

# Emergency Preparedness at Christian Places of Worship. The Case of Kinondoni Municipality, Dar es Salaam City-Tanzania

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## Abstract

Tanzania has been experiencing a number of emergency incidents at places of worship that caused damage to properties and loss of lives of worshipers. Most recent reported cases include the February 2020 stampede that occurred in Moshi where 20 people were killed when rushing to be anointed with the blessed oil. Another disaster rife scenario was the case of bomb attack in a Catholic Church in Arusha in May 2013 where one death was reported due to stampede after the blast. This study assessed emergency preparedness at places of worship in Dar es Salaam focusing on Kinondoni Municipality. The random sampling method was used, where by twenty (20) places of worship were randomly selected, one (1) from each ward in Kinondoni municipality. The data collection methods were literature review, observations and interviews. The study revealed that all of the surveyed places of worship were at risk of fire, 85% were at risk of crimes and 80% at risk of diseases. Additionally, 75% were at risk of attacks, 20% at risk of floods and 20% at risk of stampede. Only 45% had fire fighting equipment and 20% had assembly points. There should be regular provision of emergency preparedness trainings to worshipers and staffs.

Keywords : Emergency Preparedness, Christian Places, Kinonondoni Municipality, Dar es Salaam City - Tanzania.

## 1.0 INTRODUCTION AND LITERATURE REVIEW

### 1.1 Background of the Study

Major emergencies and disasters have occurred throughout the history and as the world's population grows, resources become more limited, communities are increasingly becoming vulnerable to the hazards that cause disaster (Perrow, 2007). Emergencies occur quickly and without warning and they can have a devastating impact on the affected individuals, businesses and community facilities. Emergencies and disasters do not affect only health and well-being, frequently a large number of people are displaced, killed, injured or subjected to a greater risk of epidemics (Westlund, 2007). Places of worship are considered as safe and peaceful areas where violence and emergencies cannot occur, but acts such as fire, tornadoes, floods, hurricanes, earthquakes and arson have been reported to affect them (FEMA, 2013). It is believed that in addition to being a place for prayer and worship, places of worship house precious historical and religious items. These premises have been serving as a community center as well as acting as refuge to those in need (Ramsey & steenkamp, 2020). Churches and other places of worship have a unique challenge when it comes to crime prevention, security and safety. The incidences indicating manifestation of disaster risks abound on a global scale. During the 2015 hajj in Mecca on 11<sup>th</sup> September at least 87 pilgrims were killed and 184 were injured when a construction crane crashed into the Mosque. A week after the crane collapse in Mecca, 719 pilgrims died and 800 were injured due to stampede (Mathebula, 2017).

In the UK, there are approximately 70000 places of worship, with millions of people attending every week. Over 100 major arson occurs in places of worship in the UK, also violent attacks and thousands of theft as well as criminal acts (BRE, 2009). In America, more than 90% of Americans believe in God and more than 43% attend worship services every week. Over 60 acts of violence are committed in houses of worship across the US. For example, in May 2012, six (6) people were killed and four (4) injured in a shooting at a Sikh temple in Oak Creek, Wisconsin. On the evening of June 17, 2015, self-proclaimed White extremist Dylan Roof walked into the Emanuel African Methodist Episcopal Church in downtown Charleston, South Carolina, and murdered nine African- American parishioners during their weekly Bible study (Yaccino, 2012). During the 2019, Easter Sunday in cities of Colombo, Negombo and Batticaloa in Srilanka, 321 people were killed and 500 injured due to explosions that targeted Churches As well as high end Hotels (UNICEF, 2019). On 19 April 2019, a heavy rainfall that caused floods results into death of at least 13 people and 26 people were injured due to partial collapse of church in South Africa (Greef, 2019). In 2014, at least 115 people were killed in Lagos Nigeria due to the collapse of the guesthouse building belonged to the Synagogues Church of All Nationals in Nigeria (SCOAN). In 2016, at least 100 persons were killed at the Reigners Bible Church in Nigeria when iron rafters caved in causing the collapse of the new church building (Uba, 2019). Tanzania has been experiencing a number of emergency incidents in places of worship that caused damage to properties and loss of the lives of worshippers. In February 2020, a stampede occurred in Moshi where 20 people were killed when rushing to be anointed with the blessed oil (Leen, 2020). Other episodes include the following: In January 2014, explosives attacked at New Year's Eve celebration at Christian church in Arusha, while in June 2014, explosives attack happened in a mosque in Zanzibar Stone Town, killing one and wounding four people (Lesage, 2014). It is therefore against the foregoing background that recounts the recurrence of disaster incidences in different places of worship in Tanzania that the current study seemed worth undertaking.

