

Report of the TEAM Community Risk Assessment Workshop in Phola Park 15-17 March 2006

1) Introduction to the Community Risk Assessment Workshop in Doornbach

1.1 Background to the Community Risk Assessment Workshop in Doornbach

On 15 – 17 March, 2006 a three-day Workshop on Community Risk Assessment (CRA) was held in Doornbach, hosted by the Disaster Mitigation for Sustainable Livelihoods Programme (DiMP), University of Cape Town (UCT), in collaboration with the Development Action Group (DAG) and Disaster Management City of Cape Town. The workshop was attended by 28 participants, the majority of whom were community members and a number of government departments.

This report was compiled following the proceedings of the CRA Workshop.

1.2 Workshop aims and objectives

The aim of the CRA workshop was to explore in a participatory way the priority risks and at the same time for participants to gain an understanding of what CRA is about and how to conduct a CRA.

The key aims of the workshop included the following:

- Build understanding of community-based disaster risk assessment
- Increase capacity in core skills/knowledge related to risk assessment
- Build capabilities in applying key risk assessment methods
- Strengthen capabilities to monitor risk on an ongoing basis
- Strengthen skills in communicating risk assessment findings

The main objective of the workshop was to generate a risk profile of the settlement by answering the 5 guiding questions for the risk assessment:

1. *Who is at risk?*
2. *Why are they at risk?*
3. *What is increasing the risk?*
4. *When are they most at risk?*
5. *How does the community manage its risk?*

1.3 Institutional Arrangements

The Disaster Mitigation for Sustainable Livelihoods Programme (DiMP) at the University of Cape Town worked in collaboration with the Development Action

Group (DAG) and Disaster Management City of Cape Town in facilitating the CRA Workshop, which was funded by the Development Bank of South Africa (DBSA) and the City of Cape Town.

1.4 Overview of workshop agenda

The workshop included a mix of presentations, group exercises and group presentations. Presentations were conducted by Fikiswa Mahote and Aaron Hobogwana (DAG); and Helen Macgregor, Greg Nicolson and Ameen Benjamin (DiMP). Day 1 involved an introduction to Community Risk Assessment and related concepts and methods, as well as a number of exercises to compile a community profile of Doornbach. Day 2 involved Risk Mapping and Assessing of Vulnerability and Seasonality of Risk. Day 3 involved identifying local capacities and the group risk reports and the certificate ceremony.

1.5 Methods

The CRA aims to use participatory research methods to identify the priority risks of the settlement, thus ensuring locally appropriate outcomes using local knowledge. The following methods were used:

- **Hazard Assessment**

Hazard assessment involves identifying and investigating the hazard location and its geographical extent, strength (scale, magnitude, intensity) and the probability of occurrence of the extreme natural event identified as a hazard.

The many methods and instruments available for hazard analysis operate on the basis of available scientific data.

- **Hazard prioritization**

As a group, the participants (using their local knowledge) discuss and vote on the hazards that they feel are priorities in Doornbach. This exercise will identify the priority hazards that are analyzed further in the risk assessment.

- **Concept Mapping**

An exercise aimed at identifying the progression of vulnerability from root causes to unsafe conditions and triggers. The exercise is done in groups using hazards as identified by the previous exercise.

- **Historical Fire Risk profile of Doornbach**

Aim: the aim of this exercise is to highlight the past fire risk profile of Doornbach. Here participants will be using fire data from the Mandisa Database to plot the fire history and seasonality of Doornbach. Using these graphs, the changing fire risk profile can be described and explained with the help of aerial photographs.

- **Institutional Profile of Doornbach**

In order to secure funding from the department of land affairs the community needs to produce a business plan which includes an institutional analysis showing all locally active

organisations. These organisations can be identified throughout the workshop, and analysed and linked during this exercise. Examples include: government, private sector, NGO's, CBO's, churches, sports groups, youth groups etc.

- **Community Risk Mapping and Assessing Vulnerability using Qualitative Methods**

Participants will be introduced to Community Risk Mapping. Here we will be looking at the:

- The utility of local knowledge
- Methods used in community mapping
- Attitudes, behaviour and ethics.
- This section should focus on why we need to do risk mapping as well as the methods used in risk mapping.

