

FINAL REPORT

**THE KYANGULI SECONDARY SCHOOL
FIRE TRAGEDY,**

25/26 MARCH 2001 MACHAKOS -KENYA

Mental Health and Psychosocial Response
And
Lessons Learnt

BY

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DEDICATION

This report is dedicated to all the parents and guardians who lost their children, the brothers and sisters who lost their brothers and all others who were grieved; all the surviving children, teachers and staff of Kyanguli Secondary School, and the Kyanguli community and in memory of the departed children.

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ACRONYMS AND ABBREVIATIONS

AIC	Africa Inland Church
BDI	Beck Depression Inventory
CDI	Children Depressive Inventory
CISM	Critical Incident Stress Management
CISMT	Critical Incident Management Team
DTS	Davidson's Trauma Scale
GoK	Government of Kenya
IES	Impact of Event Scale-Revised
Jinis	Evil spirits
NGO	Non-Governmental Organization
NPSI	Nairobi Psychotherapy Services and Institute
NOK	Ndetei-Othieno-Kathuku
PTSD	Post-Traumatic Stress Disorder
SCL-90	Hopkins Symptom Checklist-90
SPSS	Statistical Package for Social Scientists
SRQ	Self Rating Questionnaire
UN	United Nations
UoN	University of Nairobi
USAID	United States Agency for International Development
WHO	World Health Organization

FOREWORD

The University of Nairobi has the role of generating, transmitting and storing original knowledge. In so doing, we encourage the development of an interface between the generation of new knowledge and consumption of that knowledge by the public. The new knowledge we generate at the University is only useful if there is a link between academics and the public. In this way new knowledge will be utilized for the enlightenment and betterment of the quality of life of the people. Research and academics are for development. This report on Kyanguli Fire Tragedy is a clear and living illustration of this commitment of the University of Nairobi in being part of this process. The University of Nairobi, through Prof. D.M. Ndeti and staff of the Department of Psychiatry, has contributed in better understanding of tragedies in the past. We helped develop and implement a mental health programme on psychotrauma in Rwanda following the genocide in 1994. We also have played a key role in the mental health response to the Nairobi American Embassy bombing in 1998 and response to the Kenya Airways plane crash in Abidjan, West Africa and the Athi River train crash in 2001. I am glad to note that the University of Nairobi is poised to play an even greater role in disaster response, through the graduates of our new courses; Master of Science in Clinical Psychology and the Postgraduate Diploma Course in Psychotrauma at the Department of Psychiatry.

PREFACE

The Kyanguli Fire Tragedy was an event that shook Kenya. It is one of the many tragedies that have hit this country. However, until this time we did not have a professional study and research-oriented documentation of this kind of tragedy from the point of view of mental health and the implications. This is therefore a first and landmark study which further studies will improve and build on. The fact that it was done mainly through local resource mobilization with no funding is noteworthy. I thank all those who made their contribution so willingly. The University of Nairobi is happy and proud to be associated with this effort. We are grateful to the brain behind this worthwhile study, our Professor of Psychiatry, University of Nairobi, Professor David Musyimi Ndeti.

PROFESSOR CRISPUS M. KIAMBA
VICE-CHANCELLOR
UNIVERSITY OF NAIROBI

PREAMBLE

This report on the Kyanguli Secondary School Tragedy is more than an account of the events of that fateful night of 25/26 March, 2001. The actual account of what happened has been told over and over again. I would also like to add that this is not an account on how to rescue people in a disaster situation, or how to handle the physical aspects of emergencies and casualties. The expertise on this lies in other domains – St. John's Ambulance, police, fire brigade, nurses and emergency doctors. Rather, this report is an attempt to look at the other side of disasters – whether natural or man-made, which aspect is totally ignored. It is the psychological and social consequences and complications of disasters, that outlive the rescue operations, hospitalizations, burials, the kind words of condolences, the paying off of all the expenses, insurances, the reconstruction of buildings etc. We may not be aware that for many of the survivors and the bereaved all the above are no more than phase one of the consequential complications, some of which may be life-long, unless properly handled. This report is about management of human emotions and their reconstruction. These are post-traumatic stress disorders (PTSD) and associated biological and social complications. The reader is reminded that this is not a scientific report. That aspect has been addressed in scientific fora.

Perhaps the most beautiful aspect of this report is the Kenyan spirit of offering to help others. I am glad to report that this report has been made possible by people who offered their expertise, time and meagre resources. These were basically my staff and students and other volunteers. Their names are mentioned under acknowledgements though it is not possible to thank them enough. The appendix on Market Costs for this project illustrates how much it would have cost if it was funded. It would have cost at least US\$66,546 or Ksh.5,190,853 million (as matter of fact at the start of this project I had appealed

for Ksh.5 million, which agrees totally with the post-costing of the project by an independent project proposal expert). More importantly, we completed the exercise within a record time of less than 18 months from the date of the disaster to today when we are presenting the report. The activity ran through several phases. These were planning, instruments compiling, duplicating of the instruments, actual data collection, data entry and cleaning, data analysis (descriptive and inferential) and write up of scientific papers and report and of course the time to prepare for this launch. But this is not all that important. What is important is that we have our own Kenyan human resources to do it. We did it! Had we had financial backing we would have completed this exercise more than one year ago. But while we are happy to present to Kenyans the first report of its kind and in many ways the first comprehensive documentation of its type from Africa we must hasten to add that this was more of a learning exercise and better work can be expected in future. Not that we wish for another disaster, but we have the realization that disasters have always been part of human history, and we have not seen the last of them. One of the main achievements of this study was the development of research instruments for this kind of work. These are instruments that can be easily applied in future, not only in Kenya but also in other countries. We have used an instrument that bears Kenyan names: This is the NOK (Ndetei-Othieno-Kathuku) that is attracting the attention of the world scientific community in this kind of research. This is in addition to other scientific findings, which are a first in many ways.

This brings me to the next point which is connected with what I said at the beginning. Whereas it is true that we have had our share of disasters – both man-made and natural, we have in the past operated on assumptions, which is most unfortunate. These assumptions have been mainly emotive and in the process we continue to repeat the same wrongful assumptions. Let me give you a few examples from the Kyanguli experience. Whereas drugs are a menace in

schools, we have only continued to rely on emotions on their assumed role in school indiscipline. At best we have collected data – mainly descriptive, which demonstrated no more than the fact that drug abuse in schools is highly prevalent. We have continued to spend wastefully more resources in replicating this, even showing that the problem is on the increase. We only describe what we see, we never ask why. What difference will it make if, for example, we found 20% of school children abuse drugs today whereas only 5% abused last year? Don't we need to find the why for the 5% as much as we need to find for 20%? I am happy to report drug abuse was not an issue in Kyanguli any more than the average we have found in other schools, none of which has had reported disciplinary problems. In fact, the problem of drug abuse was far below the average for schools. The point I am making is that we tend to find a perfect scapegoat in drugs and forget other equally important issues. Drug abuse is a serious issue, I must assert. But it is merely a symptom of a more fundamental problem. How often we focus on symptoms rather than the causes!!

Let me give another example of a lesson learnt from Kyanguli. Most of the people we talked to or rather who talked to me when they knew what I was doing in Kyanguli openly wondered why the school had not been relocated, or better still the children relocated to other schools. Yet from my reading of scientific literature I knew that that would have been a more disastrous option. Relocation has always produced more psychological problems in children. But I had no Kenyan experience and I was not comfortable to lift findings from other countries and different contexts into the Kenyan situation. But I can now report to you with evidence-based authority that one of the best decisions at Kyanguli was not to relocate the school or even close it and relocate all the children, although this decision was arrived at out of other considerations.

Let me give you yet another example, at the risk of attracting wrath from some quarters. Disaster and disaster response have unfortunately become increasingly a kind of industry with some of the partakers almost going commercial in the eyes of the public and most unfortunately trying to steal the limelight rather than letting all the limelight fall where it is required – the disaster. In the process we have taken for granted that mass debriefing or as is sometimes called counseling, is necessarily useful leave alone the possibility of being harmful, at least in some cases and situations. Yet we do not have the conclusive evidence that counseling and/or debriefing works all the time, if at all it does. Evidence-based data seem to increasingly suggest its effectiveness may have been exaggerated. It is only research that will elucidate these issues and show us the most cost-effective means of psychological intervention. But we cannot proceed as if we know everything or as if we believed our approaches were effective. The findings of this study and indeed my analysis of the victims of the 1998 American Embassy bombing, strongly suggest that this is an area that has largely operated on assumptions and needs to be revisited. But perhaps the most encouraging lesson from the Kyanguli disaster is the beauty and power of our traditional social support system as a healing process. This system is much more powerful than some of the clinical approaches in management, yet so cost-effective. Research is critical in every aspect of disaster and if we ignore it we run the risk of institutionalizing assumptions to the detriment of the people we have all the best intentions to help.

While still on research in relation to disasters, let me caution my academic colleagues on the futility of mystifying academics, like the legendary doctor's handwriting which his patients cannot read on the prescription. While we need to do research for our doctoral dissertations (Ph.D, MDs etc.) and while we write scientific papers in peer-referred scientific journals (the real mark of academics), what good is that research if it cannot be used to provide simple implementable

answers to problems that affect the consumers of our knowledge – i.e. the people? Our people need to be informed of our research findings in as simple a language as possible. I long for the day when public lectures where ordinary people can come, listen, follow, understand and ask questions and in the process benefit from the academics, will be common place and part of university life, at least in my own university, the University of Nairobi.

Finally, let me make a plea on behalf of the students of Kyanguli, their parents and teachers, and in particular the parents who lost their children, and the siblings who also lost their brothers. For this project to be meaningful and for it to act as a prototype for us to learn, we need to complete this exercise. This launch is, but the end of the beginning. There is need for yearly cross-sectional follow-up and documentation of all these groups of people. That is the only way we can create a firm evidence based practice for future. I call upon potential donors and well wishers to come forward. They can donate anything ranging from a computer, photocopier, photocopy paper, a salary for a research assistant (we need at least two of them), the project manager, their bus fare to the field, office space (so far this has been donated by NPSI) etc. The school has its needs too. Let this tragedy be the turning point for a bright future for this school now renamed; Kyanguli Memorial Secondary School.

I have a very special plea on behalf of the parents who lost their sons. They hurt far much more than the other groups. *Let me explain it this way – they scored maximally on all the instruments we used. They completely tipped the scales. I have no reservations or apologies at all in making these appeals. I have just come from USA where world-leading experts on psycho-social response to disasters were discussing and exchanging views on these same issues we are discussing. On 1 August, 2002, I took time off to visit the site of the World Trade Centre which was brought down on 11 September, 2001. This is by far the most*

vibrant tourist destination site in the New York City, bringing people from all over the world. Next to it was a big advertisement which read; *"We offer prayers for the victims and their families and thanks to all those who risked their lives in the aftermath of September, 11, 2001. Please help through the following organizations....."* Listed were seven(7) multi-national non-governmental organizations. The assistance was to go to those who survived the tragedy and those who lost their beloved ones, who were hurting emotionally and socio-economically. None of those super endowed international organization is making any plea on behalf of Kyanguli and all those affected. Many of these will need therapy and other forms of treatment for a long time. Would you care and come forward?

Finally, a personal note; many people from all walks of life have asked me a personal question – "Professor, why have you undertaken to do this and see this project through when you are not even funded by anybody?" The answer is that I do not know except that on soul-searching reflection, I can only find two reasons:- 1) Somebody somewhere had to do something and I happened to be there when it needed to be done and 2) Research and academics are my in-born and also chosen life-time lifelines which give me extreme joy and satisfaction. Any perceived explanation that does not fit into these cannot be the reason why I have done this.

PROFESSOR DAVID M. NDETEI

INTRODUCTION

Many tragedies have afflicted this country in its brief history. These include road accidents (over 2000 lives are lost annually on road accidents), air, ferry and train accidents, fires, floods, mudslides, tribal and religious clashes, terrorist and bandit attacks, violent cattle rustling, violence of all forms including armed robberies both in urban and rural areas and also domestic violence, famines etc. More related to this exercise are institutional unrests. There have been many strikes in our state universities and at times lives have been lost in these events. More recently, secondary schools have joined this pattern of behaviour at an alarming rate. This reached a climax in 2000 and 2001, with over 200 strikes reported. Among notable events, are the St. Kizito tragedy in which 19 girls died, in July, 1991, the Bombolulu fire disaster in which 23 girls died.

On the international arena, there have been a number of mass fatality disasters, which have included both natural and human disasters. Recent examples include the Rwandan genocide in which nearly one million people were killed at an attempted ethnic cleansing, multiple mass killings in the Balkans, many terrorist attacks including the infamous September 11, attack on the World Trade Centre and the AP Murrah Federal building in Oklahoma City in the USA among others. Similarly, natural disasters including typhoons, land slides and even volcanic eruptions have resulted in many fatalities. The most recent of these disasters include the volcanic eruption at Goma in the Democratic Republic of Congo, floods in Mozambique etc.

Psychological impact of disasters

Over the past decade, Kenyans have become increasingly aware of multiple fatality disasters. Kenyans have lost lives in a number of incidents some of

which have been alluded to earlier. These various forms of psychotrauma have brought a sense of fear and insecurity. In general terms, a sense of insecurity pervades the country in homes, in schools and in our routine duties. There is a foreboding sense of vulnerability. Fearfulness and vigilance have increased.

To be effective, psychological interventions following disasters of all forms require understanding of the traumatic elements of the events. The severity of trauma is measured by, among other factors, the duration of the event, the number of people killed, the age of the victims and the defenselessness of victims. Traumatic impact is also magnified by the fact that some of these events occur by human design. They are deliberate, planned, sudden and completely unpredictable and are aimed at people in defenseless positions. The threat is that anyone irrespective of age, sex or status could be a victim.

The intent in some of these incidences is to demoralize the people targeted and undermine their sense of confidence and security. When groups of people begin to think of themselves as potential victims, you have the ultimate hostage situation. A traumatic atmosphere is created when people feel that anyone can be a victim. Killing people in the course of their day-to-day lives as they carry out the most ordinary of tasks and responsibilities including learning in schools, creates a sense of vulnerability and fearfulness that may persist for a lifetime. It may also put a person at a risk for long term psychological difficulties. For the victims and rescue workers this atmosphere of trauma needs to be addressed with, among others, a psychological intervention. This study and report on a school fire at Kyanguli Secondary School is therefore a pioneering landmark in the study of the phenomena of psycho-trauma and the damage it inflicts on individuals and society, in an African setting.

THE KYANGULI FIRE TRAGEDY

The school background:

The Kyanguli school is situated 7km from Machakos town, the district headquarters of Machakos district, which is itself located 67 km southeast of Nairobi. It was a mixed secondary school with both boys and girls including boarders and day scholars as well. The school, sponsored by the African Inland Church (AIC) was established as a single stream school in 1973 with a catchment that was largely restricted to Machakos district. Due to the prevailing high demand for education and the efforts of the local community, the school expanded rapidly and by 1989 was a three stream school admitting students from all over the Eastern province and further afield. Every year, the school took pride in contributing at least 20 students to various public universities besides the many others who joined other middle level tertiary institutions. At the time of the tragedy, the school had a population of 601 students, 32 teachers and 22 members of support staff.

The local people are predominantly Akamba, with a strong religious affiliation to the Africa Inland Church (AIC). Mumbuni Mission Centre, one of the oldest missionary centers in Kenya established by the African Inland Mission from North America in 1896 is only 5km from the school. Some of the Akamba people, just like people in the rest of the Kenyan population, have a tendency of involvement in witchcraft - hence the mystique attributed to the fire tragedy. Most of the local people are peasant farmers.

On the night of 25/26 March, 2001, at around 1.00a.m., a fierce fire razed down a dormitory at Kyanguli Mixed Secondary School in which over 130 students were sleeping at that time. The fire killed 67 of the occupants, 58 of whom were

burned beyond recognition while the remaining died on their way to hospital or at the hospitals. Others had variable degrees of burns among other physical injuries sustained while either escaping or attempting to help out the others.

The fire alleged to have been started by some of the students using petroleum fuel was a quick and furious event; even a heavy downpour going on at the time could not tame the wild flames. Some of the escaping students quickly alerted their colleagues and teachers. Within minutes, the police had gotten the word; the local District Commissioner and his team were at the scene within a short time. The response was immediate and swift inspite of the odd time of the night. But hope soon evolved into desperation and anger especially for their inability to help the victims. This cannot be better represented than with the words of the then District Commissioner and now Kenya Ambassador to Namibia, Hussein Dado who said, *"These are memories I would like to forget but I cannot... ..the terrible site of burning flesh, seeing children burning and there was nothing I could do about it."* This epitomized the helplessness and futility with which everyone watched, and yet unable to help even their closest of friends.

The injured were taken to hospitals immediately by the police and volunteers. The bulk were admitted at the local Machakos district hospital. Due to severity of the burns, some were eventually transferred to the Kenyatta National Hospital for more specialized treatment. Also involved in the rescue efforts were personnel from the Red Cross Society. When the fire had burned to its own extinction, it was time to take stock of the loss. Parents and students made efforts to recover whatever they could of their lost ones under the dying embers.

Rescue efforts

The police cordoned off the scene of the fire immediately at dawn and commenced investigations. This was to reveal a lot that was not previously known. Led by the local District Commissioner, and Ministry of Education officials, they began taking stock of the losses incurred. Soon it became apparent that there was poor record keeping; the exact number of students in the affected dormitory could not be established until two days after the incident and this only happened after a tedious process that included a head count for all the students. Even identifying the dead by names was only possible through a process of elimination; those who survived assisted in identifying the dead. Meanwhile, anguished parents and relatives made the rounds between the Machakos District Hospital, Kenyatta National Hospital, their respective mortuaries, the city mortuary in Nairobi and the school grounds seeking to establish the whereabouts of their children. Meanwhile, the charred remains of the dead were packed into body bags and removed to the city mortuary.

Burial

In the meantime, burial arrangements had to be made. Every parent wanted to have the remains of their children for burial in accordance with their cultural practice. The futility of this wish was soon apparent. Fifty eight(58) of the dead could not be identified positively by any means locally available: Those were to be buried in a mass grave within the school compound after prolonged discussions. Ten days after the incident, the remains were laid in a mass grave at a funeral service attended by high-ranking government officials including the Head of State, President Daniel Arap Moi. His presence, by all means, was a great consolation to the community and a source of inspiration and strength to the parents, students and teachers in the school.

Community Response

Soon after the burial and even immediately after the fire, speculations on the cause of the fire were rampant in the grapevine; a number of disingenuous issues surfaced within the community. The fire raged under a torrential downpour; students in the neighbouring dormitories and homes only twenty metres from the burning dormitory somehow did not hear the screams of the afflicted. This opened doors for speculation and to many local people these were interpreted as significant factors concerning the cause and nature of the fire. Some speculated that the fire was the work of unhappy spirits taking revenge on the community for unspecified sins while others thought it was the work of a local businessman who tends "jinis" (evil spirits), viewing it as a blood sacrifice to enhance his business. The fact that the funeral service was interrupted by a swam of grasshoppers that many of the mourners mistook for bees only served to fuel the speculations further.

In a process of apportioning of blame, some larger than life size grotesque sculptors of human being and water animals – crocodiles, hippos etc., the work of an art class in the school, which had been put up over several years were quickly destroyed. It is not surprising therefore that some of the people blamed the whole tragedy on witchcraft.

Further observations about the school:

The school was reported to have a fairly good discipline record. Weaknesses started emerging following the incident. Use of drugs and other indicators of indiscipline were speculated; a standard suspicion in cases of indiscipline in schools. Poor managerial skills on the part of the headteacher and his team was another factor. He was alleged to have physically assaulted some of his students. It also emerged that several attempts at fire setting had been made previously targeting the headmaster's office and the school library. It is also

noteworthy that no teacher was within the school vicinity at the time of the incident. The fire resulting in so many fatalities is alleged to have been the work of at least two students who at the moment are facing a charge of 67 counts of murder, the largest in the history of independent Kenya. The rest of the report will now focus on mental health - immediate, short-term, intermediate and long-term.

GENERAL MENTAL HEALTH RESPONSE STRATEGY

The mental health response following the tragedy was initially scanty and inadequately organized. Only two groups of mental health personnel were available to offer any form of assistance namely; Nairobi Psychotherapy Services and Institute and postgraduate students from the University of Nairobi's Department of Psychiatry and Amani Counseling Centre. The principal author of this report, a Professor of Psychiatry, visited the school immediately and commenced a mental health management plan for the school community including the parents of the deceased. The plan was three-fold as follows:-

(i) Debriefing

This followed critical incident management and was done mainly by a group of volunteers from Amani Counseling Centre. This was for the surviving students, the teachers and other staff members and the parents of the deceased students. These interventions were aimed at helping them cope with the reality of what had happened and to give them hope and support to face reality of the events and focus on the future. Details are given in later sections of this report.

(ii) Documentation and Collection of Scientific Data

This followed immediately after the debriefing and was part of counseling of the individuals affected in the process. The data was collected using internationally used instruments of measuring stress and grief as well as level of substance abuse. They were administered to the subjects in three groups and included the following:-

a) Children/students

- Incident of events scale (IES-R)
- SCL 90-R (Hopkins Symptom Check List)
- CDI (Children Depression Inventory)
- BDI (Beck's Depression Inventory)
- SRQ (Self-Rating Questionnaire)
- NOK (Ndetei-Othieno-Kathuku)

b) Teachers and other Staff

Similar instruments to those used on children were administered to the staff.

c) Grieved Parents/Guardians and relatives

This group was assessed using three instruments:-

- Prigerson *et al* instrument for traumatic grief
- NOK (Ndetei-Othieno-Kathuku)
- SRQ (Self-rating questionnaire)

The team from Nairobi Psychotherapy Services & Institute headed by the Principal Author, Prof. David M. Ndetei compiled and prepared the instruments listed above. It involved adequate and thorough preparation including interpretation of all concepts to local language equivalents for those unable to understand English well. The data was later analysed and insight of its findings are in later sections of this report. The data was also

factor-analysed in an attempt to come up with short versions that are culturally sensitive and can be used in future with much ease and flexibility while still maintaining validity.

(iii) Longitudinal follow-up

Often, people attended to after a disaster are left to suffer psychopathology alone and in silence, sometime without hope of ever recovering. Having already established baseline data, it is expected that all those involved shall be followed up in the future and any psychopathology noted managed in good time. These longitudinal studies should last for at least 5 years, with yearly cross-sectional documentation of psychotrauma, in order to monitor progress.

SERVICES TO CHILDREN

The loss of so many lives in a matter of hours caused anguish not only to the parents of the deceased children but to the country at large. They were young, ambitious and determined to contribute positively to the development of their country. Hours before the fire tragedy they went to bed to rest after a difficult day, little did they know of the fate that awaited them that night. This forms the most horrific part of the tragedy that all those who were victims that night will have to live with, not knowing whether they will ever feel secure again.

Statistics immediately available only tell us that 67 children died and others were admitted to hospitals with burns, or in critical condition. These statistics do not capture how much psychological pain those who survived (children, parents and staff) will endure as they go on with their lives.

Immediate Response

The immediate response identified three major groups of children:-

1. The deceased
2. The physically injured children
3. The non-physically injured children

1. The Deceased children

Not much could be done to the fire as those present watched helplessly as it consumed its victims. All that was left of those who succumbed to the fire was charred flesh.

2. The Physically Injured Children

They were immediately attended to despite the limited capacity at that particular hour. The injured ones were identified and those critically injured given priority to be taken to hospital.

As daybreak approached, news continued to spread around and more help arrived at the scene to the relief of the victims. These children were taken to various hospitals for both emergency and continued care. Those critically ill were transferred to the Kenyatta National Hospital in Nairobi, approximately 70km from the scene of the disaster.

3. The non-physically injured children

They were all gathered in the school except those who were away from the school previously for various reasons. Those who were boarders in the school were involved in rescue attempts, raising alarms and gathering all possible support to help their schoolmates. A number of them were however dazed, numbed by shock and walked around the compound in total disbelief and hoping that it was just a nightmare that they would wake up from.

Mental Health Response

In the face of the magnitude of the disaster, mental health response was scanty and inadequate, due to a number of limitations that were far beyond the control of those involved in the intervention.

Preparedness to deal with a disaster of such a magnitude especially involving children requires significant input from professionally qualified personnel with experience in such areas.

Another important aspect in mental health response is death notification to the concerned parties. In every disaster there is always a need for death notification teams. A mental health specialist should be a member of this team for he/she will counsel the victims on how to manage their own grief and at the same time minimize psychotrauma in the death notification process. A counselor made an attempt to do this, but was obviously overwhelmed.

In such disasters, the main focus on mental health response is in prevention of psychological reaction after exposure to extreme events (psychotrauma). The long lasting impact of such an event on a child depends on the adequacy of the support that the child receives during and following the event. The most important protective factor for a child is the family. The love, care and understanding that is developed and exchanged between child and parent is unique and essential. Traumatization of family members, children or adults, always affects family life. When helping children to cope with stressful situations, it is necessary to recognize the family as an integral part of this experience.

The mental health response to the children was at three levels:-

1. Debriefing
2. Assessment of presence of psychotrauma and psychopathology arising from the disaster
3. Longitudinal follow-up of those traumatized

1. Debriefing

This is a mental health response that immediately follows the "critical incident". This is usually done in two parts, emergency phase on-site interventions and emergency phase off-site interventions followed by Critical Incidence Stress Management (CISM).

The whole process involves protecting children from further exposure, directing them away from the severely injured victims, connecting support and compassion with them, providing acute care, and a conducive environment to distract them from the disaster site. It is in 'brief' the hallmark of 'psychological first aid'. Amani Counseling Centre, an NGO, provided professional counseling services to the victims of the fire disaster among other services.

These efforts were supported by Nairobi Psychotherapy Services & Institute (NPSI), which comprises of professionals in the field of mental health, with emphasis on mental health research.

In the immediate response, there was an obvious lack of a Critical Incidence Stress Management Team (CISMT). CISMT requires professionals with specialized experience and training, including specialization in disaster mental health. Another deficiency noted was the lack of psychological first aid centers. These are places where child survivors who are in need of psychological first aid are congregated and attended to.

2. Assessment of presence of psychotrauma and psychopathology arising from the disaster

This was done 1-2 months later by NPSI researchers, assisted by a team of volunteers and postgraduate students from the University of Nairobi. The team leader, also the author of this report, has had extensive experience in disaster mental health in Rwanda in refugees and following the Nairobi USA Embassy bombing. The children were in two groups – those who had remained in Kyanguli and those who had transferred to other schools.

The instruments used have already been listed above. The assessment team took the opportunity to assess presence and level of illicit drug/substance use. This was to determine whether illicit drugs use contributed to the tragedy. This was the common view of many lay people and commentators who sought to explain away school unrests and violence. The method used was a “123 item” – self-reporting questionnaire on substance use developed by the World Health Organization (WHO).

The results on illicit drug/substance use in the school showed 5.2% lifetime (not necessarily current) substance use prevalence rate. This was far much lower than findings in other studies done in numerous schools, especially urban schools with prevalence rates of up to 40%, none of them with a history of violence. The conclusion derived from this was that illicit drug/substance use was not certainly the major cause of school unrest. More research however needs to be done to find out the causes of unrests in schools.

Contrary to common expectation, but in agreement with findings from elsewhere in the world, students who had relocated suffered more levels of psychotrauma than those who had not relocated. There are several explanations for this, but

the one cited by the students most was stigmatization – by both students and staff in their new schools, and also a sense of betrayal of those they left behind. No wonder many walked back to Kyanguli in total defiance of their parents' wishes.

3. Longitudinal follow-up of those traumatized

Traumatized children were identified at the second level. Those children who sought help were followed up at NPSI. Professional services were offered to these children at no fee. The services included counseling, psychotherapy and psychiatric treatment.

The families of the traumatized children were actively involved in the whole process of helping these children recover from the psychotrauma. Most of the traumatized children are still on follow-up at the NPSI.

Recommendations on Child Mental Health Services in Disasters

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1. There is need to encourage more teacher-student communication and vice-versa to avert such tragedies.
2. The number of teachers on night duty in boarding schools should possibly be increased to be able to attend to the large student numbers effectively.
3. More studies are needed to find out the major causes of school unrest and conduct disorders in schools and how to manage them.
4. Presence of child specialists at psychological first aid centers and availability to death notification teams: It is recommended that child mental health specialists be available on site at counseling centers established following mass casualty events involving children.

5. Involvement of child mental health specialists in planning and response:
There should be active involvement of local professionals in developing disaster mental health plans, and in all aspects of assessment and service delivery planning for children's services and program evaluation.
6. Preparation of school disaster mental health plans: Clearly a large number of children are exposed to mental health stress other than disasters. These could be academic, family or drugs/substance abuse. These children will require counseling and support from people they trust. It is important to organize workshops and equip schools with the basic knowledge and skills in counseling/mental health response.
7. Crisis counseling grants: Government-funded or donor-funded crisis counseling projects need to make appropriate provisions for services to children both in the schools and in the community at large. Staff should not only include professionals, but also child specialists skilled in both the planning and execution of the programs. Schools play a critical role in helping children recover from disaster and community - wide trauma. Mental health clinicians can work with entire classrooms at a time, individual students, parents, school officials, teachers and school counselors. Teachers and counselors can be provided with brief training on how to conduct classroom exercises and how to identify children that should be evaluated to determine the need for further professional mental health services.
8. Long-Term Care: The exceptional psychological impact on children of mass casualty and terror events needs to be better recognized and provided for. The death of children increases the incident's impact on children and adults alike. There is a need for well-planned, adequately funded long-term developmentally appropriate disaster mental health services for children. Substantial efforts are needed to provide for the long-term needs of the children affected.

9. Links between research and services: The scientist/practitioner model, which lies at the heart of much of psychology, recognizes the need for linkage between research and the provision of services. Needs assessment studies provide information on the numbers and locations of people needing services and the nature of the services they may require. Programmed evaluation provides information regarding the quality of services provided. Treatment research has the capacity to evaluate the relative merits of different techniques for the provision of services. These types of research are critical to the service provider to ensure that those in need receive the most effective treatment possible in an efficient manner. Government of Kenya/donor-funded crisis intervention programmes need to communicate actively with researchers studying the aftermath of the disasters that necessitate the crisis intervention program, learning from researches in the immediacy of the moment. Therefore there is the need to fund the critical work of the researchers, allowing science and practice to work together as a refined team and maximizing the value obtained for the funds expended in these efforts. Without research-based evidence for our clinical practices, there is a high risk of institutionalizing non-effective or even dangerous interventions, no matter how much resources are at disposal for those unevaluated interventions.

SERVICES TO THE TEACHERS AND OTHER MEMBERS OF STAFF

At the time of the interview, there were 24 teachers and 17 members of support staff at Kyanguli Secondary School all residing outside the school. Following the fire on the morning of 26 March, 2001, 67 students, who had previously sat in front of these teachers, interacted with them and formed part of their daily lives were no more. It was not going to be easy to accept the loss immediately and living with its memories was an uphill task. A gap had suddenly sprang up

among the teachers that required to be filled, not by replacement with other students but by psychological support that would keep them strong and going on in the future. The teachers played an important role in the period immediately following the tragedy. They were extensively involved in the rescue operations, the investigations including records retrieval and compilation and even consoling the bereaved parents and students. This by any means was a physically and psychologically challenging task and left them exhausted and in dire need of support.

Immediate post tragedy period: The teachers' roles

The teachers were to know about the disaster in the morning that followed as they did not reside within the school compound. It was with shock and disbelief that they received the news. Most did not believe and by their own written admission later reported having searched for the dead for a number of days later after the incidence. They were however involved in a number of activities namely:

- a) Transportation of the injured to the hospital
- b) Making a decision on the immediate action to take, especially about the students. This was however easy as the students all walked out mainly in fear and left for their homes effectively closing the school.
- c) Securing the scene of the fire along with law enforcement officers for purposes of preserving vital evidence.
- d) Helping in retrieval and compilation of information/records on the students including establishing the exact number in the dormitory affected by the incident and the names and number of the deceased.
- e) Providing police with information and records that could aid in investigation on the cause of the fire.

- f) Directing and consoling the parents and relatives who flocked the school in search of their loved ones.
- g) Record keeping especially of the injured students, the hospital they were admitted to and the name and home of their parents. This was also to be done for the deceased students as well.

With all the aforementioned responsibilities and bearing in mind they were part of the community that lost their loved ones, the teachers and all staff members were most certainly a highly traumatized group of people, a group physically tired and psychologically hurt beyond any prior imagination they could have had. An immediate response, specific, targeted and appropriate was therefore required to avert any possible negative outcomes and especially psychotrauma.

Mental health response

Very little form of organized response was initially available and the staff members were understandably apprehensive about any forms of assistance in the post disaster period. Similarly there was no adequate preparedness on the part of those offering help which then was not even documented to know who was assisted and who needed which help. Little wonder, one teacher described the whole exercise as “unhelpful and probably regrettable and a wasted effort.” The following was however done:-

- i) Debriefing

The teachers and other staff members were assembled together for psychological debriefing shortly after the occurrence of the incident. The services were provided by volunteer counselors from Amani Counseling Centre. This service was limited and generally terminated abruptly after

the mass burial. The fate of the school and its teachers then were on the balance: they needed support more at this time yet little of it was forthcoming.

ii) Assessment of psychotrauma: extent and effects

The teachers were assessed using instruments earlier described in the introduction. They were to assess the extent and nature of traumatic distress and stress in general among all the members of staff. The results of this intervention indicate that the staff were highly traumatized. They scored highly on all the scales used especially compared with the students who seem to have been less traumatized psychologically. They therefore were in greater need of psychological intervention at the time and would require further support.

iii) Longitudinal follow-up

Assessment of psychotrauma cannot be an end to itself; means must be found to address the problems elicited on the immediate, intermediate and long-term. A long-term plan in form of a longitudinal follow-up therefore comes in handy. The teachers who sought help were followed up at the Nairobi Psychotherapy Services and Institute (NPSI) and continue to receive free support from the institute to date. These include counseling, psychotherapy and even physical treatments. Most certainly, with availability of funds, the follow-up will be prolonged to the extent of help required for each individual member of staff.

Recommendations of Services to Teachers and Support Staff

- a. The curriculum for teachers training should be reviewed with a view of having it include management of disasters. They should as well be well versed with knowledge on counseling which would go a long way in assisting them handle their students' little psychological problems. At the minimum, there should be a trained counselor permanently attached to every school.
- b. The Ministry of Education should introduce in-service continuous training programmes for the teachers and professional school counselors.
- c. The Ministry of Education should formulate and enforce a minimum requirement for teachers especially insisting that duty teachers reside in school especially during the period they are on duty.
- d. Putting into account the stresses experienced by teachers, their employer should avail counseling services for them at all times if they are to remain useful, efficient and productive. Mental health services of all forms should similarly be offered to them on a continuous basis.
- e. Efforts should be made to improve teacher-student relationships and to resolve conflicts at their inception through open dialogue. Kenya has, at its disposal, a model in one of the world's top most schools, located not so far from the city center of Nairobi. This model works!

SERVICES TO PARENTS/GUARDIANS/RELATIVES WITH EMPHASIS ON THE BEREAVED

At the time of the fire tragedy there were 601 students registered at the school. All these students had parents, guardians, brothers and sisters all of whom had special relationships and emotional bonds with them. The loss of 67 of these

students was definitely traumatizing to all those concerned. Their mass grave, the injured survivors and their mere absence was and will remain a scar in the minds of many; a reminder of the ghostly event that descended on Kyanguli school on that fateful night of 25/26 March, 2001. In that mass grave, lay the hopes and aspirations of not only those who lay beneath but also of the host of their relatives, friends, siblings and above all their parents. Their lives had been cut short when they were just on the margin of attaining their long held dreams. The anguish resulting from these losses could only be best expressed by the words of their parents and which form part of the appendix of this report.

The parents and guardians of the 67 deceased children turned up for mental health support. Most were peasant farmers. The rest were lowly paid civil servants earning as little as 60 dollars (Ksh.5,000.00) in a month. Education of their children was the leading consumer of their income. No wonder, their children's education was their singlemost highest investment. Only 3 of the parents did not have other remaining children while 17 did not have any other remaining boy child, the gender most valued in this African set up.

Immediate post disaster period: the parents' role

The parents were involved in several responsibilities immediately following the disaster. Despite their trauma they were instrumental in identifying the dead children, in counseling the remaining students and the bereaved among them. Even those whose children had not died, were in grief as they went about mourning the children who had died. The important decision to be made and of immediate priority was the burial of the dead students. Having failed to identify 58 of the dead it was only logical that a decision be made on their burial. Initially, the parents wanted to bury their children in their respective homes in accordance to their own traditions and customs, but it soon dawned on them that

any attempt at identifying the individual students' remains was futile. They were averse to the risk of burying in their homes remains that were not of their own children, a fact that would have been a pervasive trauma in itself. This futility then led them to opt for a mass burial at a site in the school compound with facilitation of the local administration and Ministry of Education officials.

Also of immediate importance was to determine the future of the school in the post disaster period. Some people especially government officials suggested that the school be closed down. This suggestion was opposed by the parents who wanted the school to remain open, more so as a sign of respect and remembrance of their perished children. At the end of the day, the decision of the parents prevailed and the school was opened later in the following school term with most of its former students in attendance.

Mental health response to the bereaved

i) Debriefing

The mental health response was done in three phases. The first one was at the school for all the parents and at the mortuary for those who were bereaved, all immediately after the incident. After the burial the bereaved parents formed a separate group and preferred to stay from the school and be treated as a different group with special needs. They were seen twice as a group more in group therapy form. Due to the difficulty in assembling the bereaved parents together, a venue away from the school was identified in a central place at Machakos town where they were met and attended to. This took place two months after the incident. It is worth noting that the initial meeting for the group was acrimonious with some parents accusing the mental health personnel, and in particular Prof. Ndeti, the team leader,

of ulterior motives, specifically that he had been sent by the Government to spoil their case and even threatened to walk out of the first meeting in protest. After repeated assurances that the team consisted of volunteers who just wanted to be of some help, nearly all the parents stayed on for the first meeting and more came in, in the second meeting. The group therapy was done by the principal author along with his team of volunteers. The fact that some of the mental health personnel were conversant with the local language was an added advantage. These group therapy sessions turned out to be so much cost-effective. The parents were able to identify with each other emotionally and support each other in a way no therapist or any other form of treatment could do.

ii) Assessment of traumatic grief

The parents were assessed for traumatic grief and stress on the same days of the group therapy using an instrument for grief assessment, the NOK and SRQ. This was conducted in two separate sittings ten days apart. There was a total of 167 parents/guardians and relatives. The questionnaires were administered by a group of volunteers from Nairobi Psychotherapy Services and Institute and efforts had been made to ensure general agreement on all the questions for purpose of clear understanding. The parents were found to be highly traumatized, much more than the teachers and other students and this was in spite of the debriefing initially done immediately after the incident. A lot therefore needs to be done to restore their psychological well being and the resumption of their normal physical performance.

iii) Long-term follow-up

The parents scored highly on traumatic grief and on some sub-categories of symptoms of PTSD. They were in dire need of at least some form of extended grief therapy. A long term plan therefore came in handy. The affected parents were offered an opportunity at the NPSI to continue with therapy. Most of them have not turned up. They cite the long distance they have to travel and the prevailing economic hardships. Staff from NPSI have continued to travel to Machakos to meet them there in groups, a process still very active.

Recommendations of the Services to the Bereaved Parents and Guardians

- a. Well-wishers could provide funds for the parents to enable them be attended to and assisted to overcome their psychological difficulties in forums and manner sensitive to their special needs and therefore acceptable to them. At the moment, there are professionals willing to help them, but there is a general lack of coordination and lack of funds on the part of the parents. NPSI, which has volunteered this service so far cannot continue much longer, except to provide token support.
- b. It is also important that the number of mental health personnel available be increased. This would mainly be through training of volunteers to offer limited assistance to the parents and identify those requiring referral to more professionally trained personnel.
- c. There should be a well-organized way in which the parents will be followed up and assisted as a group to overcome their psychopathology arising from the tragedy.
- d. These parents also need some form of self-help support groups to at least boost their hopes that their children did not just die in vain and assist

them in recovery as well. This is perhaps their greatest hope. They could organize themselves for income generating activities.

SERVICES TO OTHER GROUPS

Missing out of this report are services that could have been given to the following groups:

1. The siblings of the deceased children. Only parents/guardians, all adults were considered. At least documentation of their mental health is vital.
2. Parents of the surviving children.

GENERAL DISASTER PREPAREDNESS

The general response to disaster and preparedness has to have several approaches all looking at the role of the specific organizations and their probable role. The roles have been alluded to in the specific sections on children, teachers and parents. The specific organizations however deserve to be discussed separately.

The Role of the Government in Disaster Mental Health

The government did respond through its officers including the District Commissioner and the police who were at the scene even though they had limited resources with which to assist. They however were involved in the clearing of the scene, collecting of evidence and making burial arrangements. To this end, the Ministry of Education participated fully and even donated a sum of Ksh.3 million (US\$40,000) which was to be used for burial arrangements, reconstruction of the school and a token compensation to the bereaved parents.

site/scene of disaster, hospital, first aid centers and any other place where the victims may be.

5. Training of mental health personnel in disaster preparedness, resources, policies and procedures: The knowledge of expected resources and coordination should be taught and frequently rehearsed in earnest. Though disasters cannot be planned, the aftermath and destiny of survivors/ victims can be planned. Lives can be saved and given a semblance of normalcy only if planning and coordination are well done; prior planning prevents poor performance.

The Role of Mental Health Personnel in Disasters:

As discussed in earlier sections it is apparent that the mental health personnel available were grossly inadequate in number and ill-equipped for the tragedy that happened at Kyanguli. Similarly there did not exist any organized form of mental health response. Guidance and coordination were lacking to those who volunteered. There was also no local mental health personnel. Those assisting were from Nairobi, 70km away from the school. They were mainly counselors, psychiatrists and trainees in these same areas of specialization. Most had not experienced similar events themselves and even then had hindrances in accessing the survivors to offer the services required at the time. Obtaining consent to assess the survivors for psychotrauma was equally an uphill task and only intervention of senior government officers helped in this. Equipment to analyse the data were not readily available and the group largely depended on donations and well wishers putting the whole noble project in jeopardy.

Recommendations on Mental Health Personnel in Disasters

1. The mental health personnel should come up with a formula on how to handle disasters. They should emphasize appropriate steps in mental health response with clear details of each step to be followed in situations that may arise. Above all, the plans should emphasize teamwork with a clear hierarchy of needs and activities to be carried out.
2. All volunteers should be screened before being allowed to offer any mental health services. They should be asked to show proof of relevant training and have proper legal identification documents. All unqualified persons should be barred from offering any services and even accessing the survivors. Their interventions could have negative effects.
3. The mental health professionals should liaise with the government and have all the relevant groups of professional registered with the relevant government agency. They should also formulate a clear policy of association/cooperation with the government to avoid any conflict of interest between them as well as rid themselves of any quack agencies.
4. Mental health professionals should lead the way in training of relevant personnel for institutions of learning including teachers to offer limited basic counseling services. They should similarly offer refresher courses in times when there are no emergencies to deal with. They will reduce the sole dependency on the few qualified personnel without compromising the standards of services offered.
5. Basic tools for research and psychotrauma assessment should be availed to all mental health workers. They should be adequately trained on their application and interpretation including follow-up of the patients.
6. Avenues should be opened for adequate funding of all genuine mental health programmes. They should be equipped with relevant resources including computers and relevant data analyzing packages.

7. Mental health workers and volunteers in times of disaster should remain professional and leave press liaisons to administrators. It impacts negatively when they appear to seek the limelight.

The Role of the Clergy in Disaster Mental Health

The clergy response team was composed primarily of men and women from Christian religions, the AIC church being the dominant one. The clergy organized prayer meetings and provided a needed service for those who were hurting emotionally. However, there were some other pertinent observations.

Recommendations on the Role of Clergy in Disasters

There should be a clergy organization, training and disaster plan: They should be able to organize a response team with guidelines for membership, screening, mobilization, training and parameters for delivery of appropriate ministry services in time of disasters. The clergy disaster plan should try to align itself to the emergency response plans of the local districts, nationally and with other responding agencies.

The Role of Volunteers in Disaster Mental Health

The large number of volunteers that simply show up should be screened using a standardized format. Such a form should include basic demographic information, e.g. name, address, phone numbers, sex, language spoken. Additional information would be the highest qualification and experience in the field of practice, employment and address of employers etc. including trauma related and clinical experience where applicable.

The Role of Media in Disaster Mental Health

The media, including both print and electronic were instrumental in dispatching the information to the rest of the country and therefore summoning help that was needed at the time. The information was broadcast in the local radio and TV stations and appeared on all the local dailies. While the media did an excellent job in informing, the same cannot be said about allaying of fears among the members of the public. While some reporters were giving good and informative coverage, others formed alliances with the rumour mills peddling falsehoods bordering on superstition and probably creating greater psychological anguish to the bereaved persons.

The Role of Documentation and Research in Disasters

This cannot be over-emphasized. It enables future follow-up and evaluation. The need for appropriate instruments is vital. NPSI is in the process of refining such instruments.

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TRANSITION FROM IMMEDIATE TO LONG-TERM DISASTER MENTAL HEALTH SERVICES

Transition from immediate to long-term care during large scale disasters is a complex process, usually involving different groups of providers with different levels of expertise, training and preparedness.

Helping survivors is best understood in the context of when, where and with whom intervention took place. The temporal dimension may be broken down into emergency phase, the post impact phase and the recovery phase. Different groups are involved at the different phases. The post-impact and recovery

phases are usually served by the community, private agencies and independent practitioners in organized societies. There is therefore a transition period in which the delivery of mental health services transfers from one provider to another.

Following the Kyanguli tragedy, there was a lack of organized mental health response on the part of the government. For this, those affected depended on Amani Counseling Center and Nairobi Psychotherapy Services and Institute (NPSI) which mobilized volunteers and undertook documentation.

As indicated in earlier parts of this report, all groups of persons seen were assessed using standardized questionnaires and the extent of their trauma noted. This form of approach is best since the same instruments could be used in future to assess the effectiveness of the services offered. It is worth noting that prior to this initiative of the NPSI, no organized forms of mental health assessments had been carried out in Kenya following any of the many disasters that we have witnessed with the exception of the Nairobi American Embassy bombing four years ago, but so far no public reports have been availed from their documentation. This is therefore a ground-breaking effort. The future of interventions of this nature will surely be sharpened by the outcome of this effort. Frequent reports of this nature will be important in education of both mental health personnel and the public on importance of a mental health response following disasters. The only river between us and these noble objectives is dire lack of funding; a *"bridge of hope"* must be built across this river and only people of good will and intentions can do this. The future lies on shaky grounds without timely and adequate resources in terms of both personnel and funding. If funds had been available, this report and other scientific reports would have been ready 12 months before now.

CONCLUSIONS

Following the Kyanguli fire tragedy, mental health response was immediate but scanty and poorly coordinated. Different groups of people availed themselves with intentions of helping but only few were of use to the survivors of the tragedy. While the volunteers need to be commended along with members of the media, it must be pointed out that some of them may have unintentionally worsened the situation. Several of the recommendations made cut across the board:

- i) Mass fatality disasters are different from other disasters with a more extreme psychological impact. The severity leads to more immediate and long term traumatic stress reactions. Disaster plans need to provide for all the probable consequences.
- ii) Immediate response crisis programs are essential to help survivors through the immediate period following a disaster. It is important to have qualified and available personnel doing this job for it to serve the appropriate purpose. There should be a clear and precise line of supervision for inexperienced volunteers.
- iii) Long-term response needs to be planned for and implemented. It is capital intensive and adequate funds must be availed for this. Failure to follow-up clients would be failure of the whole mental health response plan.
- iv) Research is an important aspect of any response. Scientific methods must be used to create proper linkage between research and service provision. Need assessment studies provide information regarding the numbers and locations of those needing services and the nature of services they require. Program evaluation provides information regarding the quality of services provided. **Research evaluates** the relative merits of different

FURTHER READING (Available at the NPSI Reference Library)

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3. Ndeti et al. Psychotrauma Seminar Training of Trainers (in Rwanda) Module, 1995, Department of Psychiatry, University of Nairobi (A United Nations Development Fund for Women Project).
4. Ndeti, D.M. A Report on Stress and Stress Management Training in Dadaab Refugee Camp, Kenya. (A CARE International Project, 1997)

APPENDICES

- Appendix I: QUALITATIVE DESCRIPTIONS BY THE BEREAVED PARENTS
- Appendix II: MARKET COSTS OF THE PROJECT
- Appendix III: CERTIFICATE OF APPRECIATION AWARDED TO PROF. DAVID M. NDETEI