Reflections on the Military Armoury Disaster  
In Mozambique, March 2007

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Introduction

By definition, an armoury is a building used primarily for storing arms and military equipment, especially one which serves as headquarters for military personnel. Thus, an armoury is a military structure or facility where weapons and equipments for the use of the armed forces are stored. It is also a complex constructed for repairing, receiving, storing and issuing of weapons and ammunition. Ammunition is a generic military term meaning an assembly of a projectile and its propellant. If a disaster is broadly defined as an unexpected, low-probability, high-impact event that threatens the viability of an organisation or community and characterized by ambiguity of cause, effect and means of resolution, then an armoury disaster can be defined as an unexpected, high-impact rapidly disruptive event caused by the detonation of high caliber, sensitive, stored military weapons, which are neither risk-free nor immune from unintended consequences. Furthermore, an armoury disaster can also mean sudden widespread or localized military weapon/arsenal or ammunition-related occurrences or accidents which:

- cause, or threaten to cause
  - death, injury or disease;

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damage to property, infrastructure or the environment or disruption of a community, and;

- is of a magnitude that exceeds the ability of those affected to cope utilizing their own resources.

Literature Review

In the literature, disasters are normally classified as either natural or human-made. Examples of natural disasters include tropical cyclones, tornadoes, snow, etc. However, human-made disasters can be further sub-divided into;

- security-related disasters such as bomb blast, hostage taking, arsenal/armoury explosions, etc.; and

- non-security related disasters such as oil spills, spill of or dumping of hazardous waste and chemical materials.

There are quite a number of studies and reports on natural disasters in Africa that have focused on such occurrence as drought, wildfires, storm, floods, atmospheric disasters, seismic, hydrological and volcanic disasters. Others include the Ebola virus outbreaks and the Avian/bird flu pandemic in the West and Central Africa. There are also few studies on human-made disasters with specific reference to oil spills, and hazardous waste dump particularly on the Koko toxic waste-dump disaster of 1987/88 in the Niger-Delta region of Nigeria. ‘Africa indeed as in the rest of the world, is subject to various types of disaster, both natural and man-made that impact on [human and] animal health.’

Surprisingly, however, despite the rise or multiplicity and devastating impacts of armoury accidents or military hardware disasters, there are not many, if any, published

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works on these kinds of disasters and their consequences on the affected communities and/or the management of armouries in Africa. Even the twenty seven chapter seminal work edited by J.P Stoltman and others which covers almost all aspect of natural and human made disasters on all continents did not reference any armoury disaster\(^4\). The chapter on ‘Natural disaster in Africa’, by Belinda Dodson, did not touch on this subject either, although its focus is on natural disasters. It is not clear as yet why this phenomenon has remained under the radar of disaster cum humanitarian scholarship in Africa. This article, thus, fills a major gap in military-related disaster studies in Africa.

However, there are two studies that must be mentioned. These are Adrian Wilkinson’s 2006 study on ‘Stockpile Management of Ammunition’\(^5\) and Greene Owen’s ‘Ammunition stocks: promoting safe and secure storage and disposal’\(^6\). The Wilkinson study has little to do with this study apart from identifying cases of armoury explosions in Africa, except that it does also offer valuable information on the nature of the exploding materials and how proper stockpile management can go a long way to reducing the incidences of armoury disasters in Africa and beyond.

The study by Greene Owen clearly establishes the fact that in almost all post-conflict environment, and in many transitional or developing countries, a substantial physical risk exists to communities from the presence of abandoned, damaged or inappropriately stored and managed stockpiles of ammunition and explosives\(^7\). The study further claims that the incidences of armoury disaster have been on the rise across the globe since 2000 with major accidents in Kinshasa and Bharatpur, India. Eight such accidents were recorded in 2001 from the Conakry explosion to the Korat blast in Thailand. Seven cases were reported in 2002, from Tongo in Sierra Leone to the November 21, 2002, disaster in Riobamba, Ecuador. While five armoury accidents were

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\(^7\) Ibid.
listed for 2003, three were recorded in 2004 but a total of sixteen were documented in 2005, from the January 09, 2005, ammunition explosion in As Suwayrah, Iraq, to the September 30, 2005, Kamchatka accident in Russia. Thus, as is seen in Table One, there were 10 cases of armory disasters across the globe between 2000 and 2001, while there were a total of 12 between 2002 and 2003, but the number jumped to 19 between 2004 and 2005.

Table 1: Annual Global Armoury Disaster [2000-2005]

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Armory disaster occurrence</th>
</tr>
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<tbody>
<tr>
<td>2000</td>
<td>2</td>
</tr>
<tr>
<td>2001</td>
<td>8</td>
</tr>
<tr>
<td>2002</td>
<td>7</td>
</tr>
<tr>
<td>2003</td>
<td>5</td>
</tr>
<tr>
<td>2004</td>
<td>3</td>
</tr>
<tr>
<td>2005</td>
<td>16</td>
</tr>
</tbody>
</table>

Motivation & Methodology

From the literature review above, it has become imperative to restate that the motivation for this study is linked to the drought of any empirical scholarship or studies addressing primarily the incidences of armory disasters as it relates to ‘its politics’ in Mozambique. This article is motivated by the desire to pioneer such knowledge. Thus, the article answers the following questions - What happened and why and who gets what done, when and how? The questions of who gets what done, when and how will be examined with specific reference to the role of the state and non-state
actors, primarily the international humanitarian/relief community. The answers to these questions will eventually draw out the peculiar limitations of the Mozambican state in disaster mitigation and recovery management, as well as revalidating the continuing relevance of International Non-governmental Organizations [INGOs] operations in Mozambique.

The study will thus fill an obvious gap in the knowledge of politics of urban disaster management in Southern Africa by highlighting not just the cases, causes and fatality but by helping the reader to understanding the context of the state’s limited role or inaction, and the high price the poor and victims often pay in the cases of ammunition depot accidents in African cities. The article will achieve its objectives by means of descriptive approach flowing from rigorous content-analysis of primary and secondary data. The data for the study has been sourced from the print and electronic media, including newspaper, magazine, bulletin and reports, library and conversational interviews as well as observation as an active participant in the post-disaster recovery process in Maputo.

Armoury Related Disasters in Mozambique

The March 22, 2007, explosion in Maputo was reported to have been similar to the 1985 Malhazine armoury explosion which killed 13 and injured over one hundred. The 1985 incident was repeated later in 2003 when an electrical storm set off an explosion at the Beira arms depot, killing three and destroying one hundred and thirty houses. Finally, in the series of armoury related accident history in Mozambique, five more people were killed at the same site earlier in January 2007, when scavengers caused an explosion while scrapping metal.

However, Maputo, the capital of Mozambique on Thursday, March 22, 2007, was the latest [at time of writing] African city to be devastated by deadly arms depot explosions. An official report quoted by the Mail & Guardian online indicated that there
were 119 fatalities, and over 500 hundred others were maimed or injured. Other primary media sources such as VOANews and IRIN/OCHA News and CNN observed that exploding bombs, mines and rounds of ammunition set off others around them at the Malhazine Arsenal, Mozambique’s largest arms depot near the international airport, in a series of deafening blast that was felt around the city and beyond. The Mozambique Red Cross reported through VOANews that ‘one explosion led to another as ammunitions of various types was ignited, sending incendiary projectiles into the neighbouring suburb of Magoanine.’

The Causative Theories

With regards to both the immediate and remote causes of armory explosions in Mozambique, experience has shown that there could be official and unofficial causative theories, if a theory is regarded as a well-substantiated explanation of some aspect of the natural and social world. In the case of Mozambique, the government claimed that the explosion might have been caused by extreme heat. However, sources other than
the government argued that the Maputo explosion may not be solely connected with the soaring daytime temperature, which on the day of explosion was recorded to have being about 38 degree Celsius. Noel Stott in the ISS Bulletin, has argued that:

this was, however not a natural disaster. The truth is that weather conditions….seldom alone will have an impact on ammunition - even old, poorly maintained and decaying munitions. Most accidents are caused by chemically unstable propellants; copper-acid in detonators; uncoated detonators or fuses without detonator safety. It was thus human error, at whatever level one looks at it.13

Indeed, beyond geo-climatic explanations, it is possible to advance other plausible reasons for armoury accidents in Mozambique. As noted earlier, military depot explosions have been on the rise in Mozambique, and the High Ambient Temperature theory may not be a sufficient explanation in all the cases. Thus, the search for causes may need to examine the broader explanations or causes provided by Greene Owen et al, including fire, human error, lightning and thunder strike, poor handling while moving or transporting arms, exceeding shelf or storage life and outright sabotage. In other words, there are many possible causes of undesirable explosions in ammunition storage areas, but these can usually be grouped as follows:

- Deterioration of the physical or chemical condition of the ammunition and explosives;
- Unsafe storage practices and infrastructure;
- Unsafe handling and transport practices or deliberate sabotage14.

It is not impossible that some of these factors possibly may be responsible for the Maputo explosion. It is plausible because, as the Agence France Presse reported,

the [Maputo] explosion of 20 tonnes of obsolete arms and munitions was the fourth of its kind-with the highest number of death and the injured since the armoury was built with the assistance of the defunct Union of

14 Personal Interview/Personal observation, 2007.
Socialist Soviet Russia (USSR) in the early 1980s during the country’s violent civil war.  

The March 22, 2007, incident in Maputo was the second of its kind at the same arms complex in less than two months, following an explosion on January 28, 2007, which left four people wounded. According to UN/IRINNEWS

the humanitarian community and the government have long recognized the dangers posed by the seventeen [17] national armouries of the Mozambican armed forces, which are poorly maintained where tones of un-inventoried munitions are decaying.  

Mozambican officials have frequently acknowledge to the humanitarian community that they would like to dispose the unwanted munitions, but the government has yet to develop a plan to deal with the problem before the devastating armoury disaster in March 2007.

Military-Armoury Disasters in Mozambique: Explaining the High Mortality Rate

We must also answer the question – Why was the mortality rate so high in the March 2007 Maputo armoury accidents? The first explanation involves the potency and grade of the military weapons being stored. According to military sources, some of the arms/ammunitions were designed to be used by several persons working in a team including: heavy machine guns; portable grenade launchers; portable anti-aircraft cannons and mortars with a caliber of about 100 millimeters. Furthermore, some of the weapons and ammunitions also included devices destined to be shot or projected through the means of firearms including, among others: cartridges; projectiles and missiles for light weapons; mobile containers with missiles or projectiles for anti-aircraft or anti-tank single action systems. Thus, the weapons that exploded in Maputo were

17 Personal Interview, 2007
‘high caliber bombs’ and this was responsible primarily for the deaths in the barracks, while tremors from the blast collapsed many poorly built houses near the epicenter of the accidents, trapping people inside and starting new fires further afield.\textsuperscript{18}

Secondly, it is has been discovered that the high death rate has included many women and children, the most vulnerable sector of the population. In Maputo, Boniface Antonio, spokesman for the country’s disaster management agency was quoted by \textit{Agence France Presse} Reporter Germano Vera Cruz to have opined that:

\begin{quote}
very many of the casualties were children...and most of the injured were children... a lot of children were running on the street frightened by the initial blast’. Many children were still in school when the armoury began to explode and many spontaneously fled in search of safety and most times in wrong directions\textsuperscript{19}.
\end{quote}

The third explanation is there was an absence of urban disaster mitigation facilities and efficient emergency management system in Maputo at the time of the explosion. Search and Rescue teams, fire services and associated paramedics services were severely in short supply. This was further compounded by the non-existence or poor state [if any] of various technological Situation Reporting System [SRS], Global Positioning System [GPS], Geographical Information System [GIS] and Vulnerability Atlas [VA].

With reference to the status of health facilities in Mozambique, the \textit{U.S Consulate Information Sheet} that featured the state of medical facilities in Maputo described the facilities as ‘rudimentary, and in most, medicines are not always consistently available, in both public and private medical facilities…even outside of Maputo, available medical care ranges from very basic to non-existent’\textsuperscript{20}.

Fourth is the poor urban planning and rapid urbanization without strict adherence to settlement patterns. Maputo’s Magoanine neibourhood, one of the most affected in the 2007 blast, is a noted slum-like impoverished settlement. This \textit{shack-like}
suburb has grown rapidly in recent years without following any known urban planning law or development programme. Closely linked with this is the rapid urbanization and population growth not matched with a sound urban governance, planning and management system. For example, according to Duncan Campbell in *The Guardian* (London) a third of Mozambique's 19 million people now live in cities, in a country that has rapidly urbanized soon after the end of post-independence civil war.\(^{21}\)

Mozambique’s biggest city, Maputo, began the 20th century as an outpost of the Portuguese empire with a population of just 6,000 but swelled to 400,000 by the 1960s and to 900,000 in the late 1990s. As of 2006, Maputo was reported to be home to some 1.4 million people. Although Maputo is one of Africa's most vibrant and welcoming cities, 80% of its population live in flimsy houses in slums where, most households are without running water or electricity, whose inhabitants make a precarious living from their wits.\(^{22}\)

The fifth explanation for the high death rate in the Maputo armoury disaster is the failure of the political/military class to deal proactively with the issue of relocating the military armoury away from the city, even long after it has assumed or judged to be threat to the civilian populace. At this level, sound application of the knowledge of ‘threat perception’ was lacking or, more probably, not explored to the detriment of any international framework, standards and protocols developed for the management of such weapons.\(^{23}\) Table 2 below also outlines the relevant international protocol, declaration or instrument designed to limit unintended consequences poses by military weapons, ammunition/Armoury, but that is only if they have been observed or adhered to.

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\(^{22}\) Ibid. Nearly 80% of Mozambique's population lives on less than $1 a day; it ranks as one of the poorest countries in the world and has one of the lowest life expectancy rates - just 41 years.

Table 2: International Protocol/Declarations/Instrument Relating to the Management of Armoury

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Instrument/Declaration</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Nations Organisation</td>
<td>[i] The UN Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All Its Aspects;</td>
</tr>
<tr>
<td>African Union [formerly Organisation of African Unity]</td>
<td>[ii] The Bamako Declaration on an African Common position on the illicit proliferation, circulation and trafficking of small Arms and light weapons, December 2000,</td>
</tr>
<tr>
<td>Southern Africa Development Community [SADC]</td>
<td>SADC Protocol on the Control of Firearms, Ammunition and other Related Materials, August 2001</td>
</tr>
</tbody>
</table>

The Mozambique’s politico-military elites seem to have slipped over the requirements of the above securito-diplomatic instruments. The expectations from the international community over these very sensitive high security materials were not properly adhered to until it was too late, after which directives were churned out to be implemented with ‘immediate effect’. The ‘medicine after death’ approach by the leaders was observable in Maputo, when President Armando Guebeza according to
UNICEF Situation Report, vowed, while visiting the neighbourhood of Hulene, ‘the arsenal must go from there….It’s going to be removed’.

Arguably, the civil-military authorities in Mozambique had demonstrated incompetence in stockpile management, even when the previous Maputo incident had indicated the possible threat. The government failed the people by failing to fulfill their ‘Duty of Care’- a crucial element in ammunitions stockpile management. It is common knowledge that ammunition and explosives may deteriorate or become damaged unless correctly stored, handled and transported, with the result that they may fail to function as designed and may become dangerous in storage, handling, transport and use. Indeed, knowledge of stockpile management should be pertinent to the military as well as accident prevention measures. Management of ammunition and explosives stockpiles is a wide ranging security responsibility because it covers such areas such as determination of stockpile size, the types of stockpiles and the management of ammunition services.

The Maputo Armoury Disaster: Role of the State and Non-State Actors

The Humanitarian Community Response

It is an accepted fact, at least from a non-realist perspective, that states are not the only actors in national and international affairs. Regardless of the contentious debate over the agenda and interest of international and national non-governmental organizations in Africa, their role and interventions in the Maputo armoury disaster is

worth highlighting. This is to further illustrate the continuing relevance of these organizations as critical actors in local and national political life of most developing states in Africa and beyond. Organizations such as the ICRC/Red Cross, Oxfam, MSF/Doctors Without Borders, Actionaid, WorldVision, Save the Children, Plan International, Catholic Agency for Development [CAFOD], etc., were more forthcoming in terms providing succor. Information collected from those interviewed and reports by International Federation of the Red Cross clearly suggested that it was most focused on essentials during the Maputo armoury disasters. These organizations, as well, offered a range of humanitarian services, which included:

- Evacuating injured people and removal of dead bodies/body parts;
- Assisting the government set up rehabilitation centers and information centers –where people can make enquiries;
- Providing ambulances, medical personnel and facilities;
- Setting up accommodation for displaced persons and reuniting separated family members;
- Helping in the supply of/provision of food stuff and other relief materials for displaced people;
- Setting up centers to accommodate wandering children; and
- Supplying of first line drugs, such as tetanus Toxoid, Analgesics, Antibiotics, Anti-malaria, Anti-diarrhoea drugs etc

Other activities by the humanitarian community include:

- Supplying of sanitation facilities and water;

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• Supplying of relief materials, such as mattress blankets, clothes, water purifiers, disinfectants, toiletries etc.;

• Fundraising and managing a number of Disaster Relief Funds;

• Providing moral and psychological support to families directly affected by the explosions, with assistance from university psychology student volunteers; and

• Setting up tents to accommodate wandering children, as well as temporary classrooms for some of the schools that were damaged.

Finally, in Maputo, activists from Handicap International, Save the Children, Reecontro, and the Mozambican Red Cross collaborated on sensitization/social mobilization and mine risk education. However, it is important to note the absence of properly integrated coordinated relief work, especially since these efforts seemed to have been geared towards outperforming each other in a very competitive manner, primarily to swing public and international opinion in their favour, which in itself can be described as a struggle for a kind of value.

The State/Mozambican Government Response

At this point, it is necessary to bring the response of the state/government under scrutiny. In both in the classical and modern political debate, the state bears the bulk of the responsibility for the well being of the citizenry. However, during the most post-disaster period in African history, government actions have been characterized by belated security cabinet meetings, late release of useful information, delayed responses and confusion as to what to do, when to do those things that must be done and how to go about confronting the challenges at hand. In the case of the Maputo blast, the media broadcasts on national TV and radio stations, were followed by a series of visits by Mozambican government officials and political dignitaries to the scene of the blast ‘to blame’ or question the military authorities as to ‘why such weapons should be kept at such a location’. They also visited the hospitals to commiserate with the recuperating victims. But, in Africa, to what extent the military wing of the ruling elite can be
subjected to accountability by their civilian counterparts has remained only at the level of conjectures.

At this point, it can be argued that the failure of the Mozambican government to deliver sufficient emergency services during these blasts directly relates to pre-existing conditions within the country. In Maputo, evidence of faltering services abounds in the city even before the disaster, thus days after the explosion, the Maputo Agencia Informacao reporter who visited the areas found shocked residents still waiting for government to remove four dead bodies [one adult and three children] and to remove the unexploded mortar shells, rockets and other related devices expelled from the armoury.

Although the reasons for these failures are obvious, the capacity to respond to emergencies can be described as an aggregate measure of national attributes and resources. Most African states are weak in terms of national power and means; those not too weak may have problems with responsible and caring pro-poor leadership. In many instances where you have responsible leaders and even means, a continuous stream of disasters may have succeeded in weakening the capacity of the state to help the citizenry. Mozambique is definitely an example of a disaster-stressed state in Africa at the moment. Spencer Moore further illustrates this by noting that, as recently as February 2000, ‘Mozambique suffered its worst flooding in almost 50 years: 699 people died and hundreds of thousands were displaced. Over 49 countries and 30 international non-governmental organisations provided humanitarian assistance’.

According to Jenkins:

Mozambique is one of the poorest and most aid-dependent countries in the world, arguably at the periphery of the global economic system. In the last 40 years Mozambique has been governed by fascist, socialist, and open market regimes, and emerged from severe under-development

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under colonialism to struggle for self-reliance in the immediate post-Independent era\textsuperscript{30}.

He further noted that:

due to the international effects of the Cold War, the struggle against apartheid in the immediate region, and internal civil war sustained by both these forces, compounded by severely adverse climatic conditions and enormous difficulties in state formation and nation-building, the government has become subordinated to donor agencies and obliged to implement a rigid form of structural adjustment re-aligning it with the capitalist economic world system\textsuperscript{31}.

Table 3 below further illustrates the raison d’être Mozambique is considered one of the weakest countries and worst performing economy in Southern African region.

\textsuperscript{30} P Jenkins, ‘Maputo’ in Cities Vol. 17, no 3, June 2000, pp.207-218[12].
Table 3: Mozambique: Selected Socio-Economic Indicators

<table>
<thead>
<tr>
<th>Name</th>
<th>Republic of Mozambique</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>799 380 sq km (Frame 2008, 67)</td>
</tr>
<tr>
<td>Pop growth rate</td>
<td>1.8%, 2005-15 (UNDP 2007/8)</td>
</tr>
<tr>
<td>Urbanisation</td>
<td>34.5.3%, 2005 (UNDP 2007/8)</td>
</tr>
<tr>
<td>Life expectancy</td>
<td>Female 43.6 yrs, male 42.0 yrs; 2005 (UNDP 2007/8)</td>
</tr>
<tr>
<td>Infant mortality</td>
<td>100/1000, 2005 (UNDP 2007/8)</td>
</tr>
<tr>
<td>HIV/AIDS prevalence</td>
<td>16.1% adults, 2007 est (CIA, Factbook,2008)</td>
</tr>
<tr>
<td>Adult literacy rate</td>
<td>Female 54.2%, male 82.9%; 2005 (UNDP 2007/8)</td>
</tr>
<tr>
<td>Health expenditure</td>
<td>2.7% of GDP; 2004 (UNDP 2007/8)</td>
</tr>
<tr>
<td>Unemployment</td>
<td>40-50.2%, 2006 (No reliable data)</td>
</tr>
<tr>
<td>GDP</td>
<td>US$7.559 billion, 2007 est (IMF 2008a)</td>
</tr>
<tr>
<td>Military expenditure</td>
<td>0.9% of GDP; 2005 (UNDP 2007/8)</td>
</tr>
</tbody>
</table>

Conclusion

Apart from the unquantifiable human catastrophes that have always attended the arsenal disasters in Mozambique; other obvious and hidden consequences must be pointed out. The loss of bread-winners has its own social cost, within the context of the sociology of the family in Africa. Such disasters often result in orphans, widows, widowers and thousands of physically handicapped people. Sadly, in Mozambique, the necessary governmental support in forms of social grants and welfare/disability packages do not really exist. Furthermore, most people who lost homes or buildings on the fringes of the Maputo blasts, estimated at about 5,000, were never able to rebuild the
structures and were not properly assisted to secure decent housing thereafter. They become Internally Displaced Persons [IDPs] in their own country and some vulnerable groups, girls and young women in particular were subjected to harassments. Indeed, most of the poor people affected now live in settlements that lie outside the formal planning process. As a result, they suffer from the lack of basic services such as water and sanitation. Even in cases where the government tried to offer some form of compensation, bureaucratic corruption soon became the defining characteristics of such arrangements. This explains the skepticism that greeted by the Mozambican government that the ‘state will be spending about $12-million[USD] on rebuilding about 1300 homes that were either destroyed or partially destroyed by the blast.’

Finally, the Maputo arsenal tragedy should be seen primarily as an illustration of the limit of the Mozambican state capacity to secure and manage its armoury resources. This weakness on the part of the state and urban administration has been costly and has been paid primarily by the Mozambique people.