Participants will also be introduced to assessing vulnerability through semi-structured interviews and focus-group interviews.

- **Seasonal Calendar**

The groups from the mapping exercise will go out together again to the areas in which they were previously working. Using methods such as focus group interviews and interviews with the community; the aim will be to explain the seasonality of their risk in Doornbach.

- **Looking for Local Capacities**

The groups will go out into the community and identify area or households within the community that are showing best practice in term of coping with risk. The aim of this exercise is to focus on the positive aspects of the community to show the values of local knowledge and local coping mechanisms. These ideas can fed into the future risk reduction of Doornbach.

2) The Workshop Outputs

2.1 Priority Risks

During the introduction to concepts and methods, the participants were asked to do a hazard prioritization exercise. This involved voting for the hazards that pose the greatest risk to the community. **Fires (16 votes), flooding (5 votes) and health (3 votes)** were identified as the three priority risks for Doornbach. Fire, however, was clearly considered to be the greatest risk. Using these three priority risks, workshop participants were divided into groups that each focused on one priority risk throughout the workshop using the methods outlined above. At the end of the workshop groups used the materials from the 3-day workshop, as well as additional photographs, to present back on their priority risk to answer the 5 guiding questions and look at some recommendations. The following sections are a summary of the final presentations from the fires, flooding and health groups.

2.2 Fires

Who is at risk?

It was determined that everyone living in Doornbach – and therefore in an informal structure – is at risk from fire. However, those that are living in more densely populated areas are more at risk from having their dwellings destroyed by fire. The elderly and children were also deemed to be more at risk.

Why are they at risk?

The elderly and children were named as more at risk because in the event of a fire they are less able to escape to safety. The more densely populated areas are more at risk because the spread of a fire is generally much more rapid through densely located dwellings and more difficult to put out. However, the general reason for fire risk is a combination between the flammable nature of building materials used in constructing an informal dwelling and the cooking materials used. Most dwellings are built from a combination of wood, plastic and zinc (corrugated iron). The vast majority of people use paraffin stoves for cooking. These are easily knocked over or trigger fires if left unattended.

What is increasing the risk?

The fire frequency and severity has generally increased in Doornbach from 1998 onwards (See Appendix A). This is mainly due to the increase in the population numbers and density of the area. This increase is associated with the large-scale movement of people from the Marconi Beam informal area to the Doornbach informal area. The aerial photos of the settlement show this increase in density (See Appendix B). The density of dwellings also makes it difficult for fire services to access the area that is burning.

It was said that the rapid influx of people to the area led to a breakdown in traditional culture and a loss of a sense of community, which results in social problems. The most important significant social problem that results in fires is alcohol use/abuse. Many stories were told of intoxicated men trying to cook for themselves, falling asleep and causing a fire. The other significant issue is children who are left at home unattended often try to cook for themselves and can easily trigger a fire that way.

The high levels of unemployment also increase the risk of fires, as people cannot afford to improve the quality of their homes.

The issue of land is also of importance here. The lack of space to house the number of dwellings currently in Doornbach means that the population density can only increase, and with it the risk of fires.

Services to the area are minimal; the result is that fire risk is increased. The lack of legal electricity means that no one used electrical cooking appliances, resulting in the use of paraffin stoves. The lack of refuse removal means that the piles of wood and rubbish throughout the settlement pose a fire risk as well as an obstacle to fire services attempting to extinguish a fire.

When are they most at risk?

Using the graphs created in the seasonal fire risk exercise, it can be seen that August is the month that has had the most fires. July, October and November also have had a high number fire events. The high frequency of fires in winter is explained by the cold and damp conditions associated with living in an informal dwelling in a flood prone area – the result is that people make fires inside their dwellings for cooking, warm and drying. While there were most fires in August in winter, and October and November during summer, the number of dwellings affected were most in the months of July and December. The mismatch between frequency and severity is not easy to explain. It is possible that these anomalies can be explained by one large event. During summer the hot, dry and windy conditions cause the fires to spread quickly and this explains the high number of dwellings affected in December (See Appendix A).

How does the community manage its risk?

