

Management of Disasters in Tanzania's Secondary Schools: Policy Formulation and dissemination, the Unanswered Questions in Overcoming Fire Disasters

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Abstract: - This paper specifically investigated how policies to manage fire disaster incidents in secondary schools are formulated and disseminated to the respective stakeholders for implementation. The study focused on answering the major research question: How are policies formulated and disseminated to stave off and deal with fire disasters in Tanzania's secondary schools? This question was divided further into two sub-questions; (1) How are stakeholders involved in the formulation of policy directives to manage fire outbreaks? (2) How are policies disseminated to secondary schools for managing fire outbreaks? The study covered three regions of Iringa, Mbeya and Kilimanjaro as well as the headquarters of the Ministry of Education, Science and Technology (MoEST) on Tanzania Mainland. The change management theory and qualitative research approach informed the study. Data and information were gathered from a sample of 116 respondents comprising students, teachers, heads of school, School Board Members, District Secondary Education Officers, Regional Education Officers and the Commissioner of Education. The study used focused group discussions, face-to-face interviews and documentary analysis to collect data. Results from the study show that the stakeholders at the lower levels of the MoEST were hardly involved during the policy formulation process to manage fire disasters. In fact, even documents aimed to guide and direct school on effective management of fire disasters did not reach implementers in secondary schools because of unreliable channels of communication from the ministry headquarters downwards. Thus, the policy formulation process should draw on inputs from the people affected by fire outbreaks in the relevant context and shun away from solely relying on the top-down policy formulation approach. More importantly, there should be the reliable channel of communication for disseminating in schools the policies issued by the MoEST for managing fire outbreaks.

Key words: policy formulation, policy dissemination, change management, fire disasters, communication, top-down approach, fire outbreaks

I. INTRODUCTION

Disasters are destructive agents the world over affecting settlements, the environment, infrastructures and human life in terms of demolition, loss of properties, injuries and deaths. The disasters are caused by both natural and human induced elements, such as windstorms, landslides, floods, diseases, wars, droughts and, specifically, fire outbreaks

(UNISDR, 2018; ISDR, 2012; UN, 2008; Sinha, Mahendale, Singh & Hedge, 2007; WCDR, 2005). The largest group of population hurt by disasters is that of children, particularly in schools. The ISDR (2012) unveiled that annually almost 175 million children are affected by naturally occurring disasters, for example, earthquakes in Haiti which ravaged more than 4,000 schools in 2010, killing 38,000 students and 1,300 teachers. In 2008, the Sichuan earthquake in China consumed the lives of more than 10,000 students during class sessions and razing to the ground more than 7,000 classrooms. Other calamitous disasters took place in North Japan tsunami killing more than 733 students in 2011. Also, the Bangkok floods in Thailand demolished 2,600 schools in 2012, and the cyclone Nargis in Myanmar completely levelled 2,460 schools in 2008. Furthermore, in 2005 about 17,000 students and 900 teachers died in Kashmir earthquakes in Northern Pakistan. These calamities also originate from human-induced incidents including the death of 93 school children in India in 2004 and more than 13 students in the Uganda fire in the dormitory in 2006. However, these cumulative disasters are few compared to the magnitude and multiplicity of events taking place in various parts of the world (ISDR, 2012, pp. 9 – 11; Petal, 2008, pp. 3 - 4).

The natural calamities are rarely controlled, except by evacuating people when early warning systems are in place. The human-induced disaster events, on the other hand, are easily controlled through the formulation and enforcement of policies and planning for disasters. To manage disaster incidents taking place in various countries, the international organisations took initiatives to create awareness among countries to incorporate disaster plans and programmes into their respective national managements and policies (HFA, 2008). The individual nations are then required to translate the international strategies, such as the Hyogo Framework for Action (HFA) into national policies and strategies for dealing with disasters. The main focus of the HFA is to create awareness among youths, particularly school-children who are the most vulnerable when disasters hit their institutions (Peek, 2008). Peek further contends that the educated children can participate in disaster risk preparedness at school, home and in the community to overcome the problem. However,

implementation of this task demands clear policies and facilitation of school managements to ensure that practices of disaster managements exist. Petal and Izadkhah (2008) assert that disaster incidents can be mitigated through routine drills, inclusion of disaster issues in the school curriculum and training. However, these practices require embedding in the national policies the contextual issues in schools for successful implementation.

The trend of disaster incidents, however, continues recurring despite the existence of global initiatives towards mitigating, managing and ultimately overcoming them. The most pernicious disasters afflicting many of the schools of different countries are fire outbreaks. The United States, for instance, reports more than 4,000 incidents of school fires annually, mostly caused by cooking (42%), intentional action (24%) and heating (10%) (FEMA, 2016; Satterly, 2014; Tropical Fire Report Series, 2014). In Japan, Indonesia, Australia, New Zealand and other Far Eastern countries the fatalities from fire disasters in schools are caused by earthquakes and tsunamis (Bird, Chagué-Goff, & Gero, 2011; Mutch, 2014; O'Connor & Takahashi, 2014; Tanaka, 2012). In the United Kingdom, fire outbreaks in schools are associated with arson committed by students (Merseyside Fire & Rescue Service, n.d.; Wade, Teeman, Golden, Wilson & Woodley, 2007). The school fire incidents are also rampant in India, which witnessed the death of 100 students in 2004 and the 1995 fire which led to death of 441 students (Beware, 2004). Similarly, from 2005 to 2012, Iran faced more than six huge fire disasters which killed more than five students and seriously injured more than 67 of them (Taghizadeh, Mowafi, & Ardalan, 2013).

A survey that was carried out in African countries found that incidents of fire outbreaks in schools are common in South Africa (Pasipamire, 2011) and Kenya (Shibutse, Omuterema, & China, 2014). These fire disasters occasioned deaths and injuries of students in addition to damaging school infrastructures, mainly dormitories, offices, classrooms and laboratories. Generally, fire disaster incidents and their attendant effects are more common in secondary schools than other levels of the education system (Gichuru, 2013; Kanyi, 2014; Kisurulia, Katiambo & Lutomia, 2015; Shibutse, Omuterema, & China, 2014). Similarly, fire disasters in Tanzania's secondary schools are alarming. Between 1994 and 2017, more than twenty secondary schools were gutted resulting in deaths and injuries to students, as well as the demolition of the school facilities and infrastructures (Bushesha & Ndibalema, 2017; ITV, 2016; Kahwa, 2009; Majira, 2015; Mwananchi, 2016; Nipashe, 2009; RFA Tanzania, 2017; Uhuru, 1994; Uhuru, 2009; Uhuru, 2016). The recurrence and side-effects of fire disasters in secondary schools, call for international and national governments to initiate policies for managing safety in schools.

In Tanzania, the former Ministry of Education and Vocational Training (MoEVT), currently known as the Ministry of Education, Science and Technology (MoEST) issued policy directives for managing fire outbreaks in schools, with a focus

on secondary schools and Teacher Training Colleges (WEMU, 2011). The directives from the policy document, among other things, demand on schools and Teacher Training Colleges to install smoke detectors, fire-fighting facilities such as fire-extinguishers and ensure that these facilities are timely serviced. However, the events of fire outbreaks have continued unabated despite the issuance of fire disaster management policies. The question remains on how the policies for managing fire disasters in secondary schools are formulated and disseminated, the preoccupation of the current study.

Argument

Fire outbreaks are critical problems in Tanzania's secondary schools as they affect safety, tranquillity, trust and the teaching and learning environment for curriculum implementation. These fire incidents disrupt the normal functioning of the schools by gutting down facilities, buildings and materials as well as causing injuries and/or deaths to the victims. The most affected segment of the population is children in schools, especially when dormitories are burnt. To mitigate the problem, the Ministry of Education, Science and Technology (MoEST) formerly known as Ministry of Education and Vocational Training (MoEVT) issued policies for managing fire outbreaks (WEMU, 2011). Despite the policy guidelines being issued, the problem has persisted over the years. This reveals a gap between policy intentions and ground practices. The recurrence of fire outbreaks in Tanzania's secondary school also raises questions on who participates in policy formulation, the processes and channels of communication to ensure that these policy guidelines reach secondary schools for implementation. This explores the policy formulation procedures and channels of communication to distribute policy documents in secondary schools for implementation, a part of a systematic strategy aimed to effectively manage fire disaster events.

Studies on fire disasters have been widely conducted in the United States (FEMA, 2016, Satterly, 2014; Tropical Fire Report Series, 2014), the United Kingdom (Wade, Teeman, Golden, Wilson, & Woodley, 2007), in Asia (Mutch, 2014; O'Connor & Takahashi, 2014; Tanaka, 2012), South Africa (Pasipamire, 2011) and Kenya (Nasimiyu, Wakhungu, & Omuterema, 2017; Shibutse, Omuterema, & China, 2014). However, rare studies have been done, mainly in Tanzania, to explain the correlation between the issuing of policies and management of fire disaster events in secondary schools. Generally, fire disasters are non-selective in their occurrence because all nations of different status, developing and developed, are subjected to occurrence of the problem, particularly in schools. The following sub-parts explain literatures related to fire outbreaks in various parts of the world.

Fire Outbreaks in Developed Countries

The Federal Emergence Management and Administration (FEMA) of the United States contend that the consequences of

fire outbreaks are highly experienced in schools, leading to the destruction of infrastructures and facilities (FEMA, 2016). Schools in poor communities are the more vulnerable than those situated in rich communities because in the latter case, early warning systems are active. The school fires mostly originate from cooking, arson and heating. However, injuries and deaths from fire disaster incidents are very minimal (Satterly, 2014; Tropical Fire Report Series, 2014) due to proactive emergency preparedness among students. The report adds further that the major fatalities in schools stem from transportation, shootings, suicides and other kind of killings.

Fire disasters are also experienced in the United Kingdom (UK) mostly resulting from arson and other indeterminate sources (Merseyside Fire & Rescue Service, n.d.). The country reportedly faced an average of three incidents of fire in schools a day. According to Wade, Teeman, Golden, Wilson, and Woodley (2007), the loss from school fires rose from an estimated £49 million in 1995 to £67 million in 2005. NEU (2017) report that the Grenfell Tower fire was the worst incident in the country over the past ten years after killing more than 72 persons. To overcome the problem, the UK decided to incorporate fire disasters in the school curriculum to create awareness among the students for sustainable emergency preparedness (Shape & Kelman, 2011). Currently, the teaching of emergency preparedness is mandatory among the students in all lower level classes, including secondary schools (ibid.).

In Japan, New Zealand, Indonesia, Australia and other Far Eastern countries, major fire incidents affecting schools are caused by natural calamities (Bird, Chagué-Goff & Gero, 2011; Mutch, 2014; O'Connor & Takahashi, 2014; Tanaka, 2012). Earthquakes are commonly associated with overturning or falling down of heating facilities such as heaters, cookers (ire, 2011). This framework aimed to guide communities to manage fire disasters in schools and communities. Similarly, the Kenyan government issued emergency preparedness guidelines following regular incidents of fire in schools for managing the problem (Nasimiyu, Wakhungu, & Omuterema, 2017). The guidelines on fire disaster management are intended to create awareness among school members and the larger community to mitigate fire outbreaks. The Ministry of Education (MoE) of Kenya, in this regard, also insisted on education managers to inculcate the culture of safety to manage fire outbreaks in schools, particularly in secondary schools (Shibutse, Omuterema, & China, 2014). The incidents of fire, however, continued to occur in secondary schools the efforts to manage the problem guided by the government notwithstanding (Gichuru, 2013; Kanyi, 2014; Kimathi, 2011; Kisurulia, Katiambo, & Lutomia, 2015; Mamogale, 2011; Shibutse, Omuterema & China, 2014).

In Tanzania, fire outbreak-related incidents are widespread and prompted the government to issue policies for managing the problem. In 2011, the government issued the National Disaster Management Policy (PMO, 2011) and in 2015 it enacted the National Disaster Management Act, 2015 (URT,

and candles and eruption of fires. Infrastructures, which facilitate the production of power such as gas piping and electricity wires are also destroyed to cause leakages, shot circuits and flames (Sekizawa & Sasaki, 2014). The seriousness of fire disasters in schools prompted the countries to review disaster preparedness policies for managing adverse effects of the problem (World Bank Disaster Risk Management Hub, 2017). Kitagawa (2014) and Tanaka (2012) further contend that the regular occurrence of calamities in schools, including fire incidents, impelled Japan to improve its educational policies for efficient management of disasters. In retrospect, the human fatalities from fire outbreaks seem rare in developed countries as compared to developing countries, although policies are issued to manage the problem.

Fire Outbreaks in Developing Countries

Countries such as India and Iran are highly affected by fire outbreaks originating from human inducements (Taghizadeh, Mowafi, & Ardalan, 2013; Tropical Fire Report Series, 2014). The fire incidents caused injuries, deaths and destruction of properties. In 2004, for instance, more than a hundred students died whereas others were seriously injured in the school fire in India (Beware, 2004). Similarly, 441 school children died in 1995 from the stampede and panic when the building used for annual celebrations caught fire. Between 2005 and 2012, Iran faced six and more alarming school fires which consumed the lives of five students and 67 others were injured seriously (Taghizadeh, Mowafi, & Ardalan, 2013).

In Africa, the most adversely affected nations are in the South of the Sahara where deaths and injuries from fire outbreaks are widespread. South Africa, for instance, established the Disaster Management Framework after witnessing regular fire outbreaks in its secondary schools (Pasipam 2015). These developments were part of concerted efforts made aimed to manage disasters in the communities, including fires in the schools. To manage disasters in the education sector, the then Ministry of Education and Culture (MoEC) and subsequently the Ministry of Education and Vocational Training (MoEVT) issued policy statements which insists on providing education (teaching and learning process) in a safe and friendly environment, free from disasters (MoEC, 1995; WEMU, 2014). Furthermore, the MoEVT issued a policy directive (Education Circular Number 4 of 2011) to manage fire outbreaks in schools and Teacher Training Colleges (WEMU, 2011). The circular was formulated to curb the persistence of fire outbreaks in secondary schools. However, school fire incidents continued to happen over the years. More importantly, hardly any evidence exists to explain how policies to manage fire outbreaks in secondary schools are formulated and distributed to schools for managing the disasters. Changing procedures of formulating and disseminating policies is therefore inevitable for inspiring the contextual issues existing in communities, secondary schools in particular.

The literature reviewed underscore the significance of the change management theory in inculcating policy formulation processes and dissemination in the education sector for managing fire outbreaks in secondary schools. This theory is crucial in implementing change in the community, including educational institutions by facilitating the formulation of pertinent policies for distribution in secondary schools to manage fire disasters effectively and efficiently. The theory explains how the top authorities, for example the MoEST in this case, should formulate suitable policies for managing fire outbreaks in secondary schools. This study, therefore, focuses on the relevant approaches to policies for managing fire outbreaks in secondary schools, how they are formulated and the channels of communication deployed to reach implementers at the lower levels of schools. Policy formulation entails making and issuing of policy statements for managing a particular problem in the society. The channels of communication, on the other hand, are means for ensuring that policy documents reach target persons for effective implementation of policies pertaining to fire outbreaks in secondary schools in a bid to solve them.

Previously reviewed literatures on fire disasters in schools primarily focused on the causes of fire outbreaks (Nyagawa, 2017) and the schools' preparedness in managing such deadly incidents (Kahwa, 2009). The studies also discussed the side-effects of fire disasters in schools including deaths, injuries and destruction of facilities and infrastructures. More importantly, some fire incidents in schools occurred because the directives and guidelines issued by the government to manage the outbreaks were not properly effected. In this regard, the extant literatures and empirical evidence suggest that many of the studies have been conducted outside Tanzania, from different contexts. In retrospect, the events of fire outbreaks in secondary schools continued to happen despite the policies issued by the governments to solve the problem. It is against this backdrop that the current study was carried out to explore the approaches to formulating policies aimed to manage fire outbreaks in secondary schools and how the directives reach the implementers at the school level, in Tanzania.

Theoretical Underpinning

The study was guided by the change management theory (Mullins & Christy, 2013) which works on the assumption that change is inevitable in organisations for moving forward or for solving a particular problem. The theory is built on the assumption that the existing cultural practices used in formulating policies in education cannot satisfy the needs of secondary schools to manage fire outbreaks, thus, should be repealed to meet the contextual requirements (Kreitner, 2009). In this case, the top-down policy-making approach (Birkland, 2001; O'Connor & Netting, 2011; Matland, 1995) adopted by the MoEST to formulate fire disaster management policies appears inept in mitigating fire outbreaks in secondary

schools. Although the government issued policy directives for guiding management of fire outbreaks in secondary schools (WEMU, 2011), the problem has persisted over the years without any sign of abating. Kreitner (2009) found that people tend to respond positively in actions they are aware of and can bring about positive results. Change for instance, is warmly welcomed when people are involved in the process. However, Kreitner (2009) contend that not all the changes taking place in the organisation or system are necessarily beneficial to individuals and the organisation. Critically, changes are highly resisted because of their unknown consequences and unpredictability. To make the change familiar and workable, the community should undergo the stages of change gradually. Kurt Lewin in Hussain, Lei, Akram, Haider, Hussain and Ali (2018) suggest that people may accommodate change once engaged in a three-tier change process model involving unfreezing, changing and refreezing. The stages of change management are further extended and improved by Lippitt, Kotter and Jick into seven, eight and ten steps, respectively (Kotter, 2012; Kritsonis, 2005; Pryor et al., 2008). These steps guide the education sector or educational institutions in managing change to formulate rational policies for managing fire outbreaks in secondary schools.

O'Connor and Netting (2011) proffer that demands for change should come from the people facing the problem instead of being initiated by top authorities, for example, at the ministerial level. Critically, Alphonse (2000) insists on the leaders and the led to share ideas to build a common understanding or rational policy instead of one side being dominated unduly by another. In this regard, Mosha (2006) concedes that policies which do not originate from the majority are not justifiable for effective implementation. The change management theory is relevant in this study because it acknowledges inputs from lower levels as necessary ingredients in making appropriate policies for implementation in secondary schools to manage fire outbreaks. In fact, participation of policy implementers during the policy formulation process makes it relevant, familiar and workable. When the opposite is true, policy option makes it difficult to manage the problem facing the society (fire outbreaks in secondary schools). However, Mosha (2006) cautions that public policies are, sometimes, undermined by individual or group interests and consequently become irrelevant even when the inputs are drawn from the people. In fact, weighing strengths and weaknesses, change management theory adopted in this study is relevant in formulating rational policies to manage fire outbreaks in secondary schools because it insists on the participation of policy implementers throughout the policy formulation process.

Conceptual Framework

The conceptual framework applied in this study has been developed from related literatures and empirical studies reviewed:

