/01	4 th Ave	Fire	-	Electrical	Telephone	-
12/02/02	Setswetla	Fire	-	-	Telephone	-
25/04/02	Far East Bank	Fire	-	-	Telephone	-

Source: *Alexandra Fire Station Occurrence Book*

It must be noted that from 25/04/05, incidents that were recorded by the Alexandra Fire Station were taken to the COJDMC where they were recorded using their own recording fields. Such data are reflected in the COJDMC data above, dating from the 22 July 2002 to the 28 August 2005.

This section above presents a set of certain statistics on incident occurrence and their impacts for the period 1991-August 2005. The graphs below and the tables above are based on the data from Alexandra clinic, Alexandra fire station, press agencies, star clippings, Sandton and Alexandra libraries. The data are summarized and interpreted graphically below in order to establish trends, recurrences, and even divergences.

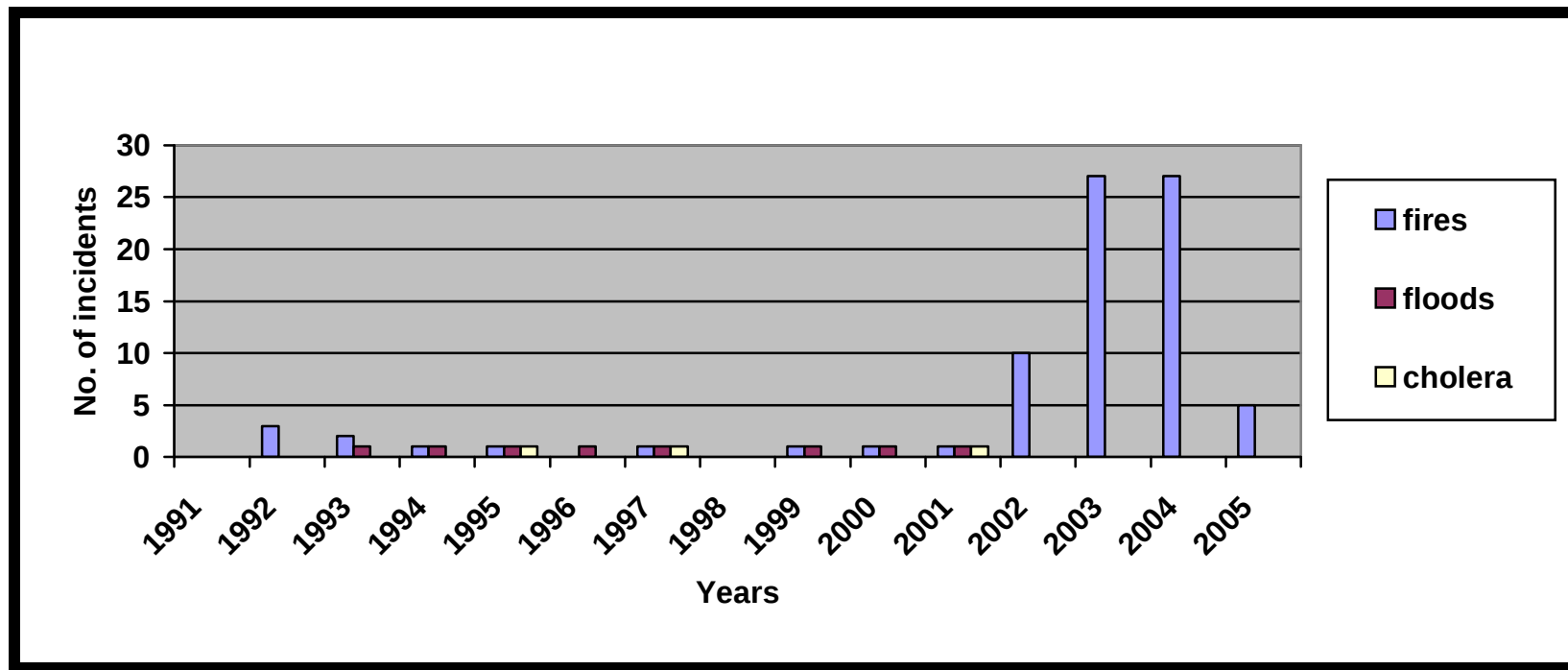


Fig.4: Recorded incidents in the period 1991-August 2005 (Various Sources: *Newspaper clippings, COJDMC data, Alexandra Fire Station*).