## 1.2 Definition of Key Terms

**Emergency:** Emergency can be defined as an unexpected event, which places life or property in danger and requires an immediate response with routine community resources as well as procedures (McCreight, 2011).

**Hazard:** This is a dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage (UNISDR, 2009).

**Disaster risk:** The potential disaster losses in lives, health status, livelihoods, assets and services, which could occur to a particular community or a society over some specified future time (UNISDR, 2009).

**Emergency preparedness:** Are those activities and measures designed or undertaken to organize for or to minimize the consequences of a hazard upon the civilian population, to accommodate the immediate emergency conditions which might be created by the hazard and to effectuate emergency repairs to or the emergency restoration of vital utilities and facilities destroyed or damaged by the hazard (FEMA, 2020). Emergency preparedness may also be considered as the process of ensuring that the measures for emergency are decided and communities' resources and services are capable and prepared for managing the consequences of emergency (WHO, 2007).

**Place of Worship:** A Place of Worship is a dedicated building, a building complex or other location where a group of people assemble in a congregation to perform acts of religious praise, honour or devotion. It also includes places where religious instructions, ceremonies and festivities associated with the faith are carried out.

## 2.0 METHODS, TECHNIQUES, STUDIED MATERIAL AND AREA DESCRIPTIONS

### 2.1 Overview of the study area

The study was conducted in twenty (20) wards of Kinondoni municipality of Dar es Salaam region. These wards are Magomeni, Makumbusho, Mwananyamala, Kijitonyama, Wazo, Bunju, Mbezi Juu, Ndugumbi, Msasani, Kawe, Mzimuni, Mabwepande, Tandale, Kigogo, Mikocheni, Hananasif, Kunduchi, Mbweni, and Makongo. Kinondoni municipality was selected because of its accessibility and large

population among all the municipalities in Dar es Salaam region. Moreover, in almost every ward, there was a place of worship. This enhanced the study to obtain valid and reliable sources of information useful for the study. Thus Kinondoni Municipal Council is among five (5) municipalities in Dar es Salaam city. Others are Ilala, Temeke, Ubungo, and Kigamboni. The municipality is bordered by the Indian Ocean to the northeast, Ilala to the South, and Ubungo to the North. The municipality is well linked with roads and other communication networks to the rest of the city as well as other parts of the country. Major roads links are Morogoro road, Bagamoyo road, Kawawa road, Ally Hassan road, and Mwai Kibaki road. According to the 2012 population census, Kinondoni Municipality had a population of 929, 681 of which 451,653 were males and 478,028 were females with the growth rate of 5%. The municipality was projected to have a population of 1,245,861 by 2018 with a population density estimated to be 3881 persons per square kilometer. Figure1 shows the spatial location of the surveyed places of worship.