There are very limited ways in which the community is managing their risk. However, there are certain dwellings which show “best practice” in term of minimizing fire risk. These dwellings are built with zinc for roofs and walls. They are situated a few meters away from the neighbouring dwellings and they are surrounded by grass and other plant matter. These dwellings are less likely to be affected if there is a fire in the surrounding dwellings (See appendix C). After the December 2005 fire where over 900 dwellings burnt down, many residents of Doornbach moved across the road to build informal dwellings next to Du Noon. While this may have reduced the dwelling density in Doornbach, it has simply transferred the fire risk somewhere else as these new dwellings are densely packed.

2.3 Flooding

Who is at risk?

It was clear from the two days of fieldwork that nearly everyone living in an informal dwelling was at risk from some type of flooding (either through the roof, walls or floor). More specifically, those living close to Potsdam Road and those living close to the river at the far end of the settlement. Furthermore, it was identified that children are more at risk from flooding related illness. Those living close to water pipes and standpipes were identified as specifically at risk.

Why are they at risk?

The building materials associated with informal dwellings is a major factor that puts the people of Doornbach at risk from flooding. Few dwellings have appropriate roofing and wall material to waterproof the dwelling sufficiently. The main materials used are zinc (corrugated iron), wood and plastic. These materials often get punctured and this allows water in. The fact that no material is used for flooring allows many dwellings to get a damp floor during the times of rain. This is frequently experienced throughout the settlement as the water table rises to floor level as the whole area is close to a wetland. Close to Potsdam

Road, water flows down the bank next to the road and into the dwellings. A similar problem occurs where dwellings are located close to the river or in the river course (as some dwellings are). The poor infrastructure in terms of water pipes and standpipes leads to leakages which increase the chances of water table saturation and flooding.

What is increasing the risk?

The fact that many of the people in Doornbach do not have employment means that they cannot afford to purchase the building materials that are necessary to protect themselves from flooding. Similarly, they do not have the resources to cope with and recover from a flooding event, thus leaving them in a more vulnerable position.

Children's risk to flood related health issues is increased because they are often playing outdoors in wet weather and on the damp floors. Furthermore they are generally more susceptible to health issues due to a weaker immune system.

Lastly, it was identified that a certain building technique was increasing the risk of flooding. Certain residents would "dig-in their dwellings". This means that in order to create more space in their dwellings, residents would dig into the ground to drop the floor level. The result is that the floor is closer to the water table and therefore floods more readily when it rains.

The disposal of 'grey water' in between dwellings further increases the amount of water on the ground and with it the chances of flooding, as well as health risks.

Lastly, the illegal/exposed electric connections pose a risk to people in terms of getting a shock.

When are they most at risk?

As the flooding risk was very closely linked to rain, it is associated with the winter months. The seasonal flooding and health risk exercise revealed that the months of May, June, July and August were identified as months in which Doornbach experienced flooding (See Appendix D).

How does the community manage its risk?

There were a number of ways in which the residents of Doornbach were managing their risk. Firstly, some residents are building up the floor of their dwelling with building rubble or soil to move it further away from the water table. It was also mentioned that those who can afford it use concrete to seal out the damp from the ground. Others were planting grass around their dwellings in order to absorb some of the moisture and thus prevent their dwelling from getting too wet. It was also suggested that using alternative roofing materials such as tiles would prevent flooding, however it was recognized that this was only possible where sufficient finances were available.

2.4 Health

Who is at risk?

All the residents of Doornbach face health risks from the following sources: dumping of waste; standing water; and grey water. Children were specifically

identified as at risk. Those living at the western edge and the northern corner of the settlement were identified as more at risk.

Why are they at risk?

The excess uncollected solid and liquid waste is the main source of health issues. The nature of the living conditions (as discussed in flooding section) puts the residents at risk as they are exposed to the seasonal temperature and climatic variations.

Children were named as at risk because they are unable to use the toilets unassisted. Therefore if they are unattended they will end up crawling around in the dirt. Those living on the western edge were at risk because they lived close to the toilets. Those at the northern corner were at risk because they lived far from the toilets and therefore used a night bucket toilet system which often results in diarrhea.

Fires also cause health risks as they result in the destruction of the sanitation facilities (plastic toilets). Fires also leave rusting metal and other debris which can easily cause injuries, especially to children who play in the settlement.

What is increasing the risk?