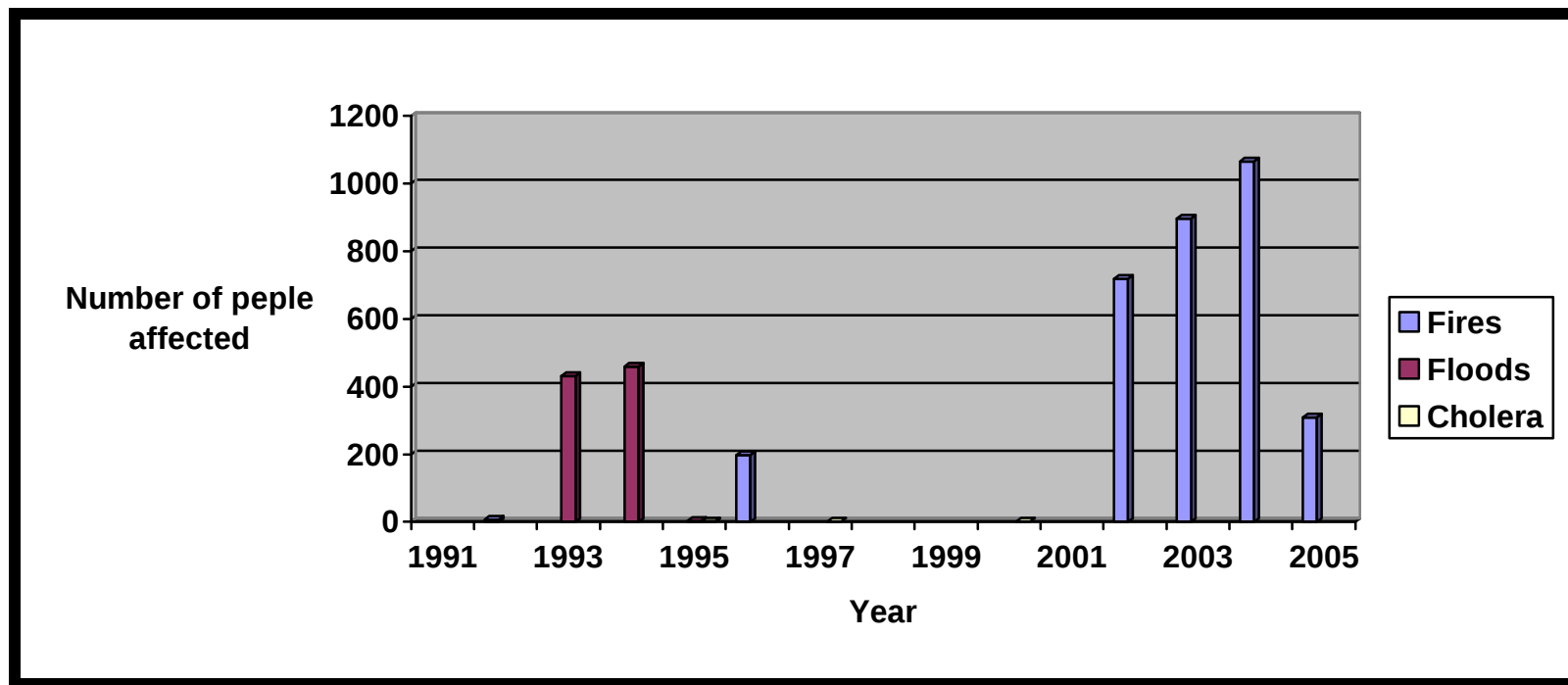


Fig 5: Number of people affected by incidents: 1991-August 2005 (Various Sources: Newspaper clippings, COJDMC data, Alexandra Fire Station).