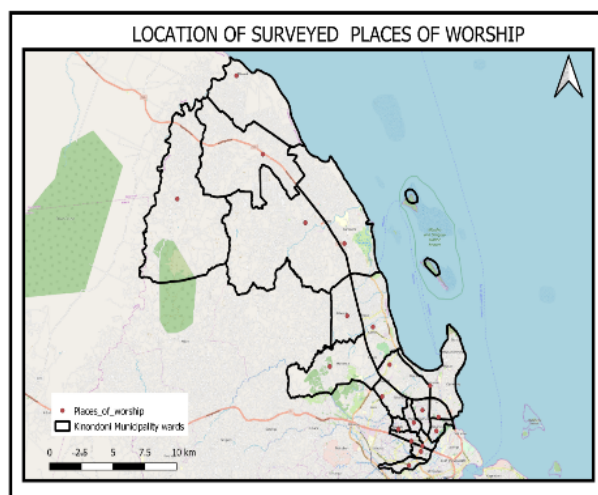


Figure 1: Location of surveyed places of worship in Kinondoni Municipality  
Source: Fieldwork, 2021

## 2.2 Data collection procedures and analysis

A sample is a subset of a particular population selected to constitute a sample (John, Whitaker, & Johnson, 2001). (Gentles & Vilches, 2017) Identifies two types of sampling: probability and non-probability sampling. Despite that, both of them are used in case study research, the probability sampling is more suitable for quantitative data and qualitative data. With qualitative case study strategy, researchers are more interested in getting an insight, discovery and interpretation rather than testing of the hypothesis (Noor, 2008). Due to the lack of data on the total number of places of worship at the Municipality, district and ward level, the researchers used random sampling method in selecting the sample. For each ward, one place of worship was selected randomly, 20 places of worship were selected. Basing on the size of the building facility and a total number of the members in a particular place of worship, the researchers categorized places of worship into three: large churches with a membership of more than 500 members, a medium whose membership was between 250 and 500 members then small churches that had less than 250 members. In addition, consideration was made on the places of worship located in areas that were not primarily made to be used as places of worship such as conference halls, open spaces and social halls. The researchers observed the situation and documented information. Physical observations were used to assess the actual safety and health management practices at places of worship, including the presence and location of emergency facilities such as fire fighting equipment, assembly points, emergency exits and the security measures in places. The observation was helpful in linking the information collected from interviews and the existing situation in order to draw conclusions. In-depth interviews were conducted to obtain the relevant data on the emergency preparedness of the places of worship. Twenty (20) places of worship senior leaders were interviewed to obtain detailed information of the place of worship. The interviewed key

informants included town planners, from Kinondoni municipality, ward officers, fire and rescue force officers in Kinondoni region and architects. Data collected through interviews and questionnaires was analysed using the Microsoft Excel, Charts, tables and figures on frequencies and percentages (%) of data collected. These provided the descriptive statistics summarising the data collected.

### 3.0 RESULTS

#### 3.1 Socio-demographic characteristics of respondents

This section presents the demographic characteristics of the places of worship that include the denomination group of surveyed places of worship, membership, leadership and gender. The results show that places of worship have varying leadership position depending on the administrative structure of the particular place of worship. The leaders interviewed included Bishops, administrative officers, Father, Pastor/Reverend, Catechists and Church secretaries. Figure 2 shows distribution of leadership position held by the church leaders interviewed during site visit. A large number of church leaders who were interviewed were pastors covering up to 50% while the lowest numbers of church leaders were 5% Fathers. Furthermore, 15% were administrative officers of which 30% were other leaders such as church secretaries, catechists, communication leaders and administrative officers. The gender composition of the leaders interviewed constituted 15% females and 75% males. With respect to figure 2, since the pastors or reverends out number other categories of leaders, they had to focus on emergency preparedness improvement efforts. These normally had more authority than other categories of leaders.