The risks in Doornbach are increased because of a lack of “ownership” of the settlement. The reasons given for this is that most people consider the eastern Cape as their home and therefore do not consider their dwelling in Doornbach a permanent place of residence. The other reason was that there is a lack of hope in Doornbach and therefore the surroundings are allowed to get dirty.

The lack of proper services is also increasing the health risk in Doornbach. The toilets are serviced irregularly and infrequently and the skips are also cleaned irregularly. Any refuse that is not placed in the skips is not collected. There are also no drains at the taps and therefore all excess water and grey water just remains.

When are they most at risk?

Health problems were generally associated with the winter time when it is cold and wet inside informal dwellings. The fires made inside these dwellings in order to dry and warm them can also be a cause of respiratory and other health issues. The exercise on health and flooding have shown at what times of year each health problem is experienced (See Appendix D). Please note these are the perceptions of those who attended the course and are not definite.

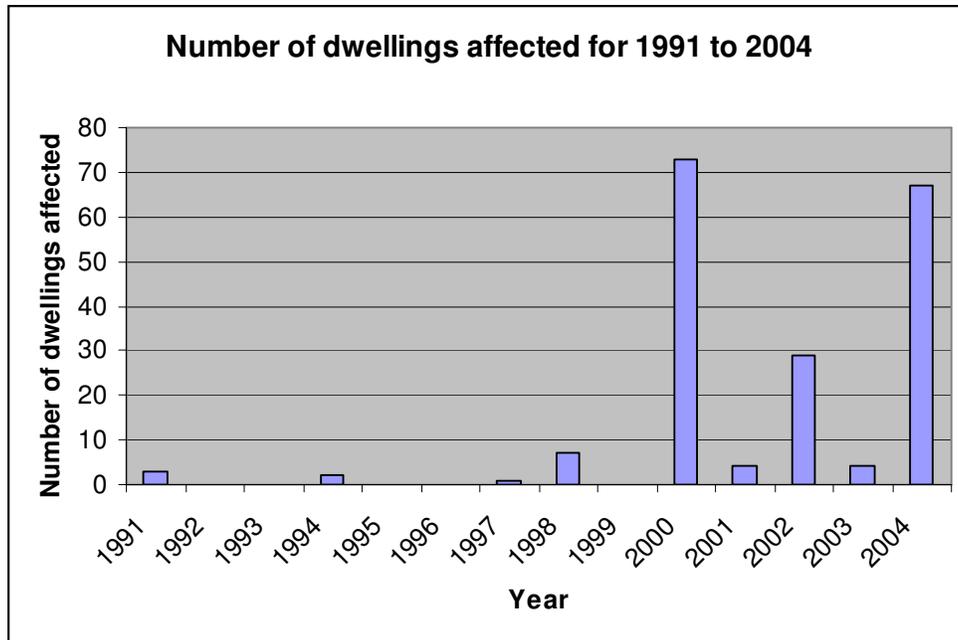
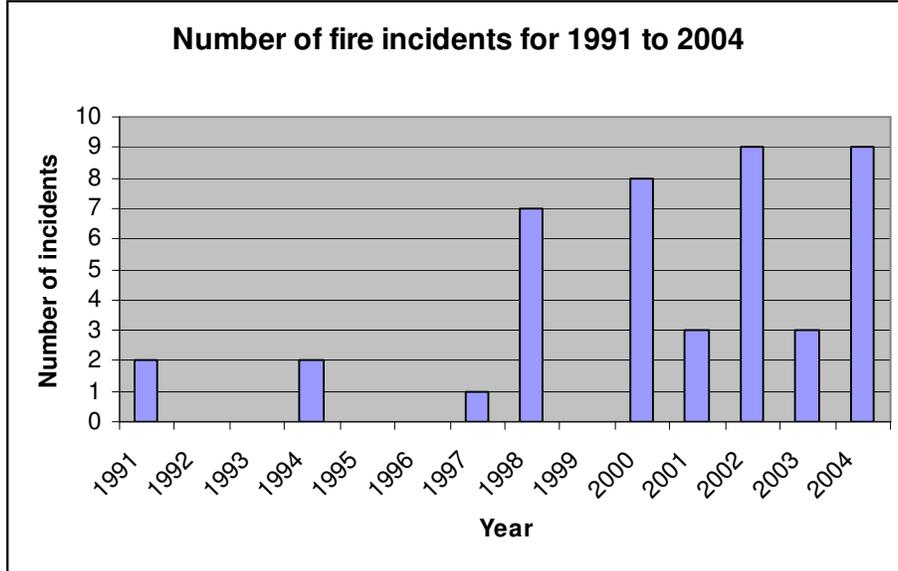
How does the community manage its risk?