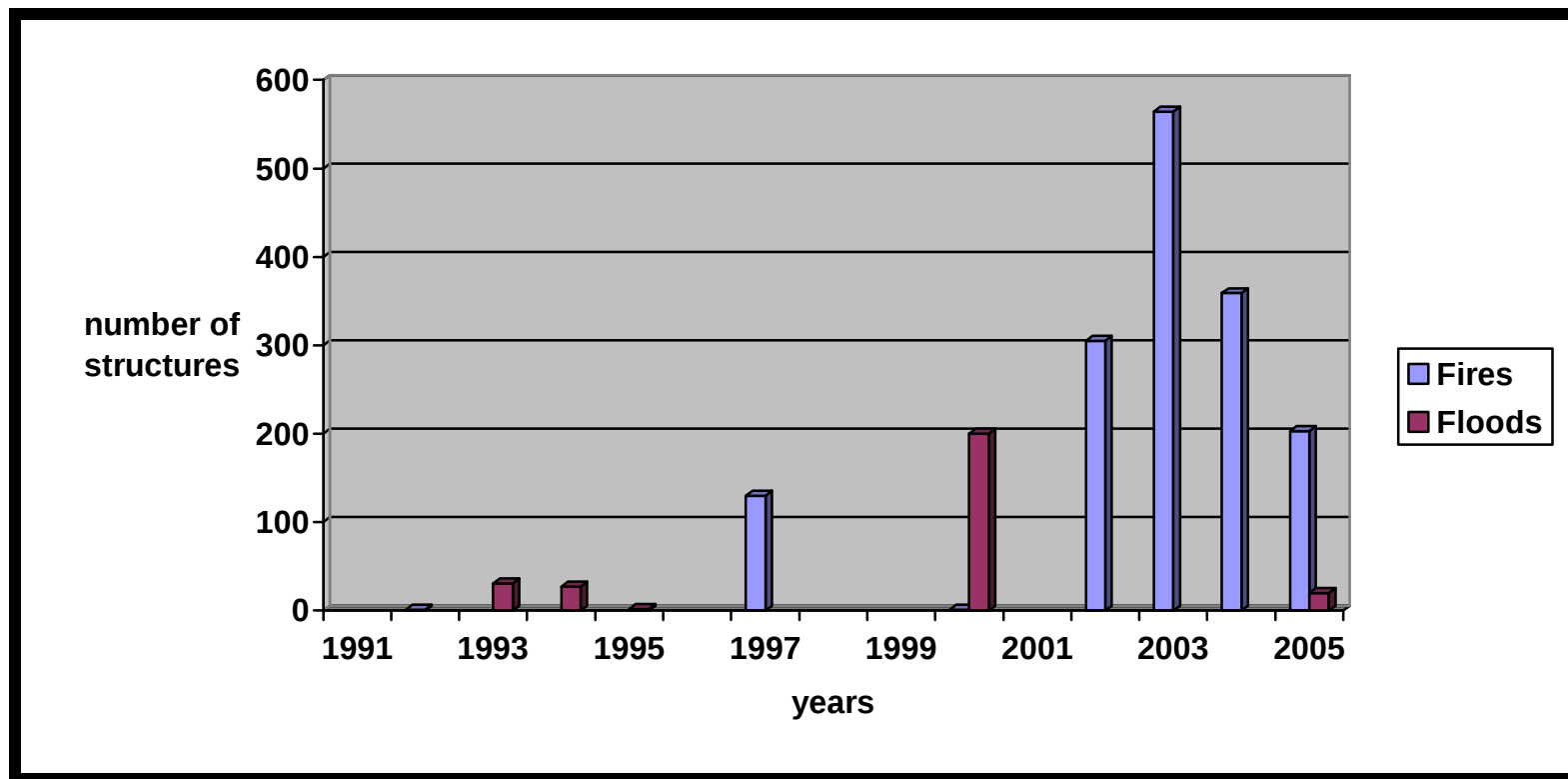


Fig 6: Number of Structures impacted on by incidents (Various Sources: *Newspaper clippings*, *COJDMC data*, *Alexandra Fire Station*).

Table 3: The South African Weather Service daily data (These data are related to specific cases of risk incidents that were noted in the data inventory as recorded in the Tables above).

<u>Climate Number</u>	<u>Date</u>	<u>24 Hour Rain Total (mm)</u>	<u>Max Temperature (° C)</u>	<u>Min Temperature (° C)</u>	<u>Ave Wind Speed (m/s)</u>	<u>Max Wind Gust Speed (m/s)</u>	<u>Ave Humidity (%)</u>
0475879 0	2002/07/22	0.0	17.4	0.0	1.5	8.9	71.4
0475879 0	2002/08/05	0.2	18.3	5.4	1.5	8.0	79.7
0475879 0	2002/11/07	0.0	21.7	4.1	1.4	6.7	64.2
0475879 0	2003/02/11	0.0	31.0	15.9	1.1	10.5	80.1
0475879 0	2003/08/08	0.0	17.6	2.8	1.1	7.2	71.9
0475879 0	2003/09/09	0.0	27.5	7.0	1.8	12.5	42.9
0475879 0	2003/11/13	0.0	20.8	11.3	2.3	8.3	88.7
0475879 0	2004/01/01	0.0	28.9	15.3	2.4	11.2	70.7
0475879 0	2004/06/06	0.0	16.6	1.0	1.0	6.9	77.1
0475879 0	2004/08/13	0.0	22.6	3.1	0.9	6.2	52.9
0475879 0	2004/08/26	2.2	18.4	9.4	2.0	8.6	84.7
0475879 0	2004/09/10	0.0	20.1	4.8	1.2	7.0	73.6
0475879 0	2004/10/10	0.0	24.3	6.7	1.6	9.8	44.8
0475879 0	2005/01/07	0.0	30.5	16.7	1.1	5.5	74.6
0475879 0	2005/01/11	**	**	**	**	**	**
0475879 0	2005/05/17	0.0	22.9	4.3	1.1	7.6	58.0

Source: South African Weather Services

4.3 Analysis of the Alexandra Township databases.

This section draws upon the analysis of the different types of databases for disasters developed or catalogued by different sources as highlighted above. In the discussion that follows two key themes are highlighted: one is that the data, despite the improved recording, still remains disaggregated, spread over various areas and lacks consistency of recording. The second theme is that despite these limitations, one can already begin to detect some of the drivers of vulnerability from these data. As will be shown, however, these require much greater attention to detail arguably similar to that being undertaken in MANDISA and/or DesIventar.

The process of data collection revealed the diversity of data sources, as well as the extent to which they were delinked from one another. For instance, when looking at the fire data, it is found that newspapers provided qualitative data and the fire reports from the emergency services provided greater quantitative data.

The different data bases are different in terms of scale, coverage and even fields of information. The fields of information (i.e. date, type of event, number of deaths, people affected), are different. For instance, the Alexandra fire station records the area where the incident took place as the onsite address of the occurrence whereas, the COJDMC refers to it as the location. In some cases, the researcher noted some correspondence between the different sources for the same incident, however, only to discover that they were in fact recorded differently. For instance, the data from the Newspaper clippings, on the one hand, reflects that three shacks were ravaged by fire at No 150 22nd Avenue in 2001 (no exact date) and one adult suffered from minor injuries and was taken to the clinic for smoke inhalation treatment. The data from the

Alexandra Fire Station, on the other hand, just reveal that there was a fire in the Jukskei Informal settlement.

Another example is of the year 2000 floods. The media clippings reported the year 2000 Alexandra floods qualitatively stating how the Jukskei River dwellers were left stranded after 200 shacks were swept away and destroyed the rain. The data from the Alexandra fire station, however, only reflects how the station officials were alerted through the telephone systems about the river water rising. In essence, it is not even possible to establish correspondences between data from different sources because of the general nature of how the data was recorded.

The information from different sources raises problems in relation to verification of the information. Most of the data are from primary sources; as a result, it is difficult to regard the information as correct and accurate. Furthermore, newspaper information may present problems such as inaccuracies in the number of people affected, but so do other sources. In most cases it can be said that sources, including official ones, when there is more than one given disaster, they report the information differently and it is often contradictory and needs to be analysed and assessed in each case. The newspapers for example, might be collecting data for media coverage and public relation purposes. COJDMC and the Alexandra Fire Station are only collecting data for incidents that they were alerted of through their control centre and moreover, the ones they responded and offered assistance to. This is all shown by the structural forms of the databases (all for Alexandra), but different in the way the data were collected, recorded and kept.

The above results reflect the differences in terms of concepts, methodologies, coverage and resolution from the different sources. It must be acknowledged that COJDMC in recording its data is moving towards a direction that will help researchers, organs of states etc. in future for research purposes and establishment of trends and recurrences of incidents in Alexandra Township. It is going to take some time to record information in a manner that fit the Desinventar and MANDISA that are currently in use, acceptable, valued and recognized. It cannot further be concluded that all disasters/emergency incidents that have occurred in Alexandra have been recorded accurately by the institution. There can be under recordings, which can be more or less significant depending on the source of information and fields of entries used. In terms of significance, this under recording has serious implications for decision making, projections or even developing indicators on disasters.

Despite the limitations outlined above, the data do show a number of interesting issues. *Fire incidents*, as depicted in the above graph (Fig. 4) and in the COJDMC data, appear to be the most prevalent risk incident (when compared, for example, to floods and cholera). This is also manifested in the graphs (Fig 5 and 6) where the impact on people and structures by fires are high reflecting the fires as causing the most damage. A critical factor that contributes to fire incidents being the most prevalent is the fact that COJDMC together with most municipalities in Gauteng, are still using the incident occurrence reporting format that was solely for fire reporting and was also used in conjunction with the Civil Protection Act (Act 67 of 1977).

Furthermore, the data indicates that fires are mostly happening in informal settlements/sections where there is no proper planning or even services. Fires can be caused by a fire in a dwelling that is often coupled to high population density, lack of

decent accommodation and other factors like weather. The causes of informal dwelling fires are therefore complex and not simply as a result of one factor. These are indications that densification, as well as the rates of densification are causal factors. This however, is an area that requires further study.

Of interest in some cases is that the generally accepted idea that fires can be linked to winter seasons does appear to emerge. The data reflects fires as being higher in winter months, for example, and lower in the spring and summer seasons. For instance, on the 22nd of July 2002, there was a fire that ravaged 57 shacks in Alexandra Township and affected 158 people. The cold spell at the time (e.g. Table 3) would suggest that the use of fires may have increased at this time.

The possible seasonal link reflected above, however, does not appear to be a critical factor or even consistent when one compares similar patterns for other dates. For instance, on the 11th of February 2003, 100 shacks were ravaged by fire at Alexandra Township, with 168 people being affected and displaced. When scrutinizing the South African Weather Services daily data (Table 3), the temperatures were quite warm for the day and the wind speed for the day was relatively low (refer to the SAWS data). The same scenario is also evident from the data collected for the 1st of April 2004 where temperatures were extremely high but nonetheless a disastrous fire incident occurred.

As indicated in these few cases a much more detailed inventory and assessment thereof is required if one is wishing to reduce disaster risks and vulnerability to various stresses in this area. Indeed the numbers of fires and incident losses being

recorded in similar assessments in Cape Town (MANDISA) are showing much higher numbers of fire cases per year as well as numbers of impacts.

The number of people and structures affected (Figs.5 and 6), reflect the severe impact of the fire incidents on the community. A concerning issue to critically examine is the fact that although few structures are affected, the numbers of people affected are far greater. For instance in 2004, the total number of structures ravaged by fire incidents were 359, but a large number of people were affected (e.g. 1065 in this case). Examples such as these demonstrate the need for a greater understanding of the multiple stresses driving vulnerability in such areas. Moreover the data show the weakness of data capturing and data design that fail to include information that would begin to explain such impacts. As is evident, such data inventories will require a long-term, dedicated and clearly focussed system (e.g. MANDISA). The predominance of fire as a hazard in Alexandra Township points to the fact that there is a critical need for local-level intervention that can involve local communities. Such fire incidents also have the highest impact. This clearly indicates that fires should be a priority.

Floods and Cholera: There are fewer references to floods and cholera than fires (Fig. 4). It must be noted that this does not mean that there were no incidents of such nature. The reasons behind this can be many. For instance, varieties of public sources do not specifically gather information for statistical purposes. Even when the compilation can be based on strict parameters, the original suppliers of information may not follow the rigorous criteria. Moreover, data are not always complete for each incident.

Despite the lack of a detailed system, a cursory glance at the data shows a number of interesting issues. When examining Figure 4, the cholera incidents recorded were concurrent with floods (e.g. the years: 1995, 1997, 2001). This can be attributed to the fact that disasters or incidences are not usually singular events and are extremely complex and can also be compounded by a range of factors. Impacts of incidences like floods most often include a range of second- or even third-order impacts like epidemics and other knock-on impacts.

Of note is the serious omission of key events that occurred. When examining the data further (fig 5), there is no reference to the number people that were impacted by the very severe floods of the year 2000 that actually made headlines in most national newspapers. The newspaper clippings, for example, indicate the number of structures (fig 6) that were impacted by the year 2000 floods and there is no reference to the actual number of people affected. Such under recordings or even missing data sets has, in terms of significance, serious implications for decision making, projections or even developing indicators on disasters.

Finally, the data above refer to disaster incidents. Not all disasters, however, are of the sudden impact variety. Many disasters are indeed linked to longer onset and more insidious causal factors. Alexandra Township, for example, is certainly experiencing severe consequences arising from the AIDS epidemic. Younger people are usually most severely affected by the disease with around 60% of all adults becoming infected before they turn 25 years of age (Motsepe and Perry, 2000). Orphans are the most tragic and enduring the legacy of HIV/AIDS epidemic. Despite this heart breaking circumstance, it was difficult to get statistical information on HIV/AIDS due to the ethical and confidentiality issues pertaining to HIV information. As a result of this,

the data is not included in this report. Such information if available can, however, be a very useful data to better inform vulnerability in the area.

4.4 Alexandra Township: Searching for the root causes of Vulnerability

Various elements of disasters have been profiled above. Despite the paucity of information and the lack of rigour in the data, a number of issues did emerge. Notwithstanding these preliminary findings a series of critical questions, however, still remain. To what extent, for example, can the increasing levels of vulnerability in Alexandra Township therefore be attributed to developmental and socio-economic factors and conditions?

In evaluating such disaster risks, the social production of vulnerability needs to be considered with the same degree of importance that is denoted to understanding and addressing natural hazards. A concern when examining the data for Alexandra Township, for example, is the extent to which one can clearly discern the drivers of vulnerability. Are communities, for example, living in informal settlements (i.e. along the Jukskei River), more or less vulnerable to external hazards (e.g. flooding) or is their vulnerability a result of weakened coping capacity (e.g. internal dimensions driving vulnerability) as a result of the nature and location of the settlement itself? The key question to be answered then is what is driving vulnerability to change in Alexandria? Are the increasing vulnerabilities of the people in Alexandra Township related to changing demographic, technological and socio-economic conditions, unplanned urbanization, development within high risk zones, underdevelopment areas and to what extent do such factors such as, climate variability, geological hazards,

environmental degradation or even the impact of epidemics (e.g. HIV/AIDS) contribute to overall vulnerability.

As stated in Wisner (1999), in evaluating disaster risk, the social production of vulnerability needs to be considered with the same degree of importance that is devoted to understanding and addressing natural hazards. According to Pelling (2003), for example, susceptibility of an individual or a community to environmental risk is understood to be an outcome of their access to economic, social, political, physical and environmental assets. “The asset profile of an individual or a community shapes the livelihood of them being exposed to, but also their capacity to cope with any negative impacts of incidents” (Pelling, 2003: 67). Policies aimed at reducing urban poverty, enhancing social cohesion and political participation can reduce vulnerability and build resilience at the local level.

Taking the Alexandra Township scenario into account, one can critically question whether the urban policies in the City of Johannesburg Metropolitan Municipality in conjunction with the COJDMC, are suitably designed to prevent such disastrous incidents and whether adequate mechanisms are in place to prevent and respond to disastrous incidents and mobilize resources for post disaster reconstruction. Such events are on the rise in Alexandra Township with grave consequences for the survival, dignity and livelihood of the Alexandra community.

The local -level government needs to acknowledge that efforts to reduce disaster risks must be systematically integrated into policies, plans and programs for sustainable development and poverty reduction. Good governance, poverty reduction and Disaster Risk Reduction are mutually supportive objectives and in order to meet the challenges

ahead, accelerated efforts must be made to build the necessary capacities at the community to manage and reduce risk. Furthermore, the local level government must recognize the importance and specificity of local risk patterns and trends, assess existing human resource capacities for disaster risk reduction and develop capacity building plans and programs for meeting ongoing and future requirements. Community participation has to be promoted in Disaster Risk Reduction through the adoption of specific policies, the promotion of networking, the strategic management of volunteer resources and the provision of necessary resources.

Another critical point that COJDMC must comprehend strategically for reduction of disaster risk and for promotion of a culture of disaster resilience is the knowledge of the hazards and the physical, social, economic and environmental vulnerabilities to disasters that the Alexandra community face. Furthermore, ways in which hazards and vulnerabilities are changing in the short and long term, followed by the action taken on the basis of that knowledge, need to be investigated.

Key activities of local municipalities for promotion of a culture of disaster resilience should be:

- To develop, update periodically and widely disseminate risk maps and related information to communities at risk.
- Record, analyse, summarize and disseminate information on disaster occurrence, impacts and losses on a regular basis.
- Develop early warning systems that are people centered, in particular systems whose workings are understandable to those at risk, which takes into account the cultural and likelihood characteristics of the target group, including

guidance on how to act upon warnings, and that support effective operations by disaster managers and even other decision makers.

- Support the development and improvement of relevant databases and the promotion of full and open exchange and dissemination of data for assessment, monitoring and early warning purposes as appropriate to communities at risk.
- Encourage and promote the inclusion of disaster risk reduction knowledge in relevant sections of school curricula at all levels and the use of other formal and informal channels to reach youth and children with information.
- Promote community based training initiatives to improve local capacities to mitigate and cope with disasters.
- Incorporate disaster risk assessments into urban planning and management of disaster-prone human settlements in particular highly populated areas and quickly urbanizing settlements.

The data presented here are basic, essential information that could interest national and international programme managers and researchers. It is hoped that digested and simplified information such as these, despite caveats mentioned, can be used for the basic platform on which to design better information systems. Such data bases can be used for sensitising policy makers and programme managers in furthering the preparedness and disaster risk reduction activities in the community. Furthermore, it is hoped that such data will bring to attention the need for better reporting and more accurate data in the future to improve relief and preparedness efforts. This should be viewed positively as a step towards understandable and standard methods for development of disaster databases.

4.5 Challenges for Construction of a Disaster Database/inventory

Even though there seem to be great improvement in disaster data for the past 20 years (World Disaster Report, 2005), a number of common challenges still remain. The key problem with disaster data remain the lack of standardized collection methodologies and definitions among data collectors. The original information collected from a variety of public sources is not specifically gathered for statistical purposes. Even when the compilation is based on strict definitions for disaster events and parameters, the original suppliers of information may not follow rigorous criteria. More over, data is not always complete for each incident (www.adrc.or.jp).

Furthermore, data can be skewed because of the rationale behind its formation and collection. For instance, insurance companies systematically gather data on disaster occurrence in order to assess insurance risk, but with a priority in areas of the world where disaster insurance is widespread. Their data may therefore miss out poor disaster (affected regions where insurance is unaffordable or not available at all (www.adrc.or.jp)). Date can also be a source of ambiguity. For instance, a declared disaster for an epidemic is both necessary and meaningless as epidemics do not occur in a single day (www.adrc.or.jp).

Disaggregating data is not only the challenge to be faced by data collectors. Another major challenge arises when trying to conciliate multiple data sources that report dissimilar figures when describing the effects of the same event. Information files created by emergency management agencies and relief or aid organizations often contain only information about events that required intervention from parts of the organization, which are usually medium to large size disasters. Such agencies tend not to record disasters that the communities can cope with, and leave unregistered many

small and medium disasters. Furthermore academics and scientific files maintained by the research institutions only records information about specific incidents that they are studying or interested in (www.adrc.or.jp).

The above reflects that there is a need for a code of conduct for disaster data collection and use. Local disaster data should not be used to the detriment of those whom the data describe, nor for commercial, political or military use. Such a standardization and systematization of data will enhance the accuracy of disaster loss measurement.

4.6 Summary

The chapter examined recorded incidents that have occurred in Alexandra Township from 1991-Aug 2005. Entries for the records were extracted from several sources including but not limited to newspaper clippings, S.A.W.B., SABC, Red Cross, several Libraries and other useful and relevant sources. Data from the City of Johannesburg Metropolitan Municipality Disaster Management Centre is also incorporated in to the study. The challenges for construction of an inventory are also outlined in this chapter. General analysis and observations on the data are made and reflections on how such data can be improved to better capture factors driving risks in the area are given.

CHAPTER 5

5.1 Conclusion

The history of disaster management in South Africa has been short but significant. In the past, not much, if any, efforts were made to address the possible impact of disasters on communities and even keeping records systematically on what has hit “our” communities. As a result, management of disastrous events focussed on disaster response and relief usually in the aftermath of events. Terms such as prevention and mitigation were foreign, misunderstood or a burden to implement (van Niekerk, 2003). Moreover, the keeping of disaster records was seen as of no importance and time consuming. This is clearly reflected in the findings and by the differences in terms of data collection from different sources illustrated in this report. No proper planning was done, instead, disasters, what ever scale they are, were seen as events that can be dealt with when they have happened and as the need arises. This was encouraged by the Civil Protection Act (Act 67 of 1977) that advocated an emergency response option rather a risk reduction approach.

However, with the new Disaster Management Act (Act 57 of 2002) now in place and stipulating some of the roles of the Municipal Disaster Management Centre, such incongruities should be dealt with accordingly. The City of Johannesburg Metropolitan Municipality is proudly one of the municipalities that are attempting to comply with this new legislation (Disaster Management Act 57 of 2002) as it has already established its Municipal Disaster Management Centre and already undertaking it upon themselves to compile and record the disaster data for their jurisdiction.

The findings of this research reflect that collection and recording of disasters was usually of little concern to most institutions in Gauteng in the past. For instance, the City of Johannesburg only started to keep records of incidents only a few years back (from 2002). A search of data for a compilation of a systematic disaster database for Alexandra Township, an area prone to most disasters, has proved this. The available collected historic data pertaining to disasters in Alexandra Township have different characteristics, criteria, structures; it is from different sources of information, recorded in dissimilar and diverse manners and for different objectives. Such data is found in different pieces and is recorded differently for different reasons.

Furthermore, different sources have contradictory information pertaining to a disaster that happened at a specific place. Such a scenario was experienced during data collection for this project when two different newspaper articles recorded, during a fire incident in Alexandra Township, different number of deaths in the family. In such a specific case, the event has to be verified with the location to know whether or not it is the same event.

Such inconsistencies, discrepancies, data gaps and ambiguities of terminology make comparisons and use of the different data sets difficult and further leads to a fair amount of confusion in the evaluation of a disaster situation and poses severe obstacles for prevention, planning and preparedness. If such data were collected and recorded solely for disaster management purposes and in a quality and accurate manner, it was going to help in improving decision-making on preparedness and response to disasters, and to provide an objective basis for evaluating vulnerabilities and determining priorities.

Although there are loopholes and differences, as reflected critically within the report, these collected data should be positively viewed as a move towards having the beginnings of a data platform that can be used for the analysis of risks and disasters for Alexandra Township. These will further help in reaching decisions on the possibilities of any need for intervention.

A key gap in the data currently is that there is little understanding that can be gained from such data on drivers of vulnerability. From the assessments in this report, it is clear that additional data need to be incorporate into the current data sets. For example, data on coping capacities need to be selectively included. Criteria for selecting these cases and their data requirements, however, require further consideration. The data should further be used in improving decision making on preparedness and response to disasters, and to provide an objective basis for evaluating vulnerabilities, hazards, capacities and determining priorities.

In essence, this research report has sets out preliminary results towards formation of a disaster inventory for Alexandra Township. The articulated data should be seen as the first step in a much longer and broader process of disaster risk reduction.

5.2 Recommendations

Based on the conclusion above, the report proposes recommendations aimed at making progress in improving quality of disaster data (ideas have been adapted and influenced by Serje, 2002):

- Build local and national human resources for systematic disaster impact data collection.
- Standardize methodologies for local disaster collection.
- Standardize definitions for key terms in the field of disaster risk management and disaster data to avoid discrepancies.
- Systematize disaster data information flows between local collectors, intermediary collators and international database managers.
- Support collaboration between international database managers to minimize overlap and encourage the sharing and verification of data.
- Improve public accessibility to basic and summary impact data.
- Development of a comprehensive, easily accessible data base and system, with ongoing monitoring capacity at both national and all local levels.
- Improve data collection to understand the ways in which hazards evolve; create standards for sharing, storing and analyzing data.
- A central database and information gathering system as support to planning, preparedness and policy development to be a basic requirement for a coherent disaster program.
- Various departments should consider capturing of data for both sudden events and creeping disasters as part of ongoing and existing activities of various departments.
- Methods for identifying and assessing affected communities/ households must be strengthened by:
 - o Conducting on-site assessments for all vulnerable communities/ households affected by the weather event and its consequences, often gives a more sensitive assessment of disaster impacts.

- Focussing on data of impacts to infrastructure and livelihood loss, to provide a more sensitive indicator of need.
 - Developing standard procedures and guidelines for determining affected households and communities, to be implemented by both local authorities as well as humanitarian assistance organisations
 - Developing standard methods to capture and code data (both on communities and biophysical impacts).
- Establishing assessment procedures/guidelines for identifying and tracking impacts on disaster-affected individuals, households and communities, especially those most vulnerable, in order that these impacts are not overlooked and underestimated.
- Establishing standard impact reporting procedures for those municipalities and government departments that do not yet use a uniform system. This includes the standardization of hard-copy and electronic formats, and clear designation of a provincial focal point to consolidate these (or out-sourcing arrangements).
- Improve funding for better science on both mitigation and adaptation to disaster risk, e.g. climate risk.
- Finally, to find effective ways of ‘twinning’ disaster risk reduction activities and plans with development activities.

Information is a vital aid in itself. People need information as much as water, food, medication or shelter. Information can save lives, livelihoods and resources. It may be the only form of disaster preparedness that the most vulnerable can afford. And yet, it is very much neglected. Aid organizations have focused on

exchanging information with the people they aim to support. This should be seen as a wake-up call to “us” as Disaster practitioners, who on a daily basis preach on proactiveness, prevention and safer communities. In essence, increased investment in data quality and coverage can be obtained only if users can be made to feel its benefits in concrete forms.

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