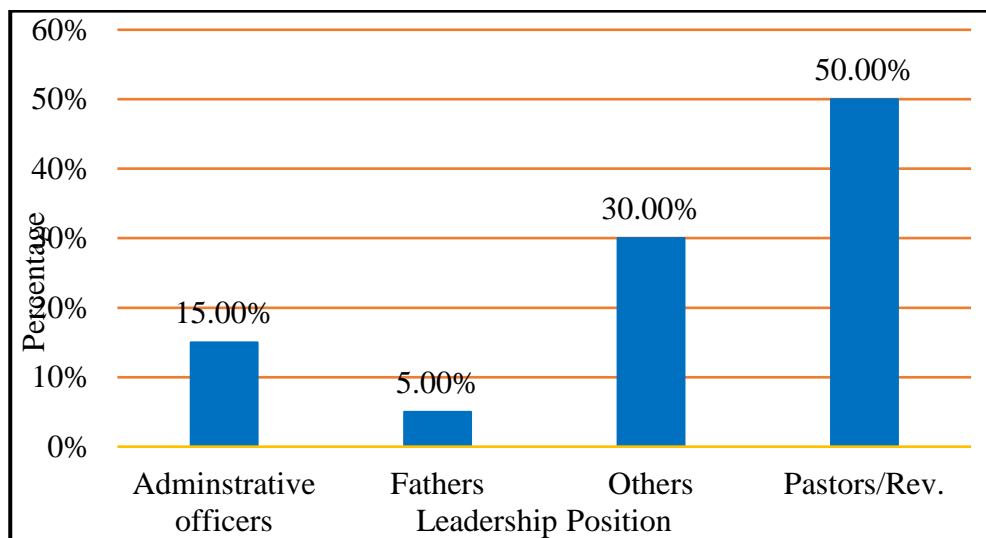


Figure 2: Places of worship leaders engaged in interview

Source: Fieldwork, 2021

#### 3.2 Characteristics of places of worship in the context of emergency preparedness

##### 3.2.1 Location of worship places

The allocation of plots for places of worship requires to follow the town planning standards as provided in the town planning space and the Standards Regulations of 2018. Just like other public buildings, it was found that many churches were located in areas with sufficient accessibility and in neighbourhood where social activities were taking place including trading activities, restaurants and residential areas. Some denominations rent public spaces for their worship services such as social halls and conference halls, which in most cases were found within residential areas and high traffic congestion prone areas. The research was conducted in the following denomination: Tanzania Assemblies of God (TAG), Seventh day Adventist (SDA), Pentecostal Church, African Inland Church of Tanzania (AICT), Evangelical Lutheran Church of Tanzania (ELCT), Roman Catholic Church (RC), Emmanuel Hosanna Church, Evangelist Assemblies of God (EAGT), Moravian Church, Tanzania Methodist Church and the Anglican Church.

### 3.2.2 Church size and capacity

Following the interviews conducted with church leaders, it was found that there was diversity in the number of members within the places of worship depending on the church size with a total average of 203 for small churches, 367 for medium size churches and 1896 for large churches. During the days of worship the average number of people that are accommodated at once is 168 people for small churches, 388 for medium sized churches and 1491 for large churches. Figure 3 shows the average Church size and their capacity.

Church size	Number of Churches	Average No of Members	Average number of members that can be accommodated at Once
Small churches less than 250 members	3	203	168
Medium church 251-250 members	5	367	388
Large churches More than 500	12	1896	1491

Figure 3: Average Number of Members and carrying capacity of people at once  
Source: Fieldwork, 2021

### 3.2.3 Church building unit

The type church building structure unit can be of various forms either a multi-storey building or a single storey building. The approach for the disaster preparedness for different building unit cannot be same. This can be attributed to the fact that some aspect of the building unit act as potential hazard. For example, height of a high-rise building is itself a hazard that increases vulnerability. It can pose a significant hindrance on the preparedness activities especially on the evacuation procedures when there is an incident. Following observation of the church building unit during site visit, it was found that most building units are a single story, single storey with a mezzanine floor as well as multi-storey building with two and three stories only in accordance to the planning standard which provides the maximum number of storey to be three. Figure 4 shows distribution of the types of building unit where by a large number of churches equivalent to 70% are single storey while fewer churches were multi-storey buildings. Presence of multi storey buildings implies that a special consideration is required when planning for the disaster preparedness for church buildings. This is due to the vulnerability factors that prevail due to presence of multi-storey building, which include high occupancy rate, which increase load towards evacuation process, height of the building, which is linked to stability, as well as the high rate of fire and smoke spread in high-rise buildings.