The community tries to manage its risk in term of health in a number of ways within the constraints of a poorly serviced informal settlement. When community members get sick they usually visit the clinic which is located across the road in Du Noon. Apart from that the options are the St. Johns Apostolic church or visiting the Rasta's who give gum tree for colds and flu; *kankerbos* for stomach problems; and *mhlonyane* for coughs. However, there do not seem to be many preventative measures being taken by the community.

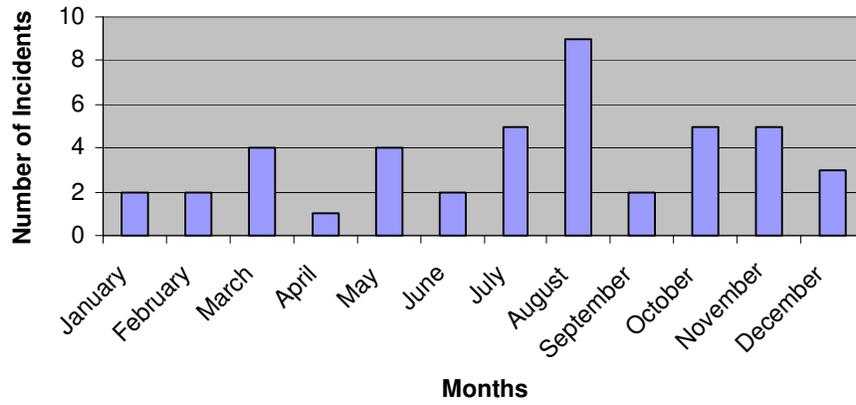
3) Conclusion

Overall the workshop was well attended by community members and active government officials in the area. Unfortunately many of the community leaders could not be there as most of them are employed during the day. Judging by the responses from the course evaluations it seems that the course was well received and that it met its objectives.

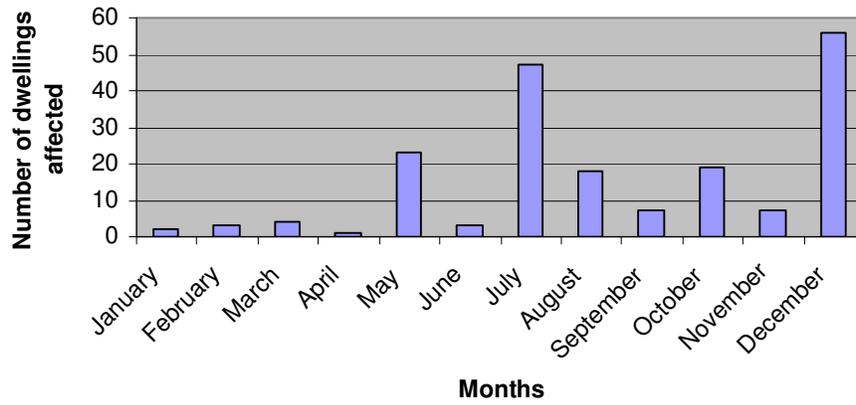
Appendix A: Doornbach Fire Data



Total number of Incidents per month for 1991 to 2004



Total number of dwellings affected per month for 1991 to 2004



Appendix D: Seasonal Health Issues

Run-off					√	√	√	√				
Unemployment					√	√	√	√				
Electric Shocks					√	√	√	√				
Pneumonia					√	√	√	√				
Winds	√	√	√				√	√	√	√	√	√
Coughing					√	√	√	√				
Skin Rash	√	√	√	√	√	√	√	√	√	√	√	√
Diarrhea	√	√	√	√	√	√	√	√	√	√	√	√
Flu					√	√	√	√	√	√		
HIV	√	√	√	√	√	√	√	√	√	√	√	√
TB	√	√	√	√	√	√	√	√	√	√	√	√
Flooding						√	√	√	√			
Rain					√	√	√	√	√			
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec