ASSESSMENT OF CROWD MANAGEMENT STRATEGIES USED FOR FOOTBALL EVENTS IN GOVERNMENT-OWNED SPORTS STADIA IN NAIROBI COUNTY, KENYA

BY

MANDU AGNES WANJIKU
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DECLARATION

This thesis is my original work and has not been presented for a degree in any other University, or any other award.

Signature: ----------------------------- Date: -----------------------------

Mandu Agnes Wanjiku

Department of Recreation Management & Exercise Science

We confirm that the work reported in this thesis was carried out by the candidate under our supervision.

Signature: ----------------------------- Date: -----------------------------

Dr. Andanje Mwisukha, PhD

Department of Recreation Management and Exercise Science

Kenyatta University

Signature: ----------------------------- Date: -----------------------------

Dr. Festus Kiplamai, PhD

Department of Recreation Management and Exercise Science

Kenyatta University
DEDICATION

This thesis is dedicated to my two sons, Ronney and Davy Mandu who showed patience and understanding as I immersed myself in both the research and my career work in the absence of their father. I wish to thank them most sincerely for being there for me when ‘Information Technology’ demanded and walked the journey of the research with me.
ACKNOWLEDGEMENT

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I also wish to appreciate the management of Moi International Sports Centre and Nyayo National Stadium for giving me an opportunity to interact with their esteemed workers as well as football fans at a time when they would have wished for less interruption. May God remember them at their time of need and do them good.
I am really indebted to my youngest sister Ludfine Wambui for standing with me in prayer and encouraging me not to quit the race at a time when the going became tough. She offered to be a mother to my children when duty and studies demanded. May the Almighty God fulfil the desires of her heart and always remember her at her time of need.
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### ABBREVIATIONS AND ACRONYMS

<table>
<thead>
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<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>CCTV</td>
<td>Closed Circuit Television</td>
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<tr>
<td>FA</td>
<td>Football Association</td>
</tr>
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<td>FKF</td>
<td>Football Kenya Federation</td>
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<td>KPL</td>
<td>Kenya Premier League</td>
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<tr>
<td>MISC</td>
<td>Moi International Sports Stadium</td>
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<tr>
<td>NNS</td>
<td>Nyayo National Stadium</td>
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<tr>
<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
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OPERATIONAL DEFINITION OF TERMS

**Crowd Violence/Disaster** – Refers to the acts that lead to disturbance, damages to properties, injuries and deaths caused by fans/spectators’ acts before, during, or/and after a football event.

**Developed Sports Stadia** – Refers to those stadia that are enclosed within a stone wall, which bars invalid spectators from watching the football matches in Nairobi County viz Moi International Sports Centre Kasarani and Nyayo National Stadium.

**Strategies Applied during Football Matches** – Include contraband screening of fans to detect alcohol and weapons, strategic deployment of security personnel, assembling and queuing of fans, and removal of disruptive fans.

**Effectiveness of Stadium Management Operations** - As evidenced by the presence of contraband screening of fans to detect any alcohol and weapons, strategic deployment of security personnel, assembling, and queuing of fans, and removal of disruptive fans.

**Effectiveness of Stadium and Security Personnel in Dispersing and Evacuating People** – Will be determined by time taken to respond to eventualities, the number of personnel carrying out the evacuation in relation to, availability of transport for those injured and availability of efficient communication channels.

**Government Owned Stadia** - Refers to only the Sports Stadia owned by Central Government within Nairobi County viz Moi International Sports Centre Kasarani and Nyayo National Stadium.

**Football Events** - Refers to football matches organized by Football Kenya Federation.

**Football Fans** – Those who love to spectate matches of the Kenya Premier League in the developed stadiums in Nairobi.
Missile – Items such as drinks, bricks or stones, bottles, broken seats and cell phones thrown by rivals during a football match.

Post-Event Strategies - These include communication in event of emergencies, opening of exit gates and coordination of dispersal process to exit outlets

Pre-Event Safety Strategies – These include facility maintenance, sale of tickets, sitting arrangements for known rival fans, safety awareness campaigns, adequacy of security first aid and emergency arrangements, regulation of number of spectators, advertising penalties for violent behaviour, establishment of police command post and posting information signs on safety such as exit routes.

Security/Safety Service Personnel – This includes management, technical, support staff from the stadia and police officers.

Stadium Safety Features - Include CCTV surveillance cameras, emergency exits, lighting, access roads to stadium, posted warnings/instructional signs.
ABSTRACT

Spectator violence in stadiums is part of a larger set of problems related to misbehaviour in football and it has resulted into deaths and injuries during football events, especially where rival football clubs are playing. This is especially exacerbated where fans seating arrangement is not properly demarcated. The purpose of this study was therefore to assess crowd management strategies applied by the management of government-owned sports stadia in Nairobi County, Kenya.

The management strategies the study sought to assess were mainly on security arrangements in terms of the pre-event, event and post-event preparations and arrangements.

The target population for the study comprised of 64 staff working at Moi International Sports Centre (MISC) and Nyayo National Stadium (NNS), 24 Football Kenya Federation (FKF) officials at National and Nairobi County levels, 304 police officers stationed at Kasarani Police division, Ngomongo Police Post, Langata Police division and Nyayo National Stadium Police Post. Sample size for football fans was calculated at 384 using Fishers’ formula since the total population for both MISC (60,000) and NNS (30,000) was estimated at 90,000.

Stratified random sampling technique was used to select the respondents, to ensure a fair representation of all the target groups. Self-administered questionnaire was used to collect data. The data collected was summarized into descriptive statistics of frequencies and percentages. Data presentation was carried out using graphs, bar-charts, tables and pie-charts. The null hypotheses were tested using chi-square at p < 0.05 level of association/agreement using SPSS version 20.

Findings revealed there was a level of agreement between the security/safety service personnel and football fans on the adequacy of stadia safety features where a higher proportion of both were of the opinion that the safety features were partially adequate. On pre-event strategies the findings revealed that the strategies used were viewed by a high proportion of the respondents as partially effective, with a departure on facility maintenance which was viewed as effective and advertising of penalties for misbehaviour while in the stadium which was indicated as ineffective. The stadia security/safety service personnel and the football fans generally agreed that the strategies used to manage crowds during football matches in the two sports stadia were partially effective. For the post-event strategies security/safety personnel and football fans were of the opinion that the strategies used to control crowds after a football match were generally partially effective. Based on the findings, it is recommended that the management of the two sports stadia should improve on all the strategies used to manage crowds during football matches. Further studies on crowd management strategies for football events need to be carried out in other government- owned and non-government owned sports stadia in Kenya.
CHAPTER ONE: INTRODUCTION

1.1 Background of the Problem

A crowd is a large group of people that may be defined through a common purpose or set of emotions such as at political rallies and sports events (Powell, 1994). Crowds are defined by their shared emotional experiences such as those witnessed during sports events (Price, 2003). According to Reicher (1984), crowds give rise to a sense of power which allows members to express their identity even in the face of external opposition.

In view of the large crowds that attend football events, the potential of crowd trouble is often high (Powell, 1994). Football violence can be traced back to the 14th century in England when King Edward 11 reportedly banned football activities because he believed the disorder surrounding matches might lead to social unrest (Kwalimwa, 2014). According to Powell (1994), every year, throughout the world in stadiums, arenas and other sports related areas, stampedes, fires, bombs, heat exhaustions, stage’s collapsing, overcrowding and rioting result in thousands of deaths and injuries. Layouts of a venue, design of circulation routes, design and location of facilities, can have a fundamental influence on crowd behaviour. For instance, small entrances or a limited number of turnstiles may control crowd flow into crumped areas, but may result in dangerous build- ups on the other hand (Powell, 1994).

According to Powell (1994), visitors who are familiar with a venue are likely to use known routes to favourite viewing points or attractions and may persist in doing so even if the routes are closed. Those who do not know a venue may block routes while deciding which way to go. In an emergency, people often leave by the way they know
best even if it appears more dangerous (Powell, 1994). Other factors that may lead to crowd disaster, injuries or violence in a stadium include: steep slopes, dead-ends, locked gates, convergence of several routes into one and uneven or slippery flooring of steps (Taylor, 1989).

Fans’ rivalry is a major cause of crowd violence, which more often than not leads to crowd disaster in a sports stadium, resulting to deaths, injuries or damages (Carter et al., 1989). For instance, the fans’ rivalry witnessed between Liverpool of England and Juventus of Italy in Brussels, Belgium at Heysel Stadium in 1985 led to a disaster in which 39 people died and 600 were injured (Powell, 1994).

Further, frustration and envy as well as excitement are other causes of crowd disaster. Fans may be frustrated by lack of scoring while others are excited by scoring a goal. For instance, in the United Kingdom in 1971 at Ibrox Park Stadium, Glasgow, Scotland, 66 people died and many more injured as fans began to leave the stadium in the last moments of a scoreless match (Powell, 1994).

Overcrowding during sports events has also been cited as a cause of disaster in stadiums (Dimmock and Grove, 2005). In 1989, more than 93 persons were asphyxiated and over 200 injured at the Hillsborough stadium, Sheffield, England (The Hillsborough Stadium Disaster, 1989). A larger than expected groups of fans striving to enter the stadium caused police to open gates to relieve the crowd pressure. Instead of relieving pressure, the resulting surge of fans into enclosed terraces created critical overcrowding (The Hillsborough Stadium Disaster, 1989). Similarly in 1985,
10 people were killed and 30 injured in an incident in Mexico City which was similar to that at Hillsborough Stadium (Bralley, 2007).

Several similar incidents have been reported across the world. In 1988 in Katmandu Nepal where more than 100 people died and 700 others injured, in Greece in 1981 whereby 24 soccer fans were killed in the Athens Stadium and in Bangladesh where 100 people were critically injured when fans rampaged at a tense Bangladesh league match (Ayari, 2011; Kwalimwa, 2014). In Africa this recent cases include the deaths of 74 people in 2012 in Egypt and in June 2011 where several people were injured following fracas as Cameroon fans rioted after a draw with Senegal (Hussein, 2012; Ayari, 2011).

A poorly maintained sports facility is susceptible to risk and poses a danger to crowds using it (Beech and Chadwick, 2004). Apart from deaths and injuries, crowd disaster in a stadium has other consequences. For instance, it may lead to a ban of the stadium from hosting other future sports events, while the football club involved may be placed under an indefinite ban from future participation (Bralley, 2007). A good example of the ban on a stadium is that of Heysel Stadium in Brussels, Belgium in 1985. Belgium was banned from hosting a major European final for 10 years (Carter et al., 1989). Other consequences may include loss of funds due to closure of the stadium, poor spectator turn-up for future sports events, reduced interest in sports participation and low sports talent search and development (Young, 2002). Such violence may also lead to arrest and prosecution. For instance, after the disaster at the Heysel stadium in 1985, fourteen English fans were given 3-year jail sentences for involuntary manslaughter in 1989 (Carter et al., 1989).
According to Young (2002), the primary crowd management objectives are the avoidance of critical crowd densities and the triggering of rapid group movement. Crowd management must take into account all the elements of an event especially the type of event, characteristic of the facility, size of the crowd, methods of entrance, communications, crowd control and queuing (Wann, 2006).

According to Wann (2006), contraband screening, public education (or sensitising fans), queuing, constant monitoring of crowd behaviour, security enforcements, effective emergency response and foreseeability are important measures in curbing crowd disasters. Having a properly trained staff, sufficient signage, an effective and efficient communication system, an effective ejection policy and a proper alcohol management policy in place, the risk of aggression, injuries and deaths can be reduced (Powell, 1994).

Most major crowd disasters can be prevented by simple crowd management strategies (Garland and Rome, 2000). Particularly critical to crowd management is defining the roles of parties involved in the event, the quality of the advance intelligence and the effectiveness of the planning process. Imposing of stricter rules and legal provisions that prevent trouble-makers from entering the stadium for a period of time is a measure that can reduce crowd disaster (Garland, and Rome, 2000).

Kenya is not an exception in matters of crowd chaos and disaster during football events. Football violence is becoming the norm in big matches, especially in those involving AFC Leopards and Gor Mahia, the most supported football clubs in Kenya (Kwalimwa, 2014). Fans’ rivalry contributes to crowd violence and disaster in
Kenyan stadiums leading to damage to property, serious injuries and deaths. Like any other country in the world, such occurrences have led to several consequences, and there is need for measures imposed by federation officials to curb such incidents. According to Ayieko (2011), Gor Mahia football club was forced to play behind closed doors after a ban on spectators was placed on them due to chaos caused by its fans during their season opening match against Rangers football club in the month of February, 2011.

After the February 2nd 2014 incident Gor Mahia football club and AFC Leopards football club fans clashed and caused serious damage at Nyayo National Stadium during a league match, Gor Mahia football club and AFC Leopards football club were separately, temporarily banned from using Nyayo National Stadium and Moi International Sports Centre and slapped with a damage bill of Kenya shillings 2.8 million and Kenya shillings 2.4 million respectively by the Sports Stadia Management Board. In the same breath, two of the league’s major sponsors, East Africa Breweries Limited and SuperSports threatened to withdraw the sponsorship if the situation was not arrested (Kwalimwa, 2014).

In 2009, Nyayo National Stadium and Moi International Sports Centre, Kasarani, were banned from hosting international matches by FIFA owing to incidents of crowd trouble during World Cup qualifiers. Moi International Sports Centre, Kasarani, was on the spotlight after fans hurled bottles and other missiles onto the pitch at Nigerian supporters during a match involving Harambee Stars of Kenya and Super Eagles of Nigeria (Kwalimwa, 2014).
On Sunday 19th March 2012, ugly scenes marred the league derby between Gor Mahia football club and AFC Leopards football club were witnessed at Nyayo National Stadium. Football Kenya Federation (FKF) blamed Kenya Premier league (KPL) for the twenty five minute match interruption and destruction of property (Kizito, 2012).

According to Ashihundu (2014), officials of Kenya Premier League, in a council meeting, passed hard resolutions in the effort to clamp down on crowd violence in stadiums. The resolutions included docking points from clubs whose fans are found guilty of causing abandonment of a match, perpetrators to be arrested and charged in a court of law, as well as setting up a special unit on safety and security in conjunction with the higher security organs in the country. In the same council meeting, Kenya Premier League officials suspended use of Thika, Bukhungu and Chemelil stadiums until the respective facilities achieved the minimum safety standards to host a league match.

According to Nyende (2011), Gor Mahia football club lost its sponsorship by Super Sport Limited which terminated live broadcast of matches involving Gor Mahia football club over safety concerns, citing the incident of 23rd October 2010, where five Kenyan fans were trampled to death and tens injured in a stampede as the venue (Nyayo National Stadium) and security got overwhelmed by a near-capacity turnout. This also led to banning the venue from hosting future events by Federation of International Football Association (FIFA). It is against this background that the current study was carried out to assess strategies and procedures used in managing crowds in government- owned sports stadia in Nairobi County, Kenya.
1.2 **Statement of the Problem**

Sports events attract many people; fans, marketers and businessmen/women. The people who attend such sports events constitute crowds whose safety must be guaranteed as crowded places are potentially risky. Kenyans have witnessed chaos and disaster which befall fans in crowded stadiums during football events. Such disasters have led to destruction of property, injuries and deaths of football fans. This calls for a critical insight into procedures and plans that are laid down by the management of sports stadia in Kenya in preparation for football matches. There are important crowd management strategies that cover sensitive areas of planning such as safety, security, ticketing, contraband screening, emergency exits, sitting arrangements and facility maintenance. This study therefore, sought to assess the crowd management strategies used during football events organized in government-owned sports stadia in Nairobi County, Kenya.

1.3 **Purpose of the Study**

The purpose of the study was to assess the crowd management strategies used during football events hosted in the government-owned sports stadia in Nairobi County, Kenya.

1.4 **Objectives of the Study**

The objectives of the study were:

i. Explore safety strategies in government-stadiums

ii. Determine the effectiveness of the selected pre-event strategies used to manage crowds in government-owned sports stadia during football events
iii. Assess the extent of effectiveness of stadium management operations during football events

iv. Determine the effectiveness of stadium and security personnel in dispersing and evacuating people in the event of emergencies during football events.

1.5 Research Questions

The following research questions guided the study:

i) What are the safety strategies in government-owned sports stadia?

ii) To what extent are the selected pre-event strategies employed to manage crowds during sports events effective?

iii) What is the extent of preparedness of stadia management personnel in managing crowds during football events?

iv) To what extent are security and stadium personnel effective in dispersing and evacuating people in the event of emergencies?

1.6 Hypotheses

The study was guided by the following null hypotheses:

$H_{01}$: The perception of adequacy of stadiums’ safety features by the stadia security/safety service personnel would not significantly be different from those of the fans.

$H_{02}$: The extent of effectiveness of the pre-event strategies used to manage crowds by the stadia based on the views of the security/safety service personnel would not correspond with those of the fans.
$H_{03}$: The extent of effectiveness of the strategies used to manage crowds during football matches in the stadia as perceived by security/safety service personnel would not correspond with those of the fans.

$H_{04}$: The extent of effectiveness of stadium and security personnel in dispersal and evacuation of crowds in the event of emergencies as perceived by security/safety service personnel would not correspond with those of the fans.

### 1.7 Significance of the Study

Sports Stadia Management Board and other owners of sports facilities may not be aware of the most effective crowd management strategies which can be applied during football events in Kenya. The findings of the study may provide the management of Sports Stadia in Kenya with necessary information on effective management of sports venues not only for football events but all other events held in their venues. Such information includes prior planning of the event, putting in place necessary strategies during the actual time of the event and handling dispersal after the event.

The findings of the study may be useful in educating football fraternity on the importance of creating awareness through public education and/or sensitising fans on disadvantages of crowd violence during football events. Football clubs will realise the need to advise their fans on the importance of maintaining peace or else lose sponsorship as well as come up with strategies for dealing with unruly fans during football matches.

The findings may also be useful to security personnel who manage football events on the strategic deployment of the officers. Those in charge of security personnel may
learn about when to use plain-cloths officers and when and where to deploy the uniformed officers. Coupled with this is the establishment of security control command posts which are useful in coordination of safety and security issues of patrons to the stadium.

The study may also guide the management of sports facilities on the need to engage trained staff or the need to train the staff on how to handle patrons and carry out contraband screening without causing irritation and frustration to the patrons. Together with this, the management of sports facilities may understand the need to train staff on how to recognise a security threat among the patrons or items posing a threat in a venue.

The findings of the study may also assist football events’ organisers, together with the management of sports facilities on the importance of putting in place first aid and emergency strategies, including the numbers of first aiders and ambulances to engage for different sizes of crowds.

The results may also enlighten the management of sports facilities on the importance of advance sale of tickets as a strategy on crowd control and ensuring that the maximum capacity of the facility is maintained. Overcrowding will be avoided by use of tickets that coincide with the numbers that are on specific seats. They may also learn to adhere to the requirements on gates and exits during football events.

The study may also educate the management of sports facilities on the need to segregate/demarcate sectors for known football rival fans in order to avoid attacks on
each other which may end up in deaths, serious injuries and damage of property during the events. Together with this, management of football events may choose to change the venue of the event depending on the history of the football clubs involved, including taking them to neutral grounds, with no influence of home team supporters.

The study may enlighten the management of sports facilities on the need to keep and implement a maintenance schedule on the sport facility, and develop a culture of good housekeeping. This eliminates the threats on patrons by susceptible floors and buildings, while having instructional signs and other safety features in place which will reduce possibility of injuries as a result of confusion among crowds.

The research may also contribute to the existing body of knowledge on crowd management for football event and open up gaps for further research on the same. The study will be used as reference material by future researchers dealing with similar or related studies.

1.8 Delimitations of the Study

The study targeted developed government-owned sports stadia in Nairobi County, Kenya i.e., Kasarani and Nyayo. The study was confined to crowd management and was delimited to assessing the strategies used for crowd management for football events. The study was also delimited to the use of questionnaire as a tool for data collection. Moreover, conclusions were drawn on the basis of the perceptions of the targeted respondents.
1.9 Limitations of the Study

The study was limited by the fact that football fans in Nairobi County, Kenya could only turn up in large numbers during football events involving the two famous football clubs in Kenya; Gor Mahia football club and AFC Leopards football club.

1.10 Assumptions of the Study

This study was guided by the following assumptions:

i. Large crowds are attracted to sports stadia during major football events.

ii. All parties selected were in a position to gauge crowd management standards

iii. Crowd trouble is attributed to human error and not accidents.

iv. The two sports stadia hosts all matches at full capacity.

1.11 Conceptual Framework

The study was based on the concept of crowd gathering phases which include: the assembling process, the temporary gathering and the dispersal process as indicated in figure 3.1 below, adapted from Simpson, 2000. Crowd gathering has a beginning, middle and an end. The assembling process refers to the movement of people from different locations converging to a common point within a given period of time. The size of the gathering crowd is determined by the number of access roads, posted warning/instructional signs, advance sale of tickets and the level of lighting within the venue. Assembling can occur either on impromptu basis or by an organized mobilization effort. Both involve prospective participants telling one another what is happening, when, where and a suggestion or invitation to participate (Mcphail, 1991).
Temporary gathering refers to the collection of individuals and small groups in a common location (Benjamin, 2000). It is the result of assembling process. According to Benjamin (2000), the temporary gathering consists of the individual and collective actions. When uniformed actions in a gathering occur, they are usually very simple and do not last long. For example, spectators at a football game will collectively mourn failures and cheer successes of their team. Afterwards, individuals will return to a variety of individual actions such as talking to companions, eating or drinking. Collective behaviour may also occur through a third party, for instance, when security personnel orders a gathering to disperse.

The dispersal process is the last phase in the life of a temporary gathering. It involves the movement of people from a common location to one or more alternative directions. Dispersal brings the temporary gathering to an end or at least begins its decline (Jonawski, 1996). Dispersal can occur on routine, emergency or coerced basis. Routine dispersal may be specified in advance, or may be part of the assembling instructions (Jonawski, 1996). Emergency dispersal occurs when people evacuate an area as a result of some unexpected crisis such as fire, explosion or flood (Watt, 1998). In some emergency situations, tragedies may occur. Effective communication should lead to successful co-ordination of dispersal process. The communication process must be flexible and the information transferred must be clear, concise, courteous, correct, complete and correctly directed (Watt, 1998).

Coercion dispersal occurs when security personnel resort to use of force to move people who refuse to disperse (Jonawski, 1996). Security personnel providing an overall safe and secure environment should be experienced in handling disputes,
protecting from theft and implementing emergency services to the crowd (Berlonghi, 1994). Effective positioning of the officers is an additional factor in identifying, thwarting, or dissipating a dispute (Miller, 1997).

The three phases of dispersal process are shown in figure 3.1 below

Figure 3.1: The Phases of Crowd Gathering and Dispersal as adapted from Simpson (2000).
CHAPTER TWO: LITERATURE REVIEW

2.1 Incidences of Crowd Disasters during Football Events

Big gatherings of people raise the odds of a dangerous occurrence happening because changes of action and communication are slower and complicated (Marsden, 1998). Crowds can perform acts leading to possible destruction, injuries and deaths. For instance, in Ghana, police fired tear gas into the crowd after unrest at a match between Hearts of Oak and Asante Kotoko at the 40,000 capacity Accra Sports Stadium (Trevor, 2001). Some fans were said to have retaliated with bottles. As the gas spread, panic ensued and the fans scrambled for the exits, which were locked shut, causing many to be suffocated and 130 fans were crushed to death.

The most notable incident of crowd trouble in England occurred some 25 years ago when fans used force to gain entry into Hillsborough Stadium in Sheffield during the Football Association (FA) Cup semi-finals between Nottingham Forest and Liverpool. During the match, over 2,000 people tried to cram into a section that already had 1,500 spectators. As thousands of people rushed into the stadium, the spectators in front were pinned against the fence that guarded the fans from the field and players. At least 93 football fans were killed and more than 200 people injured in the ensuing melee described as the worst ever sporting disaster in Britain’s history (Kwalimwa, 2014).

In Kenya, during a Kenya Premier League Top Eight Class at Nyayo National Stadium on 18th May 2011, between Gor Mahia football club and Ulinzi Stars football club, Gor Mahia football club fans caused un-quantified damage to property, including a bus owned by Ulinzi Stars football club as they protested the referee’s
judgment on what they termed as a foul by Ulinzi Stars football club captain who handled the ball in the box (Ayieko, 2011). Further, at Nyayo National Stadium, the Mashujaa Day semi-final, FKL Cup encounter pitting the arch rivals Gor Mahia Football Club and AFC Leopards Football Club was abandoned in the 90th minute due to crowd trouble. Throughout the match, there was tension between fans as they exchanged taunts (Aaken, 2011). On 24th August 2008, Gor Mahia football club fans caused chaos during a match against Mathare United football club, accusing the referee of bias (Ayieko, 2011).

During a Kenya Premier League match between Gor Mahia football club and AFC Leopards football club on 23rd October 2010, five fans were trampled to death in a stampede as the venue and security facilities got overwhelmed by a near capacity turnout (Nyende, 2011). On 21st July 2013, a Gor Mahia football club fan was reportedly killed following a fracas involving the team supporters and hawkers at Muthurwa market in Nairobi, Kenya, with the area residents accusing the club’s supporters of causing the mayhem and destroying their property (Kwalimwa, 2014).

2.2 Causes of Crowd Trouble during Football Events

Spectator violence in stadiums has been a longstanding tradition. According to Lewis (2007), there are six most common forms of spectator aggression: verbal, which includes singing, chanting and yelling taunts or obscenities; gesturing such as signalling to others with threatening or obscene motions; ‘missile’ throwing which includes throwing items such as food, drinks, bricks, bottles, broken seats and cell phones at particular or random targets; swarming such as rushing to the field or stage, and trying to crash the gates to gain entry; or rushing to the exit, both of which may
result in injury or death from trampling; property destruction which includes knocking down sound systems, tearing up the playing field, and burning/damaging the venue or others’ properties; physical which include spitting, kicking, shoving, fist fighting, stabbings and shooting.

Department for Culture, Media and Sports (2008), states that before each football event, structures, installations and components should be inspected and tested by competent persons to check on any damage, corrosion or deformation which might create a potential danger; exits door, emergency exit doors, gates and pitch perimeter gates are functional; all entry and exit routes should be clear of obstruction, free from trip hazards and surfaces are not slippery; no accessible items on the ground which can be used as missiles; litter and waste should not be allowed to accumulate (Department for Culture, Media and Sports, 2008).

According to O'Reilly (1999), spectator violence is either spontaneous or organized and can occur between two or more spectators or groups of spectators and entertainers (players, coaches and referees), spectators and stadium personnel (security as well as general employees), spectators and the venue (all physical structures and properties, both permanent and temporary e.g. vehicles).

Causes or factors contributing to spectator violence in stadiums can be divided into three categories; venue characteristics, event characteristics and staff characteristics, though no single characteristic of these elements can guarantee that violence will or will not occur (Smith, 2007). According to Smith (2007), a combination of poorly designed physical environments, high-energy events and poorly trained or in-
experienced staff will increase the likelihood of spectator violence. According to Lowrey (2002), a capacity for heavy alcohol drinking is generally recognised to be part of what ‘being manly’ is about. In his study, Lowrey (2002) pointed out that in the year 2000/2001, 27% of all arrests at League Football in England and Wales were alcohol drink-related offenses.

2.2.1 Venue Characteristics and Spectator Violence

Violence between spectators and entertainers is more likely to occur when there is less physical distance between them (Price, 2003). Verbal insults and other aggressive behaviour by spectators close to the action can also prompt retaliatory behaviour from entertainers who feel threatened or disrespected (Sappenfield, 2004). Extreme noise levels increase the likelihood of interpersonal aggression by causing high level of irritation to spectators (Branscombe & Wann, 1992).

Sitting arrangements available to spectators in the stadiums determine the levels of aggression by the spectators. Individual seats are related to lower violence levels (Russell, 2004). While reserved seating largely removes the factors which cause early and overwhelming crowds to gather hours before an event, it can instead result in the early gathering of large crowds at ticket outlets who have come to purchase tickets for the limited prime seating areas (Russell, 2004).

While all crowds eventually become mobile when entering and exiting the stadium, it appears that assigned seating helps maintain order during the event. When seats are not assigned, enthusiastic fans will try to push their way toward the stage and may crush those ahead of them. Empty spaces without seats can encourage moshing (to
dance violently) or provide places to start bonfires. People who move into unoccupied seats or towards railings can instigate aggression if they refuse to move when the ticket holder arrives. Temporary seats that are not bolted to the floor can become weapons (Arbetter & Holy, 1994).

Stadiums where conflict is seen as routine or customary may attract people looking forward to cause trouble or encourage violent behaviour among average spectators (Stott & Adang, 2005). Venues hosting high – profile events that receive intensive media coverage can attract people who may act aggressively to see themselves on television or their name in print media (Price, 2003). According to Roadburg (1980) crowding increases the likelihood of violence for a variety of reasons: it limits mobility, increases the likelihood of unwanted physical contact between spectators and increases wait times for entry and exiting. Larger crowds are also theoretically more likely to have more people willing to engage in violent behaviours (Roadburg, 1980). FIFA (2008) state that dangerous crowding can arise if spectators are able to force their way into a stadium that is already full or nearly full by either scaling or breaking through the perimeter fences, gates or turnstiles. To avoid this risk, boundary walls, fences and gates should be of the appropriate height and strength, should not provide the opportunity for climbing and should be monitored by CCTV, and/or police (FIFA, 2008)

According to Madensen & Eck (2008), there is a positive relationship between elevated temperature, spectator and performer aggression; as the temperature increases in stadiums and arenas, so does the likelihood of violence. Spectators may also drink more alcohol to “warm-up” in cold weather conditions thus increasing the
likelihood of aggressive behaviour (Reifman, Larrick & Fein, 1991). All refreshments sold in general spectators areas should be served in soft containers. Hard containers such as glass, bottles or cans constitute a danger in congested areas and may even be used as missiles (Department for Culture, Media and Sports, 2008).

Stadiums in inner cities may face different problems from stadiums in suburban neighbourhood. An inner city facility is more likely to experience problems with aggressive panhandling than a suburban facility. Existing community problems may impact the likelihood of violence at stadium events (Bale, 2000). Spaaij (2006) in his study on territorial identification pointed out that fans identification of specific spaces as their home ‘turf’ or territory plays a crucial role in the construction of inter-group rivalries’. Abbott and Geddie (2000) stress on the need for managers to consider the conditions of the event being hosted, and the environment of the sports facility so as to predict fan behaviour and implement appropriate security measures.

According to FIFA (2008), the entry capacity to a stadium, which is the number of people who can pass through the turnstiles and/or other controlled entry points within a period of one hour, is determined by the following factors; the number of turnstiles or entry points; the adequacy of directional information and communication; the familiarity of the spectators with the stadium layout; the division of entry categories, including special requirements such as disabled access and the design, type and condition of turnstiles/entry points. The design of the exits and entrances to stadium facilities contributes a lot to safe movement of the fans (Connors, 2007). A good example is the incident that took place in 1991 at a gymnasium at the City University of New York during a basketball game where nine persons were asphyxiated. Doors
at the lower landing entry to the gymnasium opened only outward. People queuing on
the stairs were driven into the closed doors by crowd pressures from above. Police
outside the venue did not establish communication with inside security and were
unaware of the evolving disaster (Connors, 2007).

FIFA (2008), recommend that each stadium must have a venue operations centre,
which is a Room from which those persons responsible for safety and security
operations at the stadium can monitor, control and direct resources in response to any
given situation before, during and after the match. According to National Counter
Terrorism Security Office (2008) basic good housekeeping reduces the opportunity
for planting suspect packages or bags and helps to deal with false alarms and hoaxes.
The number of litter bins around the stadium should be kept to a minimal. Stadium
management should often review the CCTV system to ensure that it has sufficient
coverage both internally and externally (National Counter Terrorism Security Office,
2008).

2.2.2 Event Characteristics and Spectator Violence

According to Westin (2003), violence becomes an accepted coping behaviour in any
situation where people, especially male, are faced with a combination of five types of
personal threats: threats to moral worth, threats to adult status, threats to physical
well-being, threats to masculinity and threats to feelings of personal adequacy.

A number of event characteristics have been previously associated with spectator
violence. For instance, events that tend to attract more male, particularly younger
males, are more likely to generate violence than those that draw demographically
mixed crowds (Veno & Veno, 1993). Spectator violence commonly follows players’ violence during sports events. Player fights can attract people who are more likely to engage in and escalate spectator aggression (Arms and Russell, 1997). Riot causes flight of the spectators. Flight by spectators can result to deaths, as witnessed in 1985 at Heysel Stadium in Brussels where 38 people died by asphyxia and 437 injured as English and Italian fans rioted (Arms & Russell, 1997).

Bryant et al. (1982), selected and presented plays from professional football telecasts that varied in their degree of roughness or violence (low, intermediate and high) yet were equated on other stimulus dimensions. Male and female viewers watched all plays, rating each immediately after watching it. The enjoyment of televised football plays was found to increase with the degree of roughness and violence. The authors interpreted the findings as suggesting that “at least for male viewers, a high degree of aggressiveness is a critical ingredient of the enjoyment of watching sports contests” (Bryant et al., 1982).

Football events with less “away team” supporters are less likely to produce violent incidents. According to a study carried out by Spaaij (2006), territorial identification plays an important role in construction of hooligan identities and inter-group rivalries. Venues hosting teams with highly dedicated fans are also more likely to experience spectator violence (Wann, 2006).

An important victory produce celebratory rioting within the stadium or in adjacent parking lots or neighbourhoods, and more so where rival teams are playing (Russell, 1983). Aggression in sports fans has been associated with team performances that did
not live up to spectator expectations (Wann 2006). Real or perceived poor refereeing in the field can also trigger violence by fans (Lowrey, 2002) and this has been a key trigger to violence in Kenya. This can be illustrated where an assistant referee was killed, with other match officials being injured during a match between Thika Youth Football Club and Kiandutu Youth Football Club in Kenya. The Kiandutu Youth fans were protesting a goal scored by Thika Youth claiming it was off-side (Wandera, 2009).

Similarly on 2\textsuperscript{nd} November 2013 in Mombasa, AFC Leopards Football Club supporters caused 20 minutes stoppage during the club’s league match against Bandari Football Club at Mbaraki Sports Club in Kenya. The supporters accused the referee of biased officiating that ended with 2-1 goals in favour of the host team. AFC Leopards Football Club’ fans invaded the pitch and attempted to assault the referee before being hauled away by the venue security (Kwalimwa, 2014). According to Somoni (2012), a match between Gor Mahia football club and Ulinzi Football club was abandoned in the 60\textsuperscript{th} minute after the Gor Mahia football club’ fans disputed the match and destroyed property at the stadium and neighbouring areas.

While drinking of alcohol does not ‘drive” people to act violently, alcohol can impair the judgment of people who are predisposed to violent behaviour (Lowrey, 2002). Excessive drinking of alcohol can cause people to act overconfidently and carelessly, lose awareness of their surroundings, and react violently to people they perceive as offensive (Johnson, 2004).
According to Miller & Gillentine (2006), stadium event’s actual duration is always longer than the time allocated for it. The assembly and dispersal process can significantly lengthen the time of larger and more popular events and thus allow more time for spectators to engage in violent behaviours. Pre and post-event socialization (such as tailgating) is an integral part of many sporting events and spectators often drink large quantities of alcohol during that time. A variety of serious injuries, including deaths have occurred during tailgating activities. Failure to develop violence-preventive strategies that target pre- and post-game activities can increase the likelihood of spectator violence (Miller & Gillentine, 2006).

2.2.3 Staff Characteristics and Spectator Violence

Stadium and arena personnel, including security and others working at the event are a critical component of any strategy designed to reduce spectator violence (Stott & Reicher, 1998). There are some important characteristics of stadium personnel that have been linked to spectator violence; training, experience, presence and communication (Stott & Reicher, 1998). Security and other employees can reduce or increase spectator frustration and aggression. Personnel are often asked to perform duties that can instigate fan violence, for example, manage crowded parking environments, confiscate contraband from spectators and ensure that fans sit in their assigned seats (Arbetter & Holly, 1994).

Police personnel typically have experience dealing with disorderly people, but need specialized training that draws their attention to potential points of conflict at the venue. Low levels of positive interpersonal interaction between security and fans have been linked to higher levels of spectator misbehaviour (Stott & Adang, 2005).
If alcohol is served, staff should be trained to recognize intoxication, correctly check identification and handle inebriated fans (Arbetter & Holy, 1994). Related to this is the experience of staff; inexperienced staff who cannot identify potential threats and respond to them appropriately may not only allow spectator violence to occur but also instigate or escalate violent situations (Staff & Reicher, 1998).

Staff presence, particularly that of security personnel influences fans violence in several ways; over-policing of an event can increase spectator violence, where excessive searching can cause excessive delays, increasing frustration and worry; interaction between spectators and staff can influence fan violence (Alpert & Flynn, 2000). An adequate number of staff must be present to secure the event. Security personnel should be present in a number of locations to handle traffic enforcement, entry points, areas where seats have been assigned to different fans and field or players’ safety (Connors, 2007).

Poor communication can lead to people stopping moving against the flow of the crowd, blocking passages or making frequent demands on staff for directions. Visitors without information or given contradictory information can become frustrated and aggressive (Powell, 1994). Individuals within a crowd behave in an irrational and goal-oriented manner. For example, someone whose aim is to watch an event or celebrity may climb onto a roof or to the top of scaffold poles to get a better view despite the danger. Other spectators within a similar aim may follow, leading to more people on the roof and the possibility of collapse and injury. Communication channels, both inside and outside the stadium should be clear to all concerned. Most crowd incidents exhibit a lack of front to back communication (Powell, 1994).
A clear chain of command must be established so that staff performing various functions can both receive orders to act and report potential or immediate threats. Communication breakdowns can lead to extensive property damage, serious injuries, and deaths (Estes, 2004). Commanders must be able to effectively collect and analyse intelligence relayed (Connors, 2007). As a minimum requirement the following staffing should be available in a venue operation centre at any given time during a football match; security officer, police commander, a representative of the medical services, fire service commander, CCTV operator, communications operators and ticketing coordinator (FIFA, 2008). Ground management has the responsibility of ensuring that all safety personnel whether in-house or provided under contract are competent and, where not already qualified, have received sufficient training to carry out the duties and responsibilities assigned to them (Department for Culture, Media and Sports, 2008).

2.3 Management of Crowds during Football Events

Crowd management includes components such as the event, design of the stadium and protection of the patrons from unforeseeable risk of harm (Marsden, 1998). Crowd management plans should be adjusted to meet the needs of the event and the potential crowd in terms of sociological behaviour, sitting arrangements, transportation, time, parking, weather conditions, demographics and size (Berlonghi, 1994). Crowds or spectators during football events can be managed based on three elements: venue, event and personnel.

According to Cox (1998), people who are forced to walk long distances to arrive at their mode of transportation may engage in destructive behaviours along the way,
particularly after a highly charged event and if there is little management along the route to destination. Multiple entry and exit points that lead spectators directly to their vehicles or other public transportation will help to reduce the likelihood of aggressive behaviour (Cox, 1998).

Contraband screening or security checks of spectators’ bags, pockets and jackets reduce the likelihood that potential weapons, drugs, alcohol and other undesirable objects and substances will be brought into the stadiums (MacDonald, 2004). Dispersal process of the crowd after the game should be controlled to avoid mass exodus from the venue (Talalay, 2007). Fans should be educated on sanctions of aggressive behaviour (Bralley, 2007). Sporting events can be made attractive and portrayed as family experience to help reduce the likelihood of spectacular violence (Veno & Veno, 1993).

Properly placed and visible signs should be used to inform, warn, instruct and guide people to reduce conflict due to frustration and confusion (Abbott & Geddie, 2001). According to Young (2002), barriers or fences can be used to separate opposing fans, field and players. Sectional and personal seating can further reduce violence if the seating is segregated into well-defined areas. Breaking crowds into smaller groups helps to facilitate crowd control. This seating arrangement can facilitate quick isolation and removal of violent spectators with minimal disruption to other spectators (Brindley, 1982).

When stakes are high, it may be beneficial to change locations. This works well for football fans where the game is played at an ‘away’ stadium for both participating
teams. This can discourage fans from rushing into the field to celebrate victories or to act aggressively against the winning team (Abbott & Geddie, 2001). Having barriers or fences to separate fans from the field and players, as well as separate seating areas for fans of opposing teams can help control the crowd (Young, 2002).

It is necessary to prevent spectators from gaining access to seating areas to which they are not assigned, and prevent entrance of those who do not have tickets to the event. Simple physical barriers (such as gates and fences) and social ones that include ushers and security are usually sufficient to prevent access to restricted areas (Russell, 2004). However, an inappropriately placed barrier may encourage people to climb or sit on the railings or use it as a weapon if not properly secured. Additionally, stadium personnel can strategically place sound systems and large video screens to control gatherings within the crowd. Multiple sound systems and video screens can help break up large crowds (Cox, 1998).

Fans may have a right to cheer and shout but incessant heckling should be prohibited from stadiums. Removing and isolating aggressive spectators can prevent relatively minor incidents from escalating into more serious forms of violence (Reicher, 2001). Together with this, known trouble makers and inebriated spectators should be barred from entering the stadiums. Stadiums can ban spectators who engage in serious violence or disruptive behaviour from the premises for the rest of the event season, as well as confiscate or suspend season tickets belonging to violent spectators (Young, 2002). Security should deny entry to the stadium to known and potential trouble makers such as highly intoxicated people.
High levels of noise and heat are situational instigators that irritate spectators and may trigger them to violence. Reducing noise and heat levels can reduce the risk of spectator violence. However, personnel should also plan for unexpected weather, such as thunderstorms that may send a crowd running for shelter and encourage conflicts (Abbott & Geddie, 2001).

Promoting the attendance of more ‘peacemakers’ by portraying the event as a family experience, may help to reduce the likelihood of spectator violence. Most sporting events provide continual entertainment that includes dancing mascots, synchronized clapping and singing, leaving very little time that something interesting or entertaining is not happening. This keeps fans continually occupied and makes what might otherwise be tedious events attractive to families with young children. So, even if one does not care much for the sport, the event is fun (Veno & Veno, 1993).

Dispersal process of crowd after the game should be controlled. Mass exodus from a venue sets the stage for crowded conditions and spectator violence. Postgame events such as autograph signings help to stagger the dispersal process. Strategic dispersal process should not be carried out during rush hour in order to prevent traffic congestion and related accidents (Talalay, 2007).

Establishment of a command post will help in relaying information quickly and efficiently between various interested parties such as police officers, medical staff, fire brigades, stadium personnel and event organizers (Cox, 1998). This control/command centre will be most effective if it is centrally located and has representatives from all the interested parties. It should also be secure from potential
hazards that include fires and riots. An experienced crowd observer placed in this centralized location can monitor camera images or directly view the crowd and spot potential threats before they become actual problems (Mestcher, 1996).

Staff should be trained to respond appropriately. Having the ‘right’ staff for the ‘right job’ is essential to the successful operation of any facility (Beech & Chadwick, 2004). The facilities may be immaculate but if the staffs do not have the skills or personality to meet and exceed customers’ expectations, then the facility may not succeed. Specific staffing issues that need to be addressed include; organizational culture, training and developing human resources, and communication (Beech & Chadwick, 2004).

Abbott & Geddie (2001) in their study stated that security is a significant feature of a crowd management plan. Security personnel should be experienced in handling disputes, protecting from theft, implementing emergency services, providing an overall safe and secure environment for the guests. They also stated that attendance spectator must be checked continuously to ensure that maximum capacity is not exceeded. Gate supervisors should communicate regularly with the control centre to impart the status of traffic flow to the venue (Abbott & Geddie, 2001).

No two crowds are exactly the same when they riot. Therefore, the tactics used to prevent spectator violence must be flexible (Ward, 2002). All staff must fully comprehend their responsibilities and be familiar with contingency plans if preventive efforts fail (Rees & Schenepel, 2008). Some staff may be more experienced in prevention of spectator violence but others may require extensive training (Miller,
Practice exercises can help inexperienced staff better cope with extreme spectator aggression and help organizers identify problems with communication and staffing levels (Morrison & Airey, 2002). Staff should be clear about their assigned roles and what to do in emergency situations to avoid creating a chaotic atmosphere (Connors, 2007).

According to Weiss & Davis (2005), other staff, besides uniformed officers can be used to prevent spectator violence by training them. Directions from non-uniformed personnel can reduce the tensions that the presence of many uniformed officers may instigate. Using women or older staff as frontline personnel may display a less threatening security presence and reduce tensions between fans and security (Weiss & Davis, 2005)

While an overabundance of uniformed officers may not be necessary, some level of visibility can provide a deterrent effect. More uniformed officers may be positioned at entrances (as a show of force) and decrease their presence as people move into the event. Increased visibility may be particularly effective at high-risk events but officers should remain cognizant of the effect that their appearance may have on crowd behaviour (Weiss & Davis, 2005).

Closed circuit television (CCTV) cameras and ‘nonlethal’ weapons can be useful crowd-monitoring and control devices (Begert, 1998). Cameras reduce the number of personnel needed to monitor large crowds and direct personnel to places where assistance may be needed. Police can use nonlethal weapons to immobilize extremely violent spectators and reduce the likelihood of serious injury or death of the spectators
and others nearby. However, ‘nonlethal’ weapons can be deadly, as witnessed by Boston Police who used pepper spray balls to subdue a crowd outside Fenway Park; a 21 year old college student was struck in the eye by a pepper ball and was killed (Zezima, 2005).

2.4 Summary of Literature Review

Spectator violence in stadiums has been a longstanding problem and studies on spectator violence have been done in some countries in the world. For instance, Lowrey (2002) carried out a study on football hooliganism in England, and highlighted causes of football chaos such as alcohol intake, poor refereeing and fans rivalry. Another study by Spaaij (2006), investigates territorial identification where fans of ‘home team’ tend to cause chaos. Abbott & Geddie (2001) studied the importance of experienced security personnel being included in crowd management plans. Similar studies have not been carried out in Kenya. This study will therefore, seek to assess crowd management strategies used during football events in government- owned stadia in Nairobi County, Kenya.
CHAPTER THREE: METHODOLOGY

3.1 Research Design

A cross-sectional survey research design was found to be more suitable because the study entailed data collection from different groups of target population at liberty to respond to questions on strategies employed to manage crowds during football events. Different groups of target population were sampled and compared on the same study variables.

3.2 Variables of the study

The dependent variable of the study was crowd management. The independent variables of the study are: a) safety strategies such as CCTV surveillance cameras, emergency exits, lighting, access roads and posted warnings; b) pre-event strategies such as, sale of tickets, sitting arrangements, safety awareness campaigns, emergency arrangements and securing of adequate security personnel, separation/demarcation of sitting arrangements, provision of first aid and emergency arrangements; c) strategies used during the event such as, contraband screening, assembling and queuing of fans, strategic deployment of security personnel, removal of disruptive fans and regulation of numbers of spectators; d) post event management strategies such as, communicating about emergencies, opening of exit gates, coordination of dispersal process to exit routes. The variables were studied without manipulation or introducing any control group.
3.3 Location of the Study

This study was carried out at Moi International Sports Centre and Nyayo National Stadium in Nairobi County, Kenya. The criteria for selecting the two stadia was based on the fact that only the two are owned and controlled by the central government of Kenya in Nairobi County. The two sports stadia have the necessary structures and facilities that can be used to control crowds entering stadia during football events. They also have demarcated terraces for sitting different groups.

3.4 Target Population

The targeted population of the study comprised different groups of people that are directly involved during football events in the two government-owned sports stadia in Nairobi County, Kenya. The groups included staff at Moi International Sports Centre (MISC) and Nyayo National Stadium (NNS), security officers based in the four police stations/posts that provide security to the two venues during football events, Football Kenya Federation (FKF) officials at the national and county level, and football fans that attended football matches at the two sports venues.

The target population for each group was as follows: the two sports stadia; 20 management staff, 25 technical staff, 19 support staff; 24 FKF officials (at national and Nairobi county levels); 304 police officers from the relevant police divisions/posts as follows; 127 from Kasarani police division, 7 from Ngomongo Police Post, 150 from Langata police division and 20 from Nyayo National Stadium police post. MISC and NNS have a capacity for 60,000 and 30,000 fans respectively. Therefore a total of 384 fans were targeted from the two sports stadia.
3.5 Sample Size and Sampling Procedures

Stratified random sampling, under probability sampling technique was used in the study, to ensure that each group of the target population was well represented. Since the study used cross sectional survey research design, a sample size of 75% for each stratum was found to be more appropriate to reduce sampling error.

Sample sizes were as follows: 15(75%) managers, 18(75%) technical staff, 14(75%) support staff, 24(75%) FKF officials, 227(75%) police officers were randomly sampled. Fisher’s formula in Mugenda and Mugenda (2003) was used to determine sample size of the fans as 384 for a target population of 90,000 fans, as follows:

\[ n = \frac{Z^2pq}{d^2} \]

where

\( n \) = the desired sample size for target populations that are larger than 10,000.
\( Z \) = the standard normal deviate at the required confidence level
\( p \) = the proportion in the target population estimated to have characteristics of being measured
\( q = 1-p \)
\( d \) = the level of statistical significance set.

Fans were sampled at random before start of football matches at the designated sports stadia (MISC AND NNS). It was assumed that the two sports stadia always operate at full capacity.
3.6 Research Instruments

The instruments for data collection was questionnaire. The researcher constructed structured or closed-ended questions based on different areas of study such as demographic data, stadium safety features, pre-event strategies, management of crowd during sports events and post-event management strategies. The questions were accompanied by a list of possible alternatives from which respondents selected the answer that best described their situation. The questionnaire was reviewed by the two supervisors who guided the researcher in the study. An observation check list was used to gather information on availability, numbers, strategic positioning and functionality of the various security features installed in the stadiums in comparison to recommendations by FIFA (2008) and Department for Culture, Media and Sports (2008).

Before the actual administration of the questionnaire a pre-test of the instrument was conducted. This involved 15 sports officers stationed at the Department of Sports’ headquarters and Nairobi County, who were not later involved in the main study. The selection of the sports officers was because part of their duties is to manage crowds at sports stadia. This helped to determine the suitability, clarity, and consistence of the items in addressing the variables of the study. Research assistants were trained during the pre-testing stage, and instructions and questions were clarified. The test retest method was used to determine the reliability of the instruments. A reliability index of 8.4 was found and was acceptable.
3.7 Data Collection Procedures

Before embarking on data collection, approval was obtained from Graduate School of Kenyatta University. The researcher used research assistants to collect data. The questionnaires were administered to football fans in the two designated sports stadia during Kenya Premier League football matches. Other respondents were provided with the questionnaires at their offices or designated stations of operation. Football fans were requested to complete their questionnaires during the half time break. Other respondents were given a time period of two days and a follow up was done to collect the questionnaires. For each of the closed-ended questions, the respondents were required to tick the answers that best represented their views out of the choices provided.

3.8 Data Analysis and Presentation

Data collected from the questionnaires was coded and organised for analysis using the Statistical Package for Social Sciences (SPSS) version 20. Descriptively, the obtained data were summarised in frequencies and percentages for easy interpretation of the information. Bar-charts, tables and pie-charts were used to present the data. Data analysis was carried out based on the different strategies on crowd management in terms of stadium safety features, pre-event, during event and post event strategies. Chi-square was chosen for the study to establish if there was any relationship between the views of those given the responsibility to manage crowds during football matches in the two sports stadia and the fans. The hypotheses were tested at a level of significance association of \( p < 0.05 \).
3.9 Logical and Ethical Considerations

The researcher applied for a research permit (Appendix E) from National Commission for Science, Technology and Innovation. Permission was sought from Sports Stadia Management Board, Kenya Police and Football Kenya Federation before administration of the questionnaires (Appendix D). The researcher explained to the respondents the purpose and the importance of the study. Consent was obtained from the respondents using a consent form (Appendix C) and the researcher assured them of confidentiality of any information given. The researcher maintained integrity by keeping promises and agreements as well as acting with sincerity. Clarifications of various concepts in the research instrument were done prior to filling of the questionnaire.
CHAPTER FOUR: FINDINGS

4.1 Demographic Characteristics of Respondents

The demographic characteristics of the respondents focused on were gender, age, cadre and education background. A total of 742 respondents participated in this study, with the highest number of respondents coming from football fans 384 (52.3%).

![Figure 4.1: Cadres/Sample Size of Respondents](image)

Figure 4.1 shows that 18 (2.4%) of the participants were stadium managers, 25 (6.1%) were stadium technical staff, 19 (5.1%) were stadium support staff, 384 (52.3%) were football fans, 18 (5.7%) were Football Kenya Federation officials and 227 (28.4%) were police officers.

4.2 Age Categories of the Respondents

The largest sample of respondents in this study were in the age category of 20-24 years (179; 24.1%), followed by respondents in age category 25-29 years (157; 21.2%). The lowest sample of respondents was in the age category of under 20 years.
(51; 6.9%) followed by 40 years and above (109; 14.7%) as illustrated in the figure below:

**Figure 4.2: Age Categories of Respondents**

### 4.3 Gender of the Respondents

The total sample population of this study was 742, out of which, 439 (59.2%) were male and 303 (40.8%) were female.

### 4.4 Levels of Education of the Respondents

Most of the respondents in the sample population had attained tertiary level of education, 212 (28.8%). This was followed by university level with 195 (26.3%). Primary level of education was the lowest with only 29 (3.9%). The Figure 4.3 below shows the different levels of education of the respondents.
4.5 Stadium Safety Features

The first objectives of the study was to determine availability, strategic positioning, adequacy and functionality of selected stadium safety features. To measure the extent of adequacy of stadium safety features, the respondents were required to indicate their opinions on extent of adequacy of CCTV surveillance cameras, emergency exits, access roads and posted warning/instructional signs.

Questionnaire items were administered to the respondents, with the options provided as ‘adequate’ ‘partially adequate’ and ‘inadequate’. The responses of the respondents were tested using chi-square to measure any significant association between the security/safety service personnel and the fans on their opinions on the independent variables.
4.5.1 Adequacy of CCTV Surveillance Cameras

Table 4.1 below shows a summary of responses on adequacy of CCTV surveillance cameras as perceived by the security/safety service personnel and the fans.

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Adequate</th>
<th>Partially Adequate</th>
<th>Inadequate</th>
<th>Total</th>
<th>Chi-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security/Safety Service Personnel</td>
<td>87 (27.9%)</td>
<td>77 (24.7%)</td>
<td>148 (47.4%)</td>
<td>312</td>
<td>χ² = 46.16</td>
</tr>
<tr>
<td>Fans</td>
<td>207 (53.4%)</td>
<td>59 (15.2%)</td>
<td>122 (31.4%)</td>
<td>388</td>
<td>p &lt; 0.001</td>
</tr>
<tr>
<td>Total</td>
<td>294 (42%)</td>
<td>136 (19.4%)</td>
<td>270 (38.6%)</td>
<td>700</td>
<td>df = 2</td>
</tr>
</tbody>
</table>

A higher fraction of the security/safety service personnel (148, 47.4%) indicated that the CCTV surveillance cameras were inadequate with 87 (27.9%) indicating them as adequate and 77 (24.7%) indicated them as partially adequate. On the other hand, a larger proportion of the fans (207, 53.4%) indicated that CCTV surveillance cameras were adequate, while 59 (15.2%) indicated them as partially adequate and 122 (31.4%) as inadequate. The chi-square test yielded a p-value for the two groups of p < 0.001, χ² = 46.16 and df = 2 showing a significant positive association between the two groups.

4.5.2 Adequacy of Emergency Exits at MISC and NNS

Table 4.2 shows the opinions of the respondents on emergency exits in the two sports stadia in Nairobi County.
Table 4.2: Emergency Exits at MISC and NNS

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Adequate</th>
<th>Partially Adequate</th>
<th>Inadequate</th>
<th>Total</th>
<th>Chi-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security/Safety Service Personnel</td>
<td>91 (29.2%)</td>
<td>133 (42.6%)</td>
<td>88 (28.2%)</td>
<td>312 (100%)</td>
<td>$\chi^2 = 23.12$ p &lt; 0.001 df = 2</td>
</tr>
<tr>
<td>Fans</td>
<td>145 (37.4%)</td>
<td>190 (49.0%)</td>
<td>53 (13.7%)</td>
<td>388 (100%)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>236 (33.7%)</td>
<td>323 (46.1%)</td>
<td>141 (20.1%)</td>
<td>700 (100%)</td>
<td></td>
</tr>
</tbody>
</table>

A higher proportion of the security/safety service personnel 133 (42.6%) were of the opinion that the emergency exits were partially adequate, with 91 (29.2%) indicating them as adequate and 88 (28.2%) as inadequate. On the other hand, a larger proportion of the fans 190 (49.0%) indicated the emergency exits as being partially adequate, while 53 (13.7%) indicated them as inadequate. The p-value for the chi-square was p < 0.001 while $\chi^2 = 23.12$ and df = 2, indicating a significant association in the opinions of the two groups. From the responses it is evident that a larger proportion of the respondents perceived the emergency exits to be partially adequate.

4.5.3 Adequacy of Lighting System

With regard to the lighting system, a larger proportion of the respondents (293, 41.7%) indicated that lighting system in the two sports stadia was partially adequate,
while 257 (36.7%) respondents indicated it as being adequate. Table 4.3 below shows the responses of the security/safety personnel and football fans on the adequacy of lighting system in the two sports stadia.

**Table 4.3: Lighting Systems at MISC and NNS**

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Adequate</th>
<th>Partially Adequate</th>
<th>Inadequate</th>
<th>Total</th>
<th>Chi-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security/Safety Service Personnel</td>
<td>104 (33.3%)</td>
<td>140 (44.9%)</td>
<td>68 (21.8%)</td>
<td>312 (100%)</td>
<td>$\chi^2 = 3.01$</td>
</tr>
<tr>
<td>Fans</td>
<td>153 (39.4%)</td>
<td>153 (39.4%)</td>
<td>82 (21.1%)</td>
<td>388 (100%)</td>
<td>$p = 0.222$, $df = 2$</td>
</tr>
<tr>
<td>Total</td>
<td>257 (36.7%)</td>
<td>293 (41.9%)</td>
<td>150 (21.4%)</td>
<td>700 (100%)</td>
<td></td>
</tr>
</tbody>
</table>

A higher proportion of security/safety service personnel, 140 (44.9%), and the fans, 153 (39.4%), were of the opinion that the lighting system was partially adequate. An equal proportion of fans 153 (39.4%) indicated lighting system as being adequate while 82 (21.1%) indicated them as being inadequate. Further, 104 (33.3%) of the security/safety service personnel were of the opinion that the lighting system was adequate with 68 (21.8%) indicating them as inadequate.

The responses of the respondents were also tested for any positive association between the security/safety service personnel and the fans on the lighting system using chi-square which yielded $\chi^2 = 3.01$, $p = 0.222$ and $df = 2$. The findings indicated that there was no significant association in the opinions of security/safety service personnel and the fans on the lighting system as a strategy on safety features used for crowd management during football matches.
4.5.4 Adequacy of Access Roads at MISC and NNS

A larger proportion of the respondents (323, 46.1%) indicated access roads as being partially adequate, while 206 (29.4%) indicated them as being adequate. Table 4.4 below shows the opinions of the respondents on the adequacy of access roads in the two sports stadia.

**Table 4.4: Access Roads at MISC and NNS**

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Adequate</th>
<th>Partially Adequate</th>
<th>Inadequate</th>
<th>Total</th>
<th>Chi-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security/Safety Service Personnel</td>
<td>94 (30.1%)</td>
<td>134 (42.9%)</td>
<td>84 (26.9%)</td>
<td>312 (100%)</td>
<td>$\chi^2 = 2.77$ p = 0.25 df = 2</td>
</tr>
<tr>
<td>Fans</td>
<td>112 (28.9%)</td>
<td>189 (48.7%)</td>
<td>87 (22.4%)</td>
<td>388 (100%)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>206 (29.4%)</td>
<td>323 (46.1%)</td>
<td>171 (24.4%)</td>
<td>700 (100%)</td>
<td></td>
</tr>
</tbody>
</table>

Data in table 4.4 show that a higher number of the security/safety service personnel (134, 42.9%) and fans (189, 48.7%) agreed that the access roads in the two sports stadia were partially adequate. Those who indicated adequate among the security/safety service personnel were 94 (30.1%) and fans 112 (28.9%). For inadequate responses the security/safety service personnel were 84 (26.9%) while the fans were 87 (22.4%). Chi-square test returned $\chi^2 = 2.77$, p = 0.25 and df = 2 indicating no positive association in the opinions of the two groups.

4.5.5 Adequacy of Posted Warnings/Instructional Signs

A higher proportion of the respondents indicated posted warnings/instructional signs as partially adequate (270, 38.6%), followed closely by inadequate at 254 (36.3%),
with 25.1% indicating it as adequate. Table 4.5 shows the findings on adequacy of posted warning/instructional signs in the two sports stadia.

**Table 4.5: Posted Warnings/Instructional Signs**

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Adequate</th>
<th>Partially Adequate</th>
<th>Inadequate</th>
<th>Total</th>
<th>Chi-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security/Safety Service Personnel</td>
<td>63 (20.2%)</td>
<td>116 (37.2%)</td>
<td>133 (42.6%)</td>
<td>312 (100%)</td>
<td>$\chi^2 = 12.01$</td>
</tr>
<tr>
<td>Fans</td>
<td>113 (29.1%)</td>
<td>154 (39.5%)</td>
<td>121 (32.1%)</td>
<td>388 (100%)</td>
<td>$p = 0.002$</td>
</tr>
<tr>
<td>Total</td>
<td>176 (25.1%)</td>
<td>270 (38.6%)</td>
<td>254 (36.3%)</td>
<td>700 (100%)</td>
<td>df = 2</td>
</tr>
</tbody>
</table>

A large number of the security/safety service personnel indicated posted warnings/instructional signs as being inadequate (133, 42.6%) while 116 (37.2%) indicated them as partially adequate. On the other hand, 63 (20.2%) had the opinion that they were adequate. A higher proportion of the fans (154, 39.5%) indicated them as partially adequate, with 121 (32.1%) indicating inadequate and 113 (29.1%) as adequate. The p-value of the chi-square test was at $p = 0.002$ while $\chi^2 = 12.01$ and df = 2, reflecting a significant positive association in the opinions of the two groups.

### 4.6 Pre-Event Strategies

The second objective of the study was to the effectiveness of the selected pre-event used to manage crowds during football events. These strategies included the number
of access roads, CCTV surveillance cameras, number of exits, facility maintenance, regulation of numbers of spectators, advance sale of tickets and first aid arrangements.

4.6.1 Facility Maintenance

One of the selected pre-event strategies was continuous facility maintenance. A higher proportion of the respondents were of the opinion that facility maintenance in the two government-owned sports stadia was effective at 304 (43.4%) as compared to 238 (34.0%) as partially effective and 158 (22.6%) as ineffective. The figure 4.4 below shows the different opinions.

![Facility Maintenance Pie Chart]

**Figure 4.4: Facility Maintenance**

Table 4.6 below illustrate the chi-square findings on the opinions of the respondents on the effectiveness of facility maintenance in the two sports stadia.

**Table 4.6: Facility Maintenance**

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Responses</th>
<th>Total</th>
<th>Chi-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective</td>
<td>Partially</td>
<td>Ineffective</td>
<td></td>
</tr>
</tbody>
</table>
A higher number of the security/safety service personnel (112, 35.9%) were of the opinion that facility maintenance was effectively carried out while 106 (34.0%) indicated it as being partially effective and 94 (30.1%) indicated it as ineffective. On the other hand a higher number of the fans (192, 49.5%), indicated it as effective followed by 132 (34.0%) as partially effective. 64 (16.5%) indicated it as ineffective. The chi-square test yielded a p-value of $p < 0.001$, $\chi^2 = 21.59$ and $df = 2$ showing a significant positive association in the responses of the two groups.

### 4.6.2 Advance Sale of Tickets

With regard to advance sale of tickets, a larger proportion of the respondents indicated that this pre-event strategy is partially effective at 337 (48.1%) as compared to 215 (30.7%) as effective and 148 (21.1%) as ineffective. Figure 4.5 below shows these findings.
Table 4.7 below shows the findings of the views of the security/safety service personnel and the fans on advance sale of tickets.

**Table 4.7: Advance Sale of Tickets**

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Effective</th>
<th>Partially Effective</th>
<th>Ineffective</th>
<th>Total</th>
<th>Chi-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$\chi^2=27.01$</td>
</tr>
<tr>
<td>Security/Safety Service Personnel</td>
<td>73 (23.4%)</td>
<td>148 (47.4%)</td>
<td>91 (29.2%)</td>
<td>312</td>
<td>p &lt; 0.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>df = 2</td>
</tr>
<tr>
<td>Fans</td>
<td>142 (36.6%)</td>
<td>189 (48.7%)</td>
<td>57 (14.7%)</td>
<td>388</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>215 (30.7%)</td>
<td>337 (48.1%)</td>
<td>148 (21.1%)</td>
<td>700</td>
<td></td>
</tr>
</tbody>
</table>

Those who indicated this strategy as being effective from the security/safety service personnel were 73 (23.4%) while the fans were 142 (36.6%). 148 (47.4%) security/safety service personnel indicated it as being partially effective while the fans were 189 (48.7%). 91 (29.2%) of the security/safety service personnel were of the opinion that the strategy was ineffective, with 57 (14.7%) of the fans indicating the
same opinion. The p-value of the chi-square was at \( p < 0.001 \), \( \chi^2 = 27.01 \) and df = 2, indicating a significant association in the opinions of the two groups on the advance sale of tickets as a strategy.

### 4.6.3 Safety Awareness Campaigns

In regard to safety awareness campaigns majority of the respondents 268 (38.3%) indicated the strategy as partially effective. This was followed by 260 (37.1%) who indicated it as ineffective. Figure 4.6 below indicates the findings.

![Pie chart showing the effectiveness of safety awareness campaigns]

**Figure 4.6: Safety Awareness Campaigns**

Table 4.8 below further shows the opinions of the security/safety service personnel on the effectiveness of the safety awareness campaigns in the two sports stadia.
### Table 4.8: Safety Awareness Campaigns

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Effective (n, %)</th>
<th>Partially Effective (n, %)</th>
<th>Ineffective (n, %)</th>
<th>Total (n, %)</th>
<th>Chi-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security/Safety Service Personnel</td>
<td>57 (18.3%)</td>
<td>121 (38.8%)</td>
<td>134 (42.9%)</td>
<td>312 (100%)</td>
<td>$\chi^2 = 14.24$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$p = 0.001$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>df = 2</td>
</tr>
<tr>
<td>Fans</td>
<td>115 (29.6%)</td>
<td>147 (37.9%)</td>
<td>126 (32.5%)</td>
<td>388 (100%)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>172 (24.6%)</td>
<td>268 (38.3%)</td>
<td>260 (37.1%)</td>
<td>700 (100%)</td>
<td></td>
</tr>
</tbody>
</table>

The findings were as follows: 57 (18.3%) of security/safety service personnel indicated it as being effective, 121 (38.8%) as partially effective and 134 (42.9%) as ineffective, while 115 (29.6%) of the fans indicated it as effective, 147 (37.9%) as partially effective and 126 (32.5%) as ineffective. The chi-square p-value was at $p = 0.001$, $\chi^2 = 14.24$ and df = 2 showing a significant positive association in the opinions of the two groups on safety awareness campaigns.

### 4.6.4 Separation/Demarcation of Sitting Arrangements

Separation/demarcation of sitting arrangements for known rival fans is one of the pre-event strategies. This strategy was seen by a larger number of the respondents as being partially effective (288; 41.1%), followed by ineffective (248; 35.4%) as indicated on Figure 4.7 below.
The responses of the security/safety service personnel in regard to separation/demarcation of sitting arrangements are shown in table 4.9 below.

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Effective</th>
<th>Partially Effective</th>
<th>Ineffective</th>
<th>Total</th>
<th>Chi-square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security/Safety Service Personnel</td>
<td>60 (19.2%)</td>
<td>124 (39.7%)</td>
<td>128 (41.0%)</td>
<td>312 (100%)</td>
<td>$\chi^2=9.48$</td>
</tr>
<tr>
<td>Fans</td>
<td>104 (26.8%)</td>
<td>164 (42.3%)</td>
<td>120 (30.9%)</td>
<td>388 (100%)</td>
<td>P = 0.009</td>
</tr>
<tr>
<td>Total</td>
<td>164 (23.4%)</td>
<td>288 (41.1%)</td>
<td>248 (35.4%)</td>
<td>700 (100%)</td>
<td>df = 2</td>
</tr>
</tbody>
</table>

The findings indicated that 60 (19.2%) of the security/safety service personnel were of the opinion that the strategy was effective. Those who indicated partially effective were 124 (39.7%), with 128 (41.0%) indicating it as ineffective. 104 (26.8%) of the fans indicated it as effective, with 164 (42.3%) indicating it as partially effective and
120 (30.9%) as ineffective. The p-value was at $p = 0.009$, $\chi^2 = 9.48$ and df = 2, indicating a significant positive association in the opinions of the two groups regarding separation/demarcation of sitting arrangements as a strategy on crowd management during the football events in the two sports stadia in Nairobi County.

4.6.5 Securing Adequate Security Personnel during football matches

A larger number of the respondents (313, 44.7%) indicated this strategy as being partially effective, as compared to 214 (30.6%) who indicated it as ineffective.

Table 4.10 below shows the findings on securing adequate security personnel as viewed by the security/safety service personnel and the fans as a strategy on crowd management during football events in the two sports stadia.

**Table 4.10: Securing Adequate Security Personnel during football matches**

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Responses</th>
<th>Total</th>
<th>Chi-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Effective</td>
<td>Partially Effective</td>
<td>Ineffective</td>
</tr>
<tr>
<td>Security/Safety Service Personnel</td>
<td>64 (20.5%)</td>
<td>141 (45.2%)</td>
<td>107 (34.3%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>312 (100%)</td>
</tr>
<tr>
<td>Fans</td>
<td>109 (28.1%)</td>
<td>172 (44.3%)</td>
<td>107 (27.6%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>388 (100%)</td>
</tr>
<tr>
<td>Total</td>
<td>173 (24.7%)</td>
<td>313 (44.7%)</td>
<td>214 (30.6%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>700 (100%)</td>
</tr>
</tbody>
</table>

A higher proportion of the security/safety service personnel (141, 45.2%), indicated that securing of adequate security personnel during football matches was partially effective, followed by 107 (34.3%) who viewed it as ineffective and 64 (20.5%) as
effective. On the other hand a larger number of the fans (172, 44.3%) were of the opinion that the strategy was partially effective, followed by 109 (28.1%) who indicated it as effective and 107 (27.6%) as ineffective. The p-value of chi-square on the opinions of the two groups was $p = 0.037$, $\chi^2 = 6.60$ and $df = 2$ implying there was a significant association in the opinions of the two groups.

### 4.6.6 Provision of First Aid and Emergency Arrangements before football matches

A higher proportion of the respondents (315, 45.0%) indicated it as being partially effective while 220 (31.4%) indicated it as ineffective.

Table 4.11 below shows the findings on the assessment of the opinions from security/safety service personnel and football fans on the provision of first aid as a pre-event strategy in the two sports stadia in Nairobi County.

<table>
<thead>
<tr>
<th>Table 4.11: Provision of First Aid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondents</td>
</tr>
<tr>
<td>-------------</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Security/Safety Service Personnel</td>
</tr>
<tr>
<td>Fans</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
From Table 4.11 those who indicated this strategy as effective among the security/safety service personnel were 59 (18.9%) as compared to 106 (27.3%) from the fans. On responses relating to partially effective, security/safety service personnel were 131 (42.0%) in comparison to 184 (47.4%) football fans. 122 (39.1%) from security/safety service personnel indicated it as being ineffective, as compared to 98 (25.3%) of the fans. The p-value of the chi-square test was $p < 0.001$, $\chi^2 = 16.87$ and $df = 2$, reflecting a significant association in the responses of the two groups.

### 4.6.7 Advertising of Penalties for Violent Behaviour

Advertising of penalties for violent behaviour was seen by a higher number of respondents as ineffective (263, 37.6%) as compared to partially effective (239, 34.1%) and effective 198, 28.3%)

Table 4.12 below shows the findings on the opinions of the respondents on advertisement of penalties as a strategy used for crowd management during football matches in the two sports stadia in Nairobi County.

**Table 4.12: Advertising of Penalties for Violent Behaviour**

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Effective</th>
<th>Partially Effective</th>
<th>Ineffective</th>
<th>Total</th>
<th>Chi-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security/Safety Service Personnel</td>
<td>71 (22.8%)</td>
<td>118 (37.8%)</td>
<td>123 (39.4%)</td>
<td>312 (100%)</td>
<td>$\chi^2 = 8.83$ $p = 0.012$ $df = 2$</td>
</tr>
<tr>
<td>Fans</td>
<td>127 (32.7%)</td>
<td>121 (31.2%)</td>
<td>140 (36.1%)</td>
<td>388 (100%)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>198 (28.3%)</td>
<td>239 (34.1%)</td>
<td>263 (37.6%)</td>
<td>700 (100%)</td>
<td></td>
</tr>
</tbody>
</table>
Those who indicate that advertisement of penalties for violent behaviour was effective from the security/safety service personnel were 71 (22.8%) against 127 (32.7%) from the fans, partially effective 118 (37.8%) and 121 (31.2%) respectively. 123 (39.1%) of security/safety service personnel indicated it as being ineffective as compared to 140 (36.1%) of the fans. Chi-square test yielded a p-value of $p = 0.012$, $\chi^2 = 8.83$ and $df = 2$, reflecting a significant association in the responses of the two groups.

### 4.6.8 Establishing Police Command Posts

Establishing of police command posts as a pre-event strategy was seen by a higher proportion of the respondents as partially effective (320, 45.7%) as compared to ineffective (218, 31.1%) and effective (162, 23.1%).

Tables 4.13 below shows the findings of chi-square test on establishment of police command posts as indicated by security/safety service personnel and the fans.

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Responses</th>
<th>Total</th>
<th>Chi-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Effective</td>
<td>Partially Effective</td>
<td>Ineffective</td>
</tr>
<tr>
<td>Security/Safety Service Personnel</td>
<td>65 (20.8%)</td>
<td>141 (45.2%)</td>
<td>106 (34.0%)</td>
</tr>
<tr>
<td></td>
<td>312 (100%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fans</td>
<td>97 (25.0%)</td>
<td>179 (46.1%)</td>
<td>112 (28.9%)</td>
</tr>
<tr>
<td></td>
<td>388 (100%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>162 (23.1%)</td>
<td>320 (45.7%)</td>
<td>218 (31.1%)</td>
</tr>
</tbody>
</table>

A higher proportion of the security/safety service personnel (141, 45.2%) viewed this strategy as partially effective. Those who indicated it as ineffective were 106
(34.0%), while 65 (20.8%) indicated it as effective. On the other hand, a higher number of the fans (179, 46.1%) indicated the strategy as partially effective, 112 (28.9%), ineffective and 97 (25.0%) as effective. The chi-square test yielded a p-value at $p = 0.249$, $\chi^2 = 2.78$ and df = 2, implying that there was no significant association in the opinions of the two groups on the pre-event strategy on establishment of police command posts.

### 4.6.9 Posting of Information Signs on Safety

According to the majority of the respondents (304, 43.4%), posting of information signs on safety was partially effective as compared to those who indicated it as ineffective (221, 31.6%) and effective (175, 25.0%). Figure 4.8 below shows the results.

![Figure 4.8: Posting of Information Signs on Safety](image)

Figure 4.8: Posting of Information Signs on Safety

Tables 4.14 below shows data of respones on effectiveness of posting of information signs on safety in the sports stadia.
Table 4.14: Posting of Information Signs on Safety

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Effective</th>
<th>Partially Effective</th>
<th>Ineffective</th>
<th>Total</th>
<th>Chi-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security/Safety Service Personnel</td>
<td>61 (19.6%)</td>
<td>133 (42.6%)</td>
<td>123 (39.4%)</td>
<td>312</td>
<td>$\chi^2 = 24.70$ ( p &lt; 0.001 ) ( df = 2 )</td>
</tr>
<tr>
<td>Fans</td>
<td>114 (29.4%)</td>
<td>181 (46.6%)</td>
<td>93 (24.0%)</td>
<td>388</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>175 (25.0%)</td>
<td>304 (43.4%)</td>
<td>221 (31.6%)</td>
<td>700</td>
<td></td>
</tr>
</tbody>
</table>

In regard to posting of information signs on safety, 61 (19.6%) of the security/safety service personnel indicated it as effective, while 114 (29.4%) of the fans saw it as effective. On the other hand, 133 (42.6%) of the security/safety service personnel indicated it as partially effective, with 181 (46.6%) of the fans indicating it as effective. A higher number of of the security/safety service personnel 123 (39.4%) indicated it as ineffective, while 93 (24.0%) of the fans saw it as ineffective. The chi-square test indicated a p-value of \( p < 0.001 \), $\chi^2 = 24.70$ and \( df = 2 \), reflecting a significant association in the views of the two groups.

4.7 Stadium Management Strategies during Football Events

The third objective of the research was to determine the extent to which stadium management strategies are effectively used during football matches in the government-owned sports stadia.
4.7.1 Contraband Screening of Fans

One of the stadium management strategies used during football events was contraband screening of fans to detect any alcohol, drugs and weapons as they enter the stadium. A larger fraction of the respondents indicated that contraband screening was partially effective (245, 35.0%), with a minimal difference from those who indicated it as effective (244, 34.9%). Those who indicated ineffective were 211(30.1%). Figure 4.9 below shows the various opinions of the respondents.

![Figure 4.9: Contraband Screening of Fans](image)

Table 4.15 shows the findings on the views of the two groups comprising of security/safety service personnel and football fans on effectiveness of contraband screening of fans during football matches.

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Responses</th>
<th>Total</th>
<th>Chi-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security/Safety Service Personnel</td>
<td>Effective: 84 (26.9%)</td>
<td>312</td>
<td>18.83</td>
</tr>
<tr>
<td></td>
<td>Partially Effective: 113</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ineffective: 115 (36.9%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A larger fraction of security/safety service personnel 84 (26.9%) and fans 160 (41.2%) stated that contraband screen was effective. Those who stated it as partially effective among the security/safety service personnel were 113 (36.2%) while the fans were 132 (34.0%). The security/safety service personnel who indicated it as ineffective were 115 (36.9%) and the fans were 96 (24.7%). The chi-square test indicated a p-value of \( p < 0.001, \chi^2 = 18.83 \) and \( df = 2 \), implying a significant association in the perceptions of responses of the two groups.

### 4.7.2 Strategic Deployment of Security Personnel

Strategic deployment of security personnel is another management strategy used during football events. The views of the majority of the respondents indicated that this strategy was partially effective (321, 45.9%) as compared to ineffective (193, 27.6%) and effective (186, 26.6%). The different opinions by the respondents are reflected in the figure 4.10 below.

![Figure 4.10: Strategic Deployment of Security Personnel](image_url)
Table 4.16 illustrates the opinions of security/safety service personnel and fans on the effectiveness of strategic deployment of security personnel during football events in the two sports stadia in Nairobi County.

**Table 4.16: Strategic Deployment of Security Personnel**

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Responses</th>
<th>Total</th>
<th>Chi-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Effective</td>
<td>Partially Effective</td>
<td>Ineffective</td>
</tr>
<tr>
<td>Security/Safety Service Personnel</td>
<td>63 (20.2%)</td>
<td>142 (45.5%)</td>
<td>107 (34.3%)</td>
</tr>
<tr>
<td>Fans</td>
<td>123 (31.7%)</td>
<td>179 (46.1%)</td>
<td>86 (22.2%)</td>
</tr>
<tr>
<td>Total</td>
<td>186 (26.6%)</td>
<td>321 (45.9%)</td>
<td>193 (27.6%)</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 17.86 \]
\[ p < 0.001 \]
\[ df = 2 \]

Those who viewed the strategy as effective were 63 (20.2%) of the security/safety service personnel and 123 (31.7%) of the fans. Those who indicated partially effective were 142 (45.5%) of the security/safety service personnel and 179 (46.1%) of the fans. Those who viewed it as ineffective were 107 (34.3%) of the security/safety service personnel and 86 (22.2%) of the fans. The chi-square test yielded a p-value of \( p < 0.001 \), \( \chi^2 = 17.86 \) and \( df = 2 \), indicating a significant association in the responses of the two groups on the strategic deployment of security personnel as a strategy used during football matches.

### 4.7.3 Assembling and Queuing of Fans

Another of the management strategies used during football events is assembling and queuing of fans before entering the stadium. This was viewed as partially effective by the largest number of the respondents (275, 39.3%). The second highest rating was for
ineffective at 239 (34.1%). Those who indicated it as effective were 186 (26.6%). Figure 4.11 below shows the different opinions.

![Figure 4.11: Assembling and Queuing of Fans](image)

Table 4.17 shows the opinions of security/safety service personnel and fans on the effectiveness of assembling and queuing of fans as a strategy of crowd management during football matches.

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Responses</th>
<th>Total</th>
<th>Chi-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Effective</td>
<td>Partially Effective</td>
<td>Ineffective</td>
</tr>
<tr>
<td>Security/Safety Service Personnel</td>
<td>66 (21.2%)</td>
<td>119 (38.1%)</td>
<td>127 (40.7%)</td>
</tr>
<tr>
<td>Fans</td>
<td>120 (30.9%)</td>
<td>156 (40.2%)</td>
<td>112 (28.9%)</td>
</tr>
<tr>
<td>Total</td>
<td>186 (26.6%)</td>
<td>275 (39.3%)</td>
<td>239 (34.1%)</td>
</tr>
</tbody>
</table>

$\chi^2 = 13.50$

p = 0.001

df = 2

It is evident from Table 4.17 that those who viewed the strategy as effective were 66 (21.2%) from security/safety service personnel and 120 (30.9%) from the fans. Those
who viewed it as partially effective were 119 (38.1%) from the security/safety service personnel and 156 (40.2%) from the fans. 127 (40.7%) of security/safety service personnel indicated it as ineffective while 112 (28.9%) of the fans perceived the same. Chi-square test on this strategy yielded a p-value of $p = 0.001$, $\chi^2 = 13.50$ and df = 2, reflecting a significant association in the opinions of the two groups.

### 4.7.4 Removal of Disruptive Fans

Removal of disruptive fans is a crowd management strategy during football matches. Figure 4.12 below shows that a larger number of the respondents indicated the strategy as partially effective at 304 (43.4%), followed by ineffective at 250 (35.7%) and effective at 146 (20.9%).

![Figure 4.12: Removal of Disruptive Fans](image)

Table 4.18 below shows the findings on the opinions of the security/safety service personnel and the fans on effectiveness of removal of disruptive fans as a strategy for crowd management during football matches.
Table 4.18: Removal of Disruptive Fans

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Responses</th>
<th>Total</th>
<th>Chi-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Effective</td>
<td>Partially Effective</td>
<td>Ineffective</td>
</tr>
<tr>
<td>Security/Safety Service Personnel</td>
<td>48 (15.4%)</td>
<td>124 (39.7%)</td>
<td>140 (44.9%)</td>
</tr>
<tr>
<td>Fans</td>
<td>98 (25.3%)</td>
<td>180 (46.4%)</td>
<td>110 (28.4%)</td>
</tr>
<tr>
<td>Total</td>
<td>146 (20.9%)</td>
<td>304 (43.4%)</td>
<td>250 (35.7%)</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 23.06 \]
\[ p < 0.001 \]
\[ df = 2 \]

Those who viewed removal of disruptive fans from stadia as effective were 48 (15.5%) of the security/safety service personnel and 98 (25.3%) of the fans. 124 (39.7%) of security/safety service personnel viewed it as partially effective and 180 (46.6%) from the fans. Those who viewed it as ineffective from the security/safety service personnel were 140 (44.9%) while fans were 110 (28.4%). The results of the chi-square test on the opinions of the two groups was \( p < 0.001, \chi^2 = 23.06 \) and \( df = 2 \) indicating a significant association in the views of the two groups.

### 4.7.5 Regulation of Numbers of Spectators

Respondents were required to indicate the extent to which the strategy of regulation of numbers of spectators was effectively used by the two sports stadia to manage crowds during football matches. A larger number of the respondents (282, 40.3%) indicated that the strategy was partially effective, followed by those who indicated it to be ineffective (251, 35.9%) and effective (167, 23.9%) as shown in figure 4.13 below.
Tables 4.19 shows the findings on the opinions of the security/safety service personnel and fans on regulation of numbers of spectators as a strategy for crowd management during football events.

Table 4.19: Regulation of Numbers of Spectators

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Responses</th>
<th>Total</th>
<th>Chi-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Effective</td>
<td>Partially Effective</td>
<td>Ineffective</td>
</tr>
<tr>
<td>Security/Safety Service Personnel</td>
<td>60 (19.2%)</td>
<td>121 (38.8%)</td>
<td>131 (42.0%)</td>
</tr>
<tr>
<td>Fans</td>
<td>107 (27.6%)</td>
<td>161 (41.5%)</td>
<td>120 (30.9%)</td>
</tr>
<tr>
<td>Total</td>
<td>167 (23.9%)</td>
<td>282 (40.3%)</td>
<td>251 (35.9%)</td>
</tr>
</tbody>
</table>

Those who indicated the strategy of regulation of numbers of spectators as effective were 60 (19.2%) of the security service personnel and 107 (23.9%) of the fans, those who perceived it as partially effective were 121 (38.8%) of the security/safety service
personnel and 161 (41.5%) of the fans; ineffective were 131 (42.%) of the security/safety personnel and 120 (30.9%) of the fans. The chi-square test on this strategy yielded a p-value of $p = 0.004$, $\chi^2 = 11.27$ and $df = 2$. This indicates a significant association in the opinions of the two groups.

4.8 Post-Event Management Strategies

The fourth objective of the research was to determine the effectiveness of the stadium and security personnel in dispersing and evacuating crowds in the event of emergencies during football events in the two government-owned sports stadia, in Nairobi County. The three selected measures included: Communicating about the emergencies, opening of exit gates and coordination of dispersal process to exit outlets.

4.8.1 Communication in the Event of Emergencies

According to the largest number of the respondents, communication in the event of emergencies was partially effective at 265 (37.9%), followed by effective at 247(35.3%) and ineffective at 188 (26.9%) as indicated in the figure 4.14 below.

![Figure 4.14: Communication in the Event of Emergencies](image-url)
The responses of the security/safety service personnel and fans on communication in the event of an emergencies as a post event strategy on crowd management are indicated in the table 4.20 below.

**Table 4.20: Communication in Event of Emergencies.**

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Responses</th>
<th>Total</th>
<th>Chi-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Effective</td>
<td>Partially Effective</td>
<td>Ineffective</td>
</tr>
<tr>
<td>Security/Safety Service Personnel</td>
<td>83 (26.6%)</td>
<td>115 (36.9%)</td>
<td>114 (36.5%)</td>
</tr>
<tr>
<td>Fans</td>
<td>164 (42.3%)</td>
<td>150 (38.7%)</td>
<td>74 (19.1%)</td>
</tr>
<tr>
<td>Total</td>
<td>247 (35.3%)</td>
<td>265 (37.9%)</td>
<td>188 (26.9%)</td>
</tr>
</tbody>
</table>

According to 83 (26.6%) of the security/safety service personnel communication in the event of emergencies was effective, 115 (36.9%) of the same group indicated it as partially effective and 114 (36.5%) indicated it as ineffective. On the other hand, 164 (42.3%) of the fans viewed it as effective, 150 (38.9%) of them indicated it as partially effective and 74 (19.1%) viewed it as ineffective. The chi-square test on the opinions of the two groups showed a p-value of $p < 0.001$, $\chi^2 = 31.82$ and df = 2 implying a significant association in the opinions of the two groups.

### 4.8.2 Opening of Exit Gates

Opening of exit gates was indicated as being partially effective by a higher fraction of the respondents (323, 46.1%), while 216 (30.9%) indicated it as effective and 161 (23.0%) viewed it as ineffective. The different opinions of the respondents are indicated in figure 4.15 below.
Tables 4.21 shows the findings on the responses of the security/safety service personnel and the fans on opening of exit gates as a post-event strategy on crowd management during football events in the two sports stadia in Nairobi County.

Table 4.21: Opening of Exit Gates

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Responses</th>
<th>Total</th>
<th>Chi-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Effective</td>
<td>Partially Effective</td>
<td>Ineffective</td>
</tr>
<tr>
<td>Security/Safety Service Personnel</td>
<td>71 (22.8%)</td>
<td>140 (44.9%)</td>
<td>101 (32.4%)</td>
</tr>
<tr>
<td>Fans</td>
<td>145 (37.4%)</td>
<td>183 (47.2%)</td>
<td>60 (15.5%)</td>
</tr>
<tr>
<td>Total</td>
<td>216 (30.9%)</td>
<td>323 (46.1%)</td>
<td>161 (23.0%)</td>
</tr>
</tbody>
</table>

The security/safety service personnel indicated the following: 71 (22.8%) viewed the opening of exit gates as a post-event management strategy as being effective, 140 (44.9%) indicated partially effective while 101 (32.4%) viewed it as ineffective. On the other hand, 145 (37.4%) football fans indicated it as effective, 183 (47.2%)
partially effective and 60 (15.5%) as ineffective. The chi-square test led to a p-value of $p < 0.001$, $\chi^2 = 33.66$ and df = 2, reflecting a significant association in the opinions of the two groups.

### 4.8.3 Coordination of Dispersal Process

Coordination of dispersal process to exit outlets was indicated by a larger proportion of the respondents (306, 43.7%) as being partially effective. This was followed by those who indicated it as ineffective (222, 31.7%) with 172 (24.6%) indicating it as effective. Figure 4.16 reflects the findings.

![Figure 4.16: Coordination of Dispersal Process](image)

The responses of the security/safety service personnel and football fans on coordination of dispersal process as a post-event strategy are shown in tables 4.22 below.

### Table 4.22: Coordination of Dispersal Process

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Responses</th>
<th>Total</th>
<th>Chi-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Effective</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Partially Effective</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ineffective</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Those who indicated the strategy as effective from the security/safety service personnel were 69 (22.1%) , partially effective were 104 (33.3%), and ineffective 139 (44.6%). The fans opinions reflected the following; effective 103 (26.5%), partially effective 202 (52.1%) and ineffective 83 (21.4%). Chi-square test on the opinions of the two groups yielded a p-value of p < 0.001, $\chi^2 = 44.51$ and df = 2 reflecting a significant association in the perceptions of the two groups.

<table>
<thead>
<tr>
<th>Security/Safety Service Personnel</th>
<th>69 (22.1%)</th>
<th>104 (33.3%)</th>
<th>139 (44.6%)</th>
<th>312 (100%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fans</td>
<td>103 (26.5%)</td>
<td>202 (52.1%)</td>
<td>83 (21.4%)</td>
<td>388 (100%)</td>
</tr>
</tbody>
</table>
| Total                            | 172 (24.6%)| 306 (43.7%) | 222 (31.7%) | 700 (100%) | $\chi^2 = 44.51$  
p < 0.001  
df = 2
CHAPTER FIVE: DISCUSSION

5.1 Stadia Safety Features

Stadia safety features included CCTV surveillance cameras, emergency exits, lighting system, access roads, and posted warning/instructional signs. The researcher carried out an observation on the stadia safety features to ascertain their availability, strategic positioning and functionality in the two Sports Stadia in Nairobi County. Moi International Sports Centre had over two hundred (200) CCTV surveillance cameras installed during the initial construction of the stadium. Though the cameras were strategically positioned, they are not in use since they are currently obsolete. On the other hand, there were no cameras at all at Nyayo National Stadium. According to the management of the two sports stadia, CCTV surveillance cameras were temporarily installed on demand and at the cost of the client during football matches. Emergency exits were observed to be adequate, strategically positioned and functional in both stadia. Most of the emergency exits were within the main construction of the stadia which helps in dispersal of the fans when need arises. Emergency exits at Moi International Sports Centre were found to be modern and fixed with neon lights in case of darkness.

Access roads in the two Sports Stadia were adequate and strategically positioned to serve the needs of each stadium in terms of allowing free movement. It was observed that posted warnings/instructional signs in the two sports stadia were not conspicuous to the patrons. The few warnings/instructional signs that were found in the two stadia included fire assembly points, washrooms, way out, exits and administration block.
According to the managers of different units in the two sports stadia, other signages are fixed on demand as dictated by the status of the function, and may include warm-up area, entertainment, changing rooms, first aid area, competition area, media centre and VIP area. The researcher was informed that during critical security situations, a tunnel that runs all round Moi International Sports Centre main stadium is used to conceal security officers for the purpose of enhancing enforcement of order. At times, pop-up irrigation system meant for watering the football pitch is switched on to disperse rowdy fans that may invade the play field.

5.1.1 CCTV Surveillance Cameras

The perception of a larger number of the respondents on adequacy of CCTV surveillance cameras was that they were adequate. This could have been as a result of lack of knowledge on CCTV surveillance cameras. The results of the chi-square test ($p < 0.001$) on the adequacy of the CCTV cameras as indicated by security/safety service personnel and the fans reflected a significant positive relationship between the responses of the two groups, implying that the two groups agreed that provision of CCTV surveillance cameras was generally adequate. This finding could have been influenced by the fact that security/safety service personnel included members from sports stadia management who might have reported positively about adequacy of CCTV surveillance cameras in the two stadia, while perception of fans and security personnel could be based on ignorance, because even what they saw was obsolete and hence of no use in the sports stadia.
CCTV surveillance cameras are important safety features which contribute effectively to crowd management and reduce numbers of security personnel that may be required to provide the same service. The study by Lowry (2002) on CCTV surveillance cameras which states that adequate CCTV surveillance cameras reduce the number of personnel needed to monitor large crowds and leads to successful prosecution of offenders in any event. Use of CCTV surveillance cameras by police in and around grounds of the event contributes positively to limiting problems in the area of control (Lowrey, 2002). CCTV surveillance camera usage can help clarify whether a security alert is real and is often vital in post - incidents investigations, but only if the images are good enough to identify what happened (National Counter Terrorism Security Office, 2012).

According to FIFA Safety and Security Regulations (2008), all stadiums should be fitted with adequate and effective CCTV surveillance cameras, positioned to cover all entry and exit points, approaches to the stadium, spectator accommodation inside the stadium, stairways, and players’ entrance onto the field of play, among others. Following this recommendation, it can be concluded that the CCTV surveillance cameras fitted at the two government-owned sports stadia are not adequate.

5.1.2 Emergency Exits

A high number of respondents indicated emergency exits as partially adequate. The chi-square test (p < 0.001) on the opinions of the security/safety service personnel and the fans implies a positive association between the two groups that emergency exits were partially adequate. The researcher observed and found emergency exits to be
adequate for the two sports stadia with Moi International Sports Centre Kasarani having 72 and Nyayo National Stadium with 12. The perceptions of the respondents on emergency exits as being partially adequate could have been influenced by the fact that during football matches, only a few of the emergency exits are opened to the public. The respondents could also have failed to recognise that there were emergency exits within the structures of the two sports stadia.

According to Rutherford (2010), adequate exits are those that allow spectators to leave an area of viewing of accommodation in sports ground and enter into a free flowing exit system within a maximum time of eight (8) minutes. The author recommends that if the exits are not adequate to allow spectators exit within eight minutes, the final capacity be reduced. According to the Department for Culture, Media and Sports (2008), if a viewing area is divided by structural means, each division must have sufficient gates or openings to evacuate all spectators in that division within the emergency evacuation time. Such gates or openings should have a minimum width of 1.1m (1.2m recommended for new constructions).

FIFA Safety and Security Regulations (2008), recommend that emergency exit gates should have one door, wide enough, remaining staffed and unlocked at all times. The emergency exits gates should be of a different colour from the surroundings and easily identifiable by numbers or letters on both sides. If the stadium contains a running track, at least one side must be kept clear to allow the passage of vehicles.

The two sports stadia fall short of these recommendations because most of the emergency exits remain closed during football matches and are not manned at all.
Different colours and correct measurements of the width and the height are also not adhered to.

5.1.3 Lighting System

According to the largest proportion of respondents lighting system in the two sports stadia was partially adequate. However the chi-square test yielded a p-value of $p = 0.222$, implying that there was no significant association in the opinions of the security/safety personnel and fans. A higher proportion of the security/safety service personnel indicated lighting system as partially adequate. On the other hand an equal proportion of fans indicated the lighting system as either partially adequate or adequate. This perception could have been influenced by the fact that most of the football matches are played under daylight, making it difficult for the fans to see the reality of application of lighting system tapped from electricity, while the safety/security service personnel, which includes the management team of the two sports stadia may have been quoting from what they know.

According to FIFA Safety and Security Regulations (2008), safety and emergency lighting should provide sufficient levels of illumination to allow people to see hazards, obstacles and ensure effective CCTV surveillance cameras operations. The Department for Culture, Media and Sports (2008) states that lighting in all parts of a sports ground accessible to spectators should allow them to enter, leave and move about the ground in safety, especially in relation to entry and exit routes. When the daylight in any section of a ground accessible to the public is insufficient, or if the ground is to be used in non-daylight hours, adequate artificial lighting should be
provided. Lighting provides an obvious means of deterrence as well as detection. If it is carefully used, lighting will help security staff and improve capacities of CCTV systems (Counter Terrorism Security Advice, 2012).

5.1.4 Access Roads

The perceptions of the largest number of respondents on access roads indicated that they were partially adequate. Chi-square test on responses on access roads by security/safety service personnel and the fans was $p = 0.250$, indicating a wide gap in the perceptions of the two groups. The researcher had observed that MISC had a total of twelve (12) access roads while NNS had a total of nine (9) access roads. Considering that fans do not arrive at the same time, these numbers of access roads were found to be adequate. Though the majority of the two groups were on partially adequate a higher proportion of safety/security service personnel indicated inadequate in comparison to the proportion of fans that indicated the same. The difference could have been influenced by the fact that the management team of the two sports stadia who were part of the safety/security service personnel group, have no knowledge on the recommended number of access roads, while the fans perception may have been based on assumption.

According to National Counter Terrorism Security Office (2012), access points should be kept to a minimum, with an efficient reception area and should deny access from the sides and rear entrances to all except authorised people. This is in agreement with the findings on access roads at the two sports stadia. FIFA (2008) states that entry and exit points in a stadium itself and the concourse surrounding the stadium
should be designed in such a way as to facilitate the flow of persons and vehicles in and around the stadium. All access gates must be able to be opened or closed quickly without causing any danger. The gates should be designed to withstand pressure from large crowds of people. When open, the gates must be firmly secured, and must be equipped with fireproof locks (FIFA, 2008). According to the Department for Culture, Media and Sports (2008), sliding or roller-shutter gates should not be used because they are incapable of being opened when pressure is exerted in the direction of crowd flow, and they have mechanisms or runways which are vulnerable to jamming. Each gate should be clearly marked on both the inside and the outside with its identifying number.

5.1.5 Posted Warning/Instructional Signs

A larger proportion of the respondents indicated that posted warnings/instructional signs were partially adequate. Chi-square test yielded a p-value of \( p = 0.002 \) implying a significant agreement in perceptions of the security/safety service personnel and the fans on adequacy of posted warning/instructional signs. Posted warning/instructional signs were observed to be inadequate by the researcher in the two sports stadia. The perception of the football fans may have been influenced by the temporary warning/instructional signs placed to match the demand of an event. On the other hand, the perception of the safety/security service personnel could have been influenced by the stadia management team who may have quoted from the fact that they knew that signs were added depending on the demand of the event.
Department for Culture, Media and Sports (2008), states that signs should be sufficiently large, clear, legible and suitably positioned. In conditions of poor natural light, it may be necessary to provide either artificial illumination and/or to make the signs using reflective material. The Guide warns that safety signs are not a substitute to other means of controlling risks. They are to warn of any risk that may remain after all engineering controls and safe systems have been put in place (Department for Culture, Media and Sports, 2008). Where possible signs should be pictorial in design to assist those who cannot read or understand the language in which the sign is written (FIFA Safety and Security Regulations, 2008). Department for Culture, Media and Sports (2008), recommends that simplified ground plans be displayed at suitable locations, such as ticket offices, main entrances, where appropriate, in places where they might benefit supporters of visiting teams. Other posted warning/instructional signs should include grounds regulations, including information on prohibited items, directional signs and seat and row indicator (Department for Culture, Media and Sports, 2008). The two sports stadia fell short of this recommendation.

5.2 Pre-Event Strategies for Crowd Management

The pre-event strategies in the study included facility maintenance, advance sale of tickets, safety awareness campaigns, separation/demarcation of sitting arrangements, securing adequate security personnel, provision of first aid and emergency arrangements, advertising of penalties for violent behaviour, establishing police command posts and posting of information signs on safety
5.2.1 Facility Maintenance

The largest proportion of the respondents viewed facility maintenance as effective. The chi-square test carried out on the responses of the security/safety service personnel and the fans yielded a p-value of \( p < 0.001 \). This implies a significant positive relationship in the opinions of the two groups that the two sports stadia were effectively maintained. While the perception of the safety/security service personnel may have been influenced by the fact that they were in charge of maintenance and could not therefore admit inefficiency, the football fans could have judged from the periphery and not realising that what they saw may not have been the routine program.

According to Department for Culture, Media and Sports (2008), facility maintenance comprises of several components which include a routine preventive maintenance programme carried out by competent staff. Clean and tidy seated areas are not only safer, but they also assist in promoting good behaviour and a more favourable attitude among spectators towards the facilities provided, hence each seat should be clean before spectators are admitted (Department for Culture, Media and Sports, 2008).

Department for Culture, Media and Sports (2008), states that it is important to adopt a system of planned maintenance, which should be carried out in accordance with the written instructions provided by the designer or the manufacturer. Management should have a planned preventive maintenance schedule which should always be implemented. Good housekeeping is a fundamental part of fostering and maintaining
a safety culture at the sports grounds (Guide to Safety, 2008). It was evident that the two sports stadia did not have any planned maintenance system.

5.2.2 Advance Sale of Tickets

The perception of the largest number of the respondents on advance sale of tickets was that it was partially effective. The chi-square test on responses to advance sale of tickets yielded a p-value of $p < 0.001$, implying a significant positive relationship in the perceptions of the two groups. This perception by the two groups could have been as a result of practical experience that all stakeholders witness during high profile football matches where by acquiring a ticket at the gates is usually a nightmare to many. Advance sale of tickets for football matches is partially applied by both the organisers and the management of the two sports stadia in Nairobi County as a crowd management strategy during football matches.

According to Abbott and Geddie (2001), crowd management is concerned with effectively organizing the movement of crowds. Advance sale of tickets helps to control access to the stadium for those who have valid tickets. Tickets for seats with severely restricted views should not be sold. The entry card from the ticket should clearly identify the location of accommodation for which it has been issued. Colour coding of tickets corresponding to different sections of the ground should be considered. Tickets should be issued only for usable seats with information on the ticket corresponding exactly with the correct number and row (Department for Culture, Media and Sports, 2008). Hanna (1994) recommends staggering of times
printed on the tickets to spread patrons’ arrival over a wider time frame. This reduces congestion in the interior area in the search for the correct seat.

5.2.3 Safety Awareness Campaigns

A larger number of the respondents were of the opinion that safety awareness campaigns were partially effective as a strategy of crowd management during football matches in the two sports stadia. The chi-square test on the data relating to responses on safety/awareness campaigns between stadia security/safety service personnel and the fans yielded a p-value of p < 0.001 indicating a significant agreement between the two groups. In other words, the two groups strongly agreed on the perception on safety awareness campaigns as being partially effective. They agreed that there is need to improve on safety awareness campaigns in the two sports stadia.

According to FIFA Safety and Security Regulations (2008), safety campaigns can be done through advance sale of tickets, websites or pre-event advertising. Such campaigns should advise spectators that searches will be carried out hence they should arrive early. They should be encouraged not to bring bags, and also display a list of banned items and the consequences. According to Hanna (1994), advertising of advance sale of tickets should also display messages on what is expected of the spectator. For instance, prohibited items such as liquor, drugs, and weapons; fireworks will not be permitted into the event; purchase of the tickets is deemed as consent to a search of person and property prior to admission. This recommendation does not seem to be practiced by the organisers of football matches in the two sports stadia.
5.2.4 Separation/Demarcation of Sitting Arrangements

The responses indicated that a larger proportion of the respondents were of the opinion that separation /demarcation of sitting arrangements was partially effective. The chi-square test carried out on data relating to responses by stadia safety/security service personnel and the fans yielded a p-value of $p = 0.009$ implying a significant association between the two groups in their perception on this strategy as being partially effective. The fans’ perception on this strategy could have been influenced by the fact that known rival fans who attend football matches in the two sports stadia have unofficially demarcated the sitting terraces by themselves and not by the management of the two sports stadia. Fans secretly know that crossing to the rival side would be risking their lives.

Requirement for separation/demarcation of sitting arrangements is supported by a study carried out by Hanna (1994), stating that most serious crowd-related injuries tend to occur in events involving young people, where admission without reserved or designated seating occurs. Reserved seating should be strongly considered as the only seating allowed for those events that attract excitable and competitive crowds. Whichever form of dividing or separation of structure is used, the structure should not restrict the views of spectators. Advance sale of tickets helps to segment the crowd initially, reducing the numbers at any one entry or exit point (Hanna, 1994). FIFA (2008) recommend that for high risk matches, opposing fans should be strictly separated by allocating sectors other than those indicated on the match tickets (enforced segregation), or by creating and reserving empty stadium sectors between ‘dangerous’ spectator sectors. Depending on the physical layout of the event, advance
tickets, as opposed to those purchased at the gate can be printed with specific entrances to be used for specific seating areas (FIFA, 2008).

Though responses by the two groups indicated that this strategy is partially effective, this may have been out of ignorance of the details that comprise this strategy. The management of the two sports stadia does not seem to have taken a deliberate action to fulfil the requirements on separation/demarcation of sitting arrangements.

5.2.5 Securing Adequate Security Personnel

The largest proportion of the respondents were of the opinion that securing of adequate security personnel was partially effective. The chi-square yielded p-value of $p = 0.037$ indicating a significant relationship in the opinions of the two groups on the strategy of securing adequate security personnel during football matches. The perception on partially effective by the football fans was bordering more on effective and could have been influenced by the fact that they may not be comfortable with the presence of policemen; so the fewer they are the better. On the other hand management of the two sports stadia bordered more on the ineffective implying a desire to see adequate numbers of security personnel being engaged to take charge of the football events in the two sports stadia.

The study by Weiss and Davis (2005) supports the idea of engaging adequate security/safety service personnel as a strategy of crowd management during football matches. Weiss and Davis (2005) state that while an overabundance of uninformed
officers may not be necessary, some level of visibility can provide a different effect. Positioning of more uninformed officers at entrances (as a show of force) and decreasing their presence as people move into the event are seen to prevent violence at venues (Weiss & Davis, 2005).

According to Abbott & Geddie (2001), effective strategic positioning of security officers is an important factor in identifying, thwarting, or dissipating a dispute. Security personnel should be experienced in handling disputes, protecting from theft, implementing emergency services and providing an overall safe and secure environment for the guests (Abbott & Geddie, 2001). This could imply that though the number of security personnel engaged during football matches in the two sports stadia could be adequate, strategic positioning together with proper experience in handling key areas as indicated by Abbott & Geddie (2001) could be lacking.

5.2.6 Provision of First Aid

Provision of first aid and emergency arrangements was indicated by a larger number of the respondents as being partially effective. The chi-square test yielded a p-value of $p < 0.001$, implying a significant association in the opinions of the security/safety service personnel and that of the football fans. The partially effective perception by the two groups could have been influenced by the fact that they actually witness emergency cases that occur during football matches but due to large number of spectators that turn out for football matches, most of the football fans and the security service personnel may not have direct experience on how the emergencies are handled.
Abbott & Geddie (2001) recommend that emergency medical services and first aid response personnel should be strategically located throughout the event venue as a pre-crisis strategy, as well as establishing a centralized first-aid station. Department for Culture, Media and Sports (2008) recommends that any event should have a minimum of two first aiders, while at all seated grounds the ratio should be one first aider per 1,000 up to 10,000 spectators. For a crowd of 15,000 people, the minimum size of the first aid room should be 15 square metres and 25 square metres for a crowd above 15,000 people. Where a crowd exceeds 2,000 people, one qualified and experienced doctor should be present. At every event there should be provision of at least one fully equipped ambulance for anticipated attendance of 5,000 to 25,000. A crowd of 45,000 should have a provision of at least two fully equipped ambulances. The ambulance should be at the sports ground prior to spectators being admitted (Department for Culture, Media and Sports, 2008).

For the two sports stadia it would mean that, NNS would only require at most three (3) first aiders and one equipped ambulance since its capacity is estimated at 30,000 spectators. On the other hand MISC would only require six (6) first aiders and two (2) equipped ambulances. It is likely therefore for most of the fans and the security service personnel to miss out on the presence of the first aiders and even equipped ambulances in the midst of such a multitude.

5.2.7 Advertising of Penalties

The largest proportion of the respondents perceived this strategy as being ineffective. The chi-square test showed a p-value of $p = 0.012$ indicating a significant relationship
in the perceptions of the security/safety service personnel and those of the football fans. This implies that advertising of penalties was not practiced by the management of the two sports stadia as a strategy for crowd management during football matches.

According to Young (2002), media coverage and other campaigns aimed at educating both spectators and players about sanctions associated with aggressive behaviour may deter such behaviour. Fans have been sentenced to jail and forced to pay fines for pouring beer on players. Players have been sanctioned for rough contact or over exuberant celebrations after scoring, either through fines or game penalties. Awareness of consequences may reduce incidents or the seriousness of incidents when they do occur (Bralley, 2007).

Advertisement of penalties for violent behaviour before football matches does not seem to be practiced by the management of the two sports stadia, hence the continued destruction of property by football fans.

5.2.8 Establishing of Police Command Posts

The largest number of the respondents perceived the strategy of establishing a police command post as partially effective. The p-value of the chi-square test was $p = 0.249$, implying that there was no significant relationship in the opinions of the football fans and those of the security/safety service personnel on this strategy. This may imply that though security personnel participate in crowd management during football matches
in the two sports stadia, they usually have no command post where coordination of security is carried out from.

According to Cox (1998), a command post should be designed to relay information between various groups such as the police officers, medical staff, stadium personnel and event organizers. A control/command centre is most effective if it is centrally located and a representative from each group is present (Cox, 1998). An experienced crowd observer placed in a centralized location can monitor camera images or directly view the crowd and spot potential threats before they become actual problems (Abbott and Geddie, 2001).

Lack of a police command post in the two sports stadia can be blamed on poor coordination of emergencies that occur during football events. Centralised police command post with representatives from key departments involved in crowd management during football matches would lead to fewer occurrences if any, as well as properly managed crowds.

5.2.9 Posting Information Signs on Safety

This strategy of posting information signs on safety was seen by the largest number of the respondents as being partially effective. The chi-square test posted a p-value of \( p < 0.001 \), implying a significant association in the perceptions of the security/ safety personnel and that of the football fans on the strategy. This may imply that posting of
information signs on safety is not adequately applied for all patrons to see, in the two sports stadia during football events.

According to Abbott & Geddie (2001), properly placed and visible signs can serve to inform, for example, "exit only", warn, for example, "sidewalk becomes slippery in bad weather", inform for enforcement, “no alcohol beyond this point”, or guide, for example, “restrooms behind snack bars.” When used properly, signs can reduce frustration or confusion. Signs should be easily readable and high enough that they can be seen over a crowd (Abbott & Geddie, 2001). The researcher was informed that signs are placed depending on the demand of the event in the two sports stadia. Such an arrangement gives room to assumptions that may lead to lack of implementation.

5.3 Crowd Management during Football Matches

Strategies of crowd management during football matches include contraband screening of football fans, strategic deployment of security personnel, assembling and queuing of football fans, removal of disruptive football fans and regulation of numbers of spectators.

5.3.1 Contraband Screening of Fans

The perception by a larger number of the respondents on this strategy was that it was partially effective. The chi-square test yielded p-value of p < 0.001 implying a significant relationship in the views of the security/safety service personnel and those of the football fans on contraband screening as a strategy of crowd management
during football matches. Football fans focus on one thing during football matches, to get into the venue. Any delay caused by contraband screening may be viewed as being partially effective. On the other hand safety/security service personnel may be would like to see an improvement on contraband screening since they understand its importance.

According to National Counter Terrorism Security Office (2012), random screening of hand luggage is a significant deterrent, and one has the right to refuse entry to anyone who does not allow search on their possessions. However, body searches may be carried out only with the agreement of the person being searched, though refusal to allow body search could be regarded as good grounds to refuse admission to the stadium (National Counter Terrorism Security Office, 2012). According to FIFA (2008), all entry points must be equipped with facilities for searching persons and examining objects. Turnstiles and checkpoint facilities may be incorporated within the perimeter wall enclosing the stadium, and must be able to withstand extreme pressure and be fireproof. The two sports stadia lack the facilities and the capacity to searching patrons.

5.3.2 Strategic Deployment of Security Personnel

The highest proportion of the respondents viewed this strategy as partially effective. The p-value from the chi-square test indicated $p < 0.001$, implying a significant association in the perceptions of the security/safety service personnel and those of the football fans on the strategy of strategic deployment of security personnel. Though there is a positive association in the perceptions of the two groups, their reasons could
be quite different. For instance, as football fans get into the venue, they may spot security officers and imagine they are strategically deployed. On the other hand, security /safety service personnel, being technical in the area may be expecting professionalism where size of the venue should be considered and security deployed accordingly, putting into consideration the expected turn-out of the fans.

According to Abbott & Geddie (2001), an experienced crowd observer placed in a centralised location can monitor camera images or directly view the crowd and spot potential threats before they become actual problems. Department for Culture, Media and Sports (2008) recommends that all operational safety-related posts should be held by appropriately trained and competent security personnel. The security officers should not be given any additional duties on an event day which might reduce their effectiveness in their principal roles. It is essential that security officers should be easily identified and be contacted immediately during event days (Department for Culture, Media and Sports, 2008).

These recommendations cannot be said to take place in the two sports stadia. For instance, the researcher found that the CCTV cameras are obsolete, hence cannot be used to monitor images. On the other hand operational safety-related posts can be in the hands of a senior security personnel but gives commands from a different venue altogether.
5.3.3 Assembling and Queuing of Fans

The highest number of the respondents perceived the strategy of assembling and queuing of football fans as partially effective. The chi-square test indicated a p-value of $p = 0.001$, implying a significant agreement in the perceptions of the two groups on the strategy of assembling and queuing of fans. This perception could be influenced by different factors for the two groups. On one hand, football fans are the one who are subjected to assembling and queuing which to them causes a delay in entering into the stadium. On the other hand safety/security service personnel would wish to see the strategy improved since this would make their work easier.

McPhail (1991) states that an effective process of assembling a crowd should be as a result of prior planning and organizing, which largely determine who participates in a gathering. Organized mobilisation relies heavily on established networks, purposive campaigns, as well as media (McPhail, 1991). Fruin (1984) recommends that whenever large crowds gather for purpose of entering an area peacefully, it is vital that the processing of those people be organized, orderly and disciplined; if ticket taking is going to take place, it should be coordinated with the queuing of the patrons. Tickets that require patrons to use different entrances are an element that reduces crowding by spreading patrons over a larger and more separated area (Fruin, 1984).

Lack of sale of advance tickets by management of football matches in the two sports stadia in most cases leads to crowding. Deliberate planning on admission of patrons does not seem to take place in the two sports stadia as evidenced by large crowds that pile up during football matches.
5.3.4 Removal of Disruptive Fans

The highest number of the respondents indicated this strategy as partially effective. The chi-square test on the perceptions of the security/safety service personnel and the fans was \( p < 0.001 \), indicating a significant positive relationship in the perceptions of the two groups. The reason for this perception could be that majority of the fans are genuine lovers of football and therefore may not entertain the idea of those who come to disrupt the match. Similarly safety/security service personnel would wish to see the strategy being applied more strictly to deter a repeat of the same in future.

Young (2002) supports removal of fans as a strategy of managing crowds during football matches. He states that though fans may have a right to cheer and shout, incessant heckling should be prohibited. Removing and isolating aggressive spectators can prevent relatively minor incidents from escalating into more-serious forms of violence. Known and potential trouble makers should be refused entry to the stadium (Young, 2002). This does not seem to take place in the two sports stadia during football matches. Instead known hecklers are allowed in the venue and they heckle to the end of the match. They are considered as real supporters of the football teams playing.

5.3.5 Regulation of Numbers of Spectators

The largest proportion of the respondents indicated regulation of numbers of the fans as partially effective. The chi-square test posted a p-value of \( p = 0.004 \), implying a significant association in the perceptions of the football fans and the security/safety service personnel on this strategy. In normal circumstances, all fans would like to get
into the football venues despite limited capacity, hence considering it as being partially effective. On the other hand security/safety service personnel are aware of the consequences of overcrowding and would therefore like to see an improvement on regulation of numbers of football fans entering football venues.

In support of regulation of numbers of spectators, Fruin (1984), states that when average densities in a crowd reach the approximate area of human body, (about one and one-half square feet per person), individual control of movement becomes impossible, and phenomena such as shock waves will be propagated through the crowd mass and cause the sudden uncontrolled surges that unleash the crowd’s destructive force. Abbott & Geddie (2001), recommend that attendance should be regularly checked to ensure that maximum capacity is not exceeded, and that aisles or barricades may be used to prevent accumulation of excessive crowds. Maximum capacity delineation should be respected and managers must not hesitate to turn away individuals if full capacity has been reached (Abbott & Geddie, 2001).

According to Abbott & Geddie (2001), at times, gates may need to be opened earlier or closed later than originally planned to reduce the possibility of overcrowding. The advantage of confining entry to tickets is that the rate of admission is higher. If all tickets are sold in advance, it is necessary to publicise the information in the local press and media. In additional, signs advising the public of the situation should be placed along all approaches to the ground in order to avoid an unnecessary build-up of crowds outside the grounds and its entrances (Department for Culture, Media and Sports, 2008). Department for Culture, Media and Sports (2008), recommends the
maximum number of standing capacity to be at 47 persons per 10 square metres, while that of seated capacity should be according to the number of useable seats. In no circumstance should a larger number of spectators be admitted without remedial works.

5.4 Post-Event Strategies

Post-event strategies used during football matches include communication in the event of emergencies, opening of exit gates and coordination of dispersal process.

5.4.1 Communication in the Event of Emergencies

The highest proportion of the respondents indicated the strategy of communication in the event of emergencies as partially effective. The chi-square test showed a p-value of $p < 0.001$ reflecting a significant association in the perceptions of the security/safety service personnel and the football fans. The security/safety service personnel are directly involved in handling emergencies and may be expressing what they experience at such times, implying that communication to relevant stakeholders in the event of an emergency is not effectively carried out. In most cases football fans are the victims of emergencies and may be they do not witness any communication giving them instructions on what to do.

According to Fruin (1984), communication strategies should not only involve all types of media, but also the development of a well-planned communication network involving the manager, staff, patrons, local police and emergency services.
Immediate communication with patrons is a good way of quickly defusing a potentially dangerous crowd situation, but the form and wording of the message must be chosen carefully. A misunderstood message, or one that produces a sense of urgency or threat to personal safety, can worsen the situation (Fruin, 1984).

Abbott & Geddie (2001), state that communication in the event of an emergency should be made by an experienced announcer whose voice or demeanour does not evoke further crowd panic. According to Fruin (1984), the perceptions of people in a crowd determine whether crowd crush will be just an unpleasant experience, or end in disaster. People in a crowd do not have a broad view of what is happening around them, and unless authoritative information is received from a reliable source, will act on the speculations of others nearby. If there is a perception of danger, the human flight response can cause the sudden type of movement that unleashes the massed energy of the crowd (Fruin, 1984). The disaster that has been witnessed in the two sports stadia in Nairobi County reveals that most of the recommendations on communication in the event of an emergency are not practiced.

### 5.4.2 Opening of Exit Gates

A higher number of respondents indicated this strategy as partially effective. The perceptions of the security/safety service personnel and those of the fans were tested using chi-square which posted a p-value of $p < 0.001$, implying a significant agreement in the perceptions of the two groups that the strategy was partially effective. This may imply that the two groups would like to see a more efficient exit process in the two sports stadia than they may have witnessed.
Hanna (1994), states that one of the major causes of fatal incidents at large public performances has been locked fire exit doors, often done to prevent youthful patrons, once inside, from opening the doors to provide free access to friends. Alarms that are activated by the opening exit doors can provide a significant safer alternative and deterrent, particularly if the doors are so signed. Doors that appear to lead to exits but do not should be so marked, to prevent panic and entrapment in a dead end, in an emergency.

Abbott & Geddie (2001), recommend that additional entrances may need to be created if overcrowding is an issue, and a method for guests to exit the facility must be available throughout the event. All entrance/exit doors should be opened one way because revolving two-way doors breed overcrowding and congestion (Abbott & Geddie, 2001). The two sports stadia have witnessed disaster as a result of locked exits doors, to stop youthful fans from allowing access to their friends as rightly stated by Hanna (1994), leading to disaster during football matches.

5.4.3 Coordination of Dispersal Process

The largest proportion of the respondents indicated coordination of dispersal as partially effective. The chi-square test on the perceptions of the security/safety service personnel and those of the football fans yielded a p-value of $p < 0.001$, implying a significant agreement in the perceptions of the two groups. The reason for this perception by both football fans and the safety/security service personnel could be influenced by what they witness after a football match. It is likely that nobody coordinates dispersal and patrons walk out any howly.
Abbott & Geddie (2001) recommend that evacuation plan must be orderly and practiced routinely before a crisis occurs. They further note that, in the event of an emergency, personnel should remain calm throughout the crisis and the event should not resume once it has been cancelled as reverse traffic flow could cause further problems. As earlier discussed adequate numbers of security personnel are not engaged during football matches in the two sports stadia in Nairobi County. This in most cases would make coordination of dispersal in case of emergencies a challenge to few security personnel on duty.
CHAPTER SIX: SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Summary of the findings

Summary of the findings were categorised on the four strategies of crowd management during football events as follows:

6.1.1 Stadium Safety Features

i. The highest number of the respondents indicated that the CCTV surveillance cameras were adequate. The p-value of the Chi-square indicated a significant association in the perceptions of the security/safety service personnel and the football fans on the adequacy of CCTV surveillance cameras.

ii. A higher proportion of the respondents indicated emergency exits as partially adequate. There was a significant association in the perceptions of the security/safety service personnel and the football fans as indicated by the p-value of the Chi-square.

iii. A higher number of the respondents indicated that lighting system in the two sports stadia was partially adequate. However the chi-square results indicate that there was no significant agreement in the opinions of the two groups on the lighting system.

iv. The largest number of the respondents were of the opinion that access roads in the two sports stadia were partially adequate. There was no significant association in the opinions of the security/safety service personnel and the football fans on the adequacy of the access roads as revealed by the results of the chi-square test.
v. Posted warnings/instructional signs were indicated by a higher proportion of the respondents as partially adequate. The p-value indicated a significant association in the opinions of the security/safety service personnel and the fans on posted warning/instructional signs.

### 6.1.2 Pre-Event Strategies

i. A higher proportion of the respondents indicated facility maintenance of the two sports stadia as effective. There was a significant positive association in the opinions of the security/safety service personnel and that of the football fans on the effectiveness of facility maintenance in the two sports stadia.

ii. Advance sale of tickets was perceived to be partially effective by a larger number of the respondents. The p-value indicated a significant association in the perceptions of the security/safety service personnel and the fans on the effectiveness of advance sale of tickets in preparation for football matches in the two sports stadia.

iii. The largest number of the respondents indicated safety campaigns as partially effective. The chi-square p-value indicated a significant positive association in the perceptions of the security/safety service personnel and the football fans on the effectiveness of safety campaigns by the management of the two sports stadia.

iv. Demarcation/separation of sitting arrangements for known rival football fans was perceived to be partially effective by a larger number of the respondents. There was a significant positive association in the opinions of the security/safety service personnel and the football fans on the
effectiveness of demarcation/separation of sitting arrangements for known rivals in the two sports stadia.

v. Securing of adequate security personnel was indicated by a higher proportion of the respondents as partially effective. The p-value indicated a significant association in the perceptions of the security/safety service personnel and the football fans on the effectiveness of securing adequate security personnel in the two sports stadia in preparation for football matches.

vi. Provision of first aid and emergency arrangements was perceived by a higher proportion of the respondents as partially effective. The p-value indicated a significant association in the perceptions of the security/safety service personnel and the football fans on the effectiveness of provision of first aid and emergency arrangements in the two sports stadia.

vii. Advertising of penalties for violent behaviour was indicated as being ineffective by the highest number of the respondents as a strategy for deterrent of spectator violence in the two sports stadia. There was a significant agreement in the opinions of the security/safety service personnel and the football fans on the effectiveness of advertising of penalties for violent behaviour in the two sports stadia before a football match.

viii. A higher proportion of the respondents indicated establishing of police command posts in preparation for a football match as partially effective. The chi-square test indicated that there was no significant association in perceptions of the security/safety service personnel and the football fans
on the effectiveness of establishing a police command post in the two sports stadia.

ix. Posting of information signs on safety before the actual day of the football match was indicated by a larger number of the respondents as partially effective. The chi-square p-value indicated a significant positive association in the opinions of the security/safety service personnel and the football fans on posting of information signs on safety as a strategy in crowd management in the two sports stadia.

6.1.3 Crowd Management Strategies during Football Matches

i. Contraband screening of fans to detect prohibited items into the stadia was viewed by a higher proportion of the respondents as partially effective. There was a significant positive association in the perceptions of the security/safety service personnel and the fans on the effectiveness of contraband screening of the football fans to detect prohibited items during football matches in the two sports stadia.

ii. Strategic deployment of security personnel was viewed by a higher fraction of the respondents as partially effective. The p-value indicated a significant agreement in the opinions of the security/safety service personnel and the football fans on strategic deployment of security personnel in the two sports stadia during football matches.

iii. A higher proportion of the respondents indicated assembling and queuing of fans during football matches in the two sports stadia as partially effective. The Chi-square test p-value indicated a significant agreement in the views of the security/safety service personnel and those of the fans on the effectiveness of
assembling and queuing of fans in the two sports stadia during football matches.

iv. Removal of disruptive fans during football events in the two sports stadia was indicated by a higher proportion of the respondents as partially effective. The p-value indicated a significant association in the opinions of the fans and those of the security/safety service personnel on this strategy.

v. Regulation of numbers of spectators was perceived by a higher number of the respondents as partially effective. The p-value indicated a significant association in the perceptions of the football fans and the security/safety service personnel on this strategy of regulating numbers during football matches in the two sports stadia.

### 6.1.4 Post – Event Management Strategies

i. A larger proportion of the respondents indicated that communication in the event of emergency is partially effective. The p-value result of the chi-square test indicated a significant agreement in the opinions of the security/safety service personnel and the football fans how communication in the event of emergencies is carried out in the two sports stadia during football matches.

ii. A higher proportion of the respondents indicated the strategy of opening exit gates as partially effective. The p-value result of the chi-square test indicated a significant positive association between security/safety service personnel and football fans on this strategy.

iii. Coordination of dispersal process to exit outlets in the event of an emergency was perceived by a higher number of the respondents as partially effective. The chi-square results indicated that there was a significant agreement in the
perceptions of the security/safety service personnel and the football fans on this strategy.

6.2 Conclusions

Based on the findings of the study, the following conclusions were drawn:

i. A higher proportion of the respondents indicated CCTV surveillance cameras as adequate.

ii. Emergency exits in the two sports stadia were found to be partially adequate.

iii. The largest proportion of the respondents indicated access roads as partially adequate.

iv. Advance sale of tickets, coupled with safety campaigns and advertisement of penalties to warn of possible consequences of spectator violence, are not given the weight they deserve as a strategy by organisers of football events in the two sports stadia.

v. Demarcation/separation of known rival football fans was found to be partially effective as indicated.

vi. The two sports stadia do not engage adequate number of security personnel and the few are not strategically deployed.

vii. Contraband screening, assembling and queuing of fans before entering sports stadia are strategies which are applied to a minimum level in the two sports stadia during football events.

viii. The findings reveal that regulation of numbers of spectators being admitted into the two sports stadia during football matches is not controlled or adhered to and can easily surpass the holding capacities.
ix. Provision of first aid, emergency arrangements, opening of exit gates, coordination of dispersal process in the event of an emergency are not given weight in the two sports stadia during football events, since their application was seen as being partially effective.

x. Communication to stakeholders during emergencies is not effectively carried out during football events in the two sports stadia.

6.3 Recommendations for Policy and Practice

Based on the findings and conclusions of the study the following recommendations are made:

i. There is need for the management of the two sports stadia to install CCTV surveillance cameras at all entries and exits of the two sports stadia, to assist in curbing spectator violence by properly identifying and assisting in prosecuting right culprits.

ii. To improve on the safety and security of the spectators, the management of the two sports stadia should develop and adopt a comprehensive preventive maintenance schedule and make good housekeeping a fundamental part of their culture.

iii. Contraband screening of all patrons entering the sports venues should be mandatory and a priority to both Sports Stadia Management and Football Kenya Federation. Together with this they should always engage adequate number of security personnel and ensure that they are strategically deployed to deal with any threats to safety and security of the patrons.
iv. Separation/demarcation of known rival fans during football events should be a deliberate move and should be treated with the seriousness it deserves by both Football Kenya Federation and Sports Stadia Management.

v. Since emergency exits and access roads in the two sports stadia were found to be adequate, there is need to open them up during football matches for better flow of patrons and unforeseen emergencies.

vi. The management of the two sports stadia should ensure provision of first aid is taken care of as recommended by Guide to Safety at Sports Grounds (2008) where for an anticipated crowd of 5,000 persons, there should be one fully equipped and staffed ambulance and one qualified doctor. For a crowd of up to 10,000 people, one first aider should be in charge of 1,000 people.

vii. The management of the two sports stadia should ensure that at least one exit gate is manned and remains open throughout the football match, in case of emergencies.

viii. Sports stadia management and football matches organisers should adopt and adhere to the practice of advance sale of tickets to spectators, which should be enhanced with advertisement on penalties to perpetrators of violence, including a list of prohibited items to the sports stadia.

ix. The Sports Stadia Management should plan to fit the open terraces with fixed seats. This will help in regulating numbers of spectators admitted in the sports stadia whose maximum holding capacity will be guided by the number of useable seats. Meanwhile they should adhere to the maximum holding capacity for standing accommodation which is 47 persons per 10 square metres.
x. It is important for the management of the two sports stadia to improve on safety information to the patrons by displaying adequate, relevant and crucial information on posted warning/instructions signs, which should be strategically positioned in various parts of the sports stadia. Their importance cannot be ignored and are a crucial part of crowd management, where they are used to warn on risk, give direction, indicate prohibited items, display ground regulations or even simplified ground plans.

### 6.4 Recommendation for Further Research

i) There is need to conduct a study on Assessment of Crowd Management Strategies used for football events in other government-owned sports stadia located in other counties in Kenya.

ii) A study should be carried out to assess crowd management strategies on gatherings that are non-sports events, for instance, political rallies that take place in government-owned sports stadia.

iii) A study should be carried out to assess crowd management strategies used in non-governmental sports stadia during football events.

iv) A study to be carried out to assess crowd management strategies in Indoor Sports Stadia.
REFERENCES


Ashihundu, J. KPL moves to Stem Hooliganism. Daily Nation. 10th February 2016, Pp 54


Ayari, R. Angry Cameroon Fans Riot after a Draw with Senegal. Hindustan Times. 4th June 2011

Ayieko, O. Blame game after Gor Mahia fans go berserk. Daily Nation, 20th May 2011, pp. 3


Jayson, S. (2004). “On or off the Field, it is a ‘Civility’ War out There.” USA Today, November 30, pp. 9D


Kwalimwa, D. Here is the Deal: Identify those Football Thugs and they will be arrested. Daily Nation, 23rd February, 2014, pp 48.


Somoni. (Gor fans went on rampage after referee disallows a goal and denies a penalty in game against Ulinzi Stars. Daily Nation, 18th May, 2011


Trevor, J. (2001, 12th May). One Hundred and Thirty People die in Ghana Football Disaster. World Socialist Web Site. ICFI


Wandera, G. Referee Killed on Duty. The Standard, 3rd August, 2009


Appendix A: Questionnaire

Introduction

I am a Civil Servant working in the Ministry of Youth Affairs and Sports, Department of Sports. I am pursuing a Master of Science Degree in Recreation Management and Science at Kenyatta University. The purpose of this questionnaire is to assess the crowd management strategies during sports events in the developed government-owned sports stadia in Nairobi County.

All information provided will be used for academic purposes and will be treated with utmost confidentiality. Your response to all items will be highly appreciated.

Thank you

Mandu Agnes Wanjiku.

NB: Please put a tick (✓) in the box next to the right response.

B. DEMOGRAPHIC DATA

1). Indicate your gender:
   a. Male ☐  b. Female ☐

2). Indicate your age category
   a. Under 20 years ☐  b. 20-24 years ☐  c. 25-29 years ☐  d. 30-34 years ☐
   e. 35-39 years ☐  f. 40 years and above ☐

3). Indicate your cadre
   a. Stadium Manager ☐  b. Stadium Technical Staff ☐  c. Stadium Support Staff ☐
   d. Sports Fan ☐  e. FKF official. ☐  f. Police Officer ☐
4). Indicate your level of education
   a. University  
   b. Tertiary college  
   c. ‘A’ level  
   d. ‘O’ level  
   e. Primary level  

C. STADIUM SAFETY FEATURES

Indicate the extent of adequacy of the following safety features in the government-owned stadiums

i. CCTV Surveillance cameras
   a. Adequate  
   b. Partially adequate  
   c. Inadequate  

ii. Emergency exits
   a. Adequate  
   b. Partially adequate  
   c. Inadequate  

iii. Lighting system
   a. Adequate  
   b. Partially adequate  
   c. Inadequate  

iv. Access roads
   a. Adequate  
   b. Partially adequate  
   c. Inadequate  

v. Posted warning S/instructional signs
   a. Adequate  
   b. Partially adequate  
   c. Inadequate  

D. PRE-EVENT STRATEGIES

Indicate the extent of effectiveness to which the following pre-event strategies are carried out in the stadium

i. Facility maintenance
   a. Effective  
   b. Partially effective  
   c. Ineffective  

ii. Advance sale of tickets
   a. Effective  
   b. Partially effective  
   c. Ineffective  

iii. Safety awareness campaigns
   a. Effective  
   b. Partially effective  
   c. Ineffective  

iv. Separation/demarcation of sitting arrangements for known rival fans
   a. Effective  
   b. Partially effective  
   c. Ineffective  

v. Securing of adequate security personnel
   a. Effective  
   b. Partially effective  
   c. Ineffective  

vi. Provision of first aid and emergency arrangements
a. Effective □  b. Partially effective. □  c. Ineffective □

vii. Advertising of penalties for violent behavior
a. Effective □  b. Partially effective. □  c. Ineffective □

viii. Establishing of police command posts
a. Effective □  b. Partially effective. □  c. Ineffective □

ix. Posting of information signs on safety such as exit routes
a. Effective. □  b. Partially effective. □  c. Ineffective □

E. MANAGEMENT DURING SPORT EVENTS

a). Indicate the extent to which the following stadium management strategies are effectively used during sports events

i. Contraband screening of fans to detect any alcohol, drugs and weapons
a. Effective □  b. Partially effective. □  c. Ineffective □

ii. Strategic deployment of security personnel
a. Effective □  b. Partially effective. □  c. Ineffective □

iii. Assembling and queuing of fans
a. Effective □  b. Partially effective. □  c. Ineffective □

iv. Removal of disruptive fans
a. Effective □  b. Partially effective. □  c. Ineffective □

v. Regulation of number of spectators
a. Effective □  b. Partially effective. □  c. Ineffective □

F. POST-EVENT MANAGEMENT

Indicate the extent of effectiveness of stadium and security personnel in dispersal and evacuation of crowds in event of emergencies in terms of:

i. Communicating about the emergencies
a. Effective □  b. Partially effective. □  c. Ineffective □

ii. Opening of exit gates
a. Effective □  b. Partially effective. □  c. Ineffective □

iii. Coordination of dispersal process to exit outlets
a. Effective □  b. Partially effective. □  c. Ineffective □
Appendix B: Consent Form

I ……………………………………………………… give my consent to participate in the research entitled ‘Assessment of Crowd Management Strategies Used for Football Events in the Government Owned Sports Stadia in Nairobi County, Kenya’. I have read the information given above and understood the aims of the study and the procedures to be followed.

Signature ……………………………………… Date ……………………………..

I would respect your decision should you not wish to participate in this research. If you have any concerns about any of the information given, do not hesitate to contact me using the contact provided below.

Agnes Wanjiku Mandu
P. O. Box 23397
Code 00100
Nairobi, Kenya
Mobile: +254722654144
E-mail: wanjikumandu@gmail.com
Appendix C: Request Letter

The Chief Executive Officer
Sports Stadia Management Board
Private Bag Kasarani
Nairobi, Kenya

The Secretary General
Football Kenya Federation
Nyayo National Stadium
Nairobi, Kenya.

The Officer Commanding Police Division/Post
Kasarani, Langata, Ngomongo, Nyayo National Stadium
Nairobi, Kenya.

REQUEST TO CARRY OUT RESEARCH IN YOUR INSTITUTION.

My name is Mrs Agnes Wanjiku Mandu. I am a civil servant working with the ministry of Youth Affairs and Sports, in the Department of Sports. I am pursuing a Master of Science Degree in Recreation Management and Exercise Science at Kenyatta University. The research is entitled ‘Assessment of Crowd Management Strategies Used for Football Events in the Government Owned Sports Stadia in Nairobi County, Kenya’.

I identified your institution as one of the major institutions for my research due to its relevance in the area of study. Whatever information obtained from your employees will be used solely for the purpose of this study and will not be diverted to any other purpose.

Your positive consideration in allowing me to carry out this research in your institution will be highly appreciated.

Agnes Wanjiku Mandu.
Appendix D: Research Authorization

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471, 2241349, 310571, 2210420
Fax: +254-20-318245, 318269
Email: secretary@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

Ref: No. NACOSTI/P/14/4395/686

Agnes Wanjiku Mandu
Kenyatta University
P.O.Box 43844-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on “Assessment of crowd management strategies used during football events in Government-owned sports stadia in Nairobi County, Kenya,” I am pleased to inform you that you have been authorized to undertake research in Nairobi County for a period ending 30th April, 2014.

You are advised to report to the County Commissioner and the County Director of Education, Nairobi County before embarking on the research project.

On completion of the research, you are expected to submit two hard copies and one soft copy in pdf of the research report/thesis to our office.

DR. M. K. RUGUT, PhD, HSC.
DEPUTY COMMISSION SECRETARY
NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Copy to:

The County Commissioner
The County Director of Education
Nairobi County.