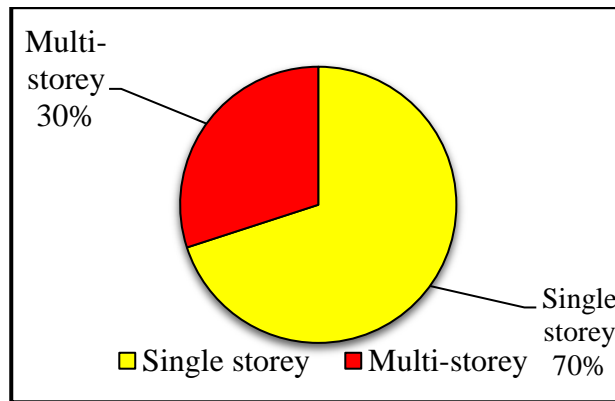


Figure 4: Distribution of buildings unit type in surveyed places of worship  
Source: Fieldwork, 2021

### 3.3 Potential hazards that may be exhibited at places of worship

In light of potential hazards that are at places of worship, from 20 places visited in all the 20 places (100%) claimed that there is the risk of fire occurring while 85% claimed that there is a risk of theft/crimes and 80% claimed the risk of diseases. In addition 70% pointed the likelihood of terrorist/ bomb attacks where 20% said the likelihood of flood and 20% mentioned stampede would likely occur in their worship places as shown in figure 5.

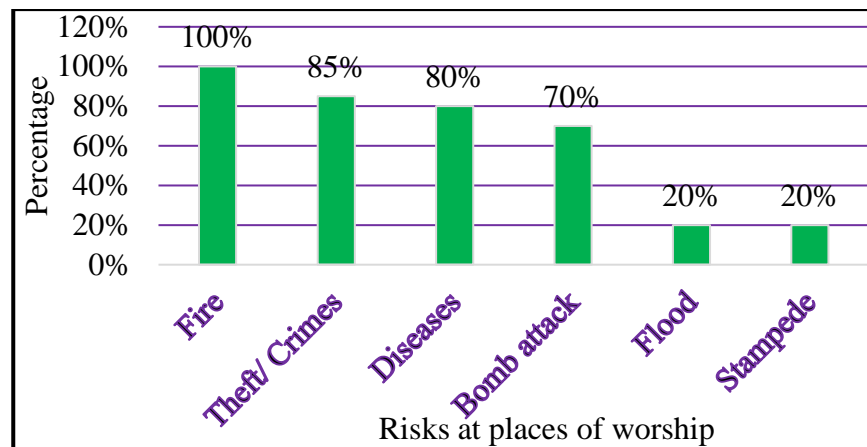


Figure 5: The potential risks at places of worship in Dar es Salaam  
Source: Fieldwork, 2021

From figure 5 fire was the universal risk due to the main risk factor of using electricity. Stampede risk is low because most of the places of worship conduct several services during the main services days to give room for facility to accommodate the intended number of people that a facility can accommodate at once.

#### 3.3.1 Fire

Fire in places of worship can occur due to numerous reasons, which can be arson, candles, children playing with matches, focused sunlight on combustible material, accumulation of waste made of flammable materials stored outside, seasonal decoration or displays. Fire can also be caused by curtains contacting sources of heat, furniture close to source of heat, misuse of heaters, desk lamps and laminators or any other electrical equipment, faulty electrical equipment or wiring, equipment in the kitchen, obstructed heat ventilators and lighting strikes. In 2019, the Tanzania Fire and Rescue Force initiated public awareness creation campaign ‘Ninacho, Ninajua Kukitumia’ which translates *I have it and I know how to use it*. The campaign aimed to mobilize people to have fire fighting equipment i.e. fire extinguishers and to know how to use them. The campaign was conducted in public places such as places of worship, industrial areas, bus terminals and bus stands. According to the Fire and Rescue Forces between 2012-2020 seven (7) out of twelve (12) incidents that were reported occurred in churches, the main cause of the incident where electrical fault.

##### i) Arson

Arson is among the main cause of fire incident in the buildings including place of worship (BRE, 2009). Arson was identified as a leading cause of fire accidents by 25% (NFIRS, 1998). A number of factors such as revenge, covering up of criminal activities but also mental illness, can cause arson. For example, in 2016 three (3) churches were burnt down in a period of four (4) months in Kagera region while in 2015 six (6) were burnt within one (1) week in the same region (Lyassa, 2016). The reasons for occurrence of arson outlined could also cause fire disasters in any place so as in Dar es Salaam. The churches in Dar es Salaam are faced by arson risk since many people in the churches attend the services with unknown motives and it is not easy to understand the motives of each worshipper attending the service.

## **ii) Electricity**

The second leading factor of fire accidents in the church are caused by electrical malfunction at 18%. The electrical fire occur due to a number of reasons, such as use of older or outdated electrical equipment but also fragile wiring system (NFIRS, 1998). Faulty outlets, light fixtures, extension cords and wiring may be a causative of electrical fire if not properly handled. Outdated wiring may cause fire due to increased amount of appliances in the old wired system, appliances should be plugged directly into outlet and not plugged into extension cord for a long period of time and worn or sworn cord increase danger of electrical fire (Engel, 2020).

## **iii) Smoking**

On 15 April 2019, the devastating fire broke out beneath the roof of Notre-Dame cathedral, after fire was extinguished; the building's spire collapsed and most of its roof had been destroyed as well as severely damaged. Due to that fire incidents, investigators covered two theories of the cause of fire in Notre-Dame cathedral which were short-circuit near it's aspire or negligence caused by workers who were carrying out renovations, due to the discovery of cigarette butts (Nossiter, 2019). For fire to erupt in the places of worship, it is not necessary to be caused by worshippers but even people passing nearby smoking may influence fire eruption in the church premises.

## **iv) Combustible material**

The fire protection of a building can be passive or active (Mroz, 2016). Active protection comprise those process taken to put down fire while passive protection are the techniques and process applied to prevent or slow down the rate of burning in the building. If passive technique applied it helps the people in the building to be evacuated safely but also protection of properties. Some churches in Dar es Salaam are built by combustible material such as steel and sheets. This kind of building cannot withstand fire for a long time to allow the evacuation to take place.

### **3.3.2 Theft/ Crimes**

The welcoming nature of places of worship pose opportunities for crime to take place since it is difficult to know what people think especially those who attend the church services. In most of the places of worship the items and facilities are of higher value such as sound systems, computers, visual/audio equipment and other religion ceremonials facilities that are made of gold or of any valuable materials. The traditionally money collected during services as church offerings attract thieves in the places of worship. Results present 85% of the respondents who pointed out that crimes are likely to occur in their places of worship. This can be attributed to presence of high value properties in the church premises but also low security level within the church premises. Two (2) out of twenty (12) places of worship claimed to experience theft in their church. In one (1) church, it was reported that a door was broken and the music instruments were stolen.

### **3.3.3 Diseases**

Places of worship attract large crowds of worshippers and visitors. Infections disease may cause disastrous effect if some people in the crowd are infected. The infections in the congregation can be passed on through direct contact or airborne droplets spread from coughing and sneezing like that of Corona Viruses. There are some practices which may influence the rate of transmission of diseases among worshippers such as shaking hands, passing peace during communion services when a common cup and loaf are used, nursery and toddler room toys and social time's practices. For example in December 2019, the Corona virus spread all over the world. In some countries places of worship were locked down to prevent the spread of the Virus. In Tanzania, places of worship were not closed down due to COVID-19. During the survey, it was observed that Places of worship took preparedness measures for the Covid 19 such as having the hand washing points and sanitizers at the main entrances, planning for seating arrangement of at least one (1) meter from one (1) another for social distancing. Other measures included changing of some behaviours such as hand shaking during the services and stopping the touching of holy



water for some of the catholic churches and some places of innovated the new way in which the church member will touch the Holy water to avoid spreading the virus as shown in Figure 7. In addition, churches used their in house medical professional to provide awareness training to the church members. Figure 6 shows the initiatives taken by places of worship for Covid 19 preparedness.



Figure 6: Hand washing point at one of the place of worship  
Source: Fieldwork, 2021

According to Figure 6 the hygiene practice at places of worship improved as churches had several hand washing basins or points located at the main gate entrances worshipers could wash their hands before entering the places of worship. The washing basin had the foot operated opening mechanism reducing the contamination that could cause spread of diseases when everyone touches the water tap. The distance between one basin and the other provided the opportunity for social distancing during hand washing.



Figure 7: Holy water containers at a place of worship  
Source: Fieldwork, 2021

The holy water container in Figure 7 is used by worshipers to tap the drops of holy water from the container. This helps reducing the contamination and spread of diseases that could be caused by everyone touching the water places at the entrances door.



### **3.3.4 Terrorist attacks**

The most significantly terrorist attack in Tanzania occurred in 1998. This was the bombing of the US embassy in Dar es Salaam by Egyptian Islamic Jihad and al-Qaeda (Dang, 2019). Places of worship are at risk of terrorist attacks as well. In May 2013, the new Catholic Church was attacked causing two fatalities and injuring more than 60 people (BBC, 2013). The risk of terrorist attacks seems to be of less concern compared to other risks like fire, theft and disease may be because their occurrence is rare in worshiping premises.

### **3.3.5 Floods**

Floods are an overflow or inundation that come from a river or any other body of water then often threaten the lives and properties. Flood can happen when the flow capacity of river channels, streams or coastal areas is exceeded due to heavy, intense or continuous rainfall also when the absorptive capacity of the soil is exceeded. The water overflows to the adjoining land, which are flood plain (Hong, 2016). The worship places that are located in vulnerable areas are at risk of being flooded the vulnerable areas can be those at flood prone areas or those built in areas with no drainage stream. About 20% of the responses indicated that there were risks of flooding in their places of worship. Two (2) out of twenty (10%) had experienced flood. The reasons were lack of drainage system in their areas.

### **3.3.6 Stampede**

Mass gatherings, including concerts, sport events and religious festivals are common. Even though are generally safe any occurrence involving large groups has the potential to result into mass casualties incident such as human stampede whereby involved participants are exposed to significant risk of injury or death (Green, Bendas, Stawicki, & Cipolla, 2018). The underlying cause of stampede is a lack of awareness of the problems related to crowd and crowd flow. Crowd forces can reach levels that are almost impossible to control (Still, 2019). For example on 02 February 2020, twenty (20) people were killed in stampede occurred during a church service at a stadium in Moshi, Tanzania. The study conducted in churches in Dar es Salaam revealed that only 20% of the respondents claimed the likelihood of stampede to occur in their places of worship. The stampedes in the church are likely to occur during celebration and special events days when the churches are overcrowded.

## **4.0 DISCUSSION**

The emergency preparedness needs to be implemented at all levels. It is widely accepted that effective emergency preparedness can only be achieved with the involvement of active participation by governments, civil society organizations, commercial organizations, local leaders and individuals (citizens). In order to ensure reliability places of worship must take ownership of their preparedness and strengthen it for emergencies ranging in scale from local or national events to pandemics and disasters. Places of worship should develop their own plans for emergency preparedness and response. The government and other organization mentioned here can provide supportive resources to the church such as providing awareness trainings. In addition, local, sub-national and national plans should include support for church and community emergency preparedness. The pastors think security and safety at places of worship is very important during the interview it was observed most of the places of worship leaders were positive about having the security at places of worship that is why some have established the security companies under their church that hire church members as security staffs, some hires security guards from the professional security companies and some installed CCTV cameras. Most of the churches are fenced and worshipers use the common entrances to access the worship facility. This helps the security guards to monitor who is entering and leaving the church. Also during normal services day's churches use ushers to monitor movement and security of worshipers. Also in some churches worshippers are not allowed to carry large bags ie laptop bags to church during normal services days. Apart from providing spiritual services to many people place of worship houses precious items which are religious and some are historical. A place of worship should be secured and safe for the people of the whole community. Crimes and terrorist actions have increased the need of security in worshipping places. The multi-pronged approaches which include

physical barriers and personnel, camera and monitoring system play a role to deter threats and trigger appropriate responses. For perimeter surrounding the church premises the installation of both passive and active security system such as high-definition security cameras enhanced monitoring systems is also important. The provision of proactive security measures is also crucial in the worshipping place. Churches should have active security committee that is responsible for protecting the life of worshipers and visitors. The security committee may include congregants, religious leaders, local law enforcement and security professionals who are willing to volunteer. The volunteers of security committee should be trained on emergency preparedness and response by professional to ensure the committee is well prepared for emergency incidents. The government should formulate the policy guidance for building design of places of worship. Currently Tanzania has no a specific detailed planning guidance for places of worship which is used by local authorities to determine applications and control development of the places of worship. There is a need for a specific planning guideline for design of places of worship that provides design standards and considerations to help those who are considering setting up a place of worship either through change of using an existing building or construction of a new building. Fire protection in the places of worship should follow the fire standards and be installed by proper professionals. This is to ensure that all who visit the churches are safe but also the properties within remain safe. The following can be done to enhance fire safety: checking and placing fire sprinkler system, choosing a right fire alarm system for places of worship, testing and adding more fire extinguishers where required. The fire extinguishers should be installed in the places of worship following code and inspected by professionals. Portable, automatic and wheeled fire extinguishers should be installed at required space interval to make sure fire extinguisher standards are met. Portable fire extinguisher is crucial even if there is a sprinkler system since can play a great role of extinguishing small fire before reaching structural part of the building to activate the sprinkler system.

## **5.0 CONCLUSION AND RECOMMENDATIONS**

### **5.1 Conclusion**

The study revealed that most of the places of worship are not adequately prepared in terms of emergency. Most of places of worship lack a well-organized way of providing preparedness trainings such as first aid care provision, fire and rescue trainings, inadequate number of emergency facilities such as firefighting equipment's, first aid kits, emergency signs and assembly points. The study discovered that there is poor enforcement of the laws and regulations. The law requires before construction of public building the owners should submit their fire protection plan to the fire and rescue force and it was observed that most of the places of worship do not submit their plans to fire and rescue force for inspection. Also in case of the space, most of the places of worship have been used more than 50% of their plot coverage, which does not allow them to have spaces for assembly points and space if they want to conduct simulation and drills exercises.

### **5.2 Recommendation**

Basing on the study, the researchers recommend the following in order to enhance disaster preparedness in places of worship: (1) Safety and health of people in public places such as churches should be taken seriously. The government should shift from the current consideration that has much focused on the health and safety to workplaces to public and occupational safety and Health (POSH). With that regard there will be regular training and simulations on emergency preparedness, inspections of the availability emergency facilities in places of worship such as fire extinguishers and first aid kits as well as submission of the fire protection plans to the fire and rescue force for assessment. (2) Policy makers should formulate the specific planning guidance policy for the building design and development of places of worship. The policy should guide the local authorities and facilities developers on design standards and considerations for the places of worships as well as the development control of the places of worship. The place of worship building designs should be in line with the public and occupational safety and health guidelines ie installation of the emergency facilities such as fire extinguishers, exits signs and assembly points.

## **6.0 ACKNOWLEDGEMENTS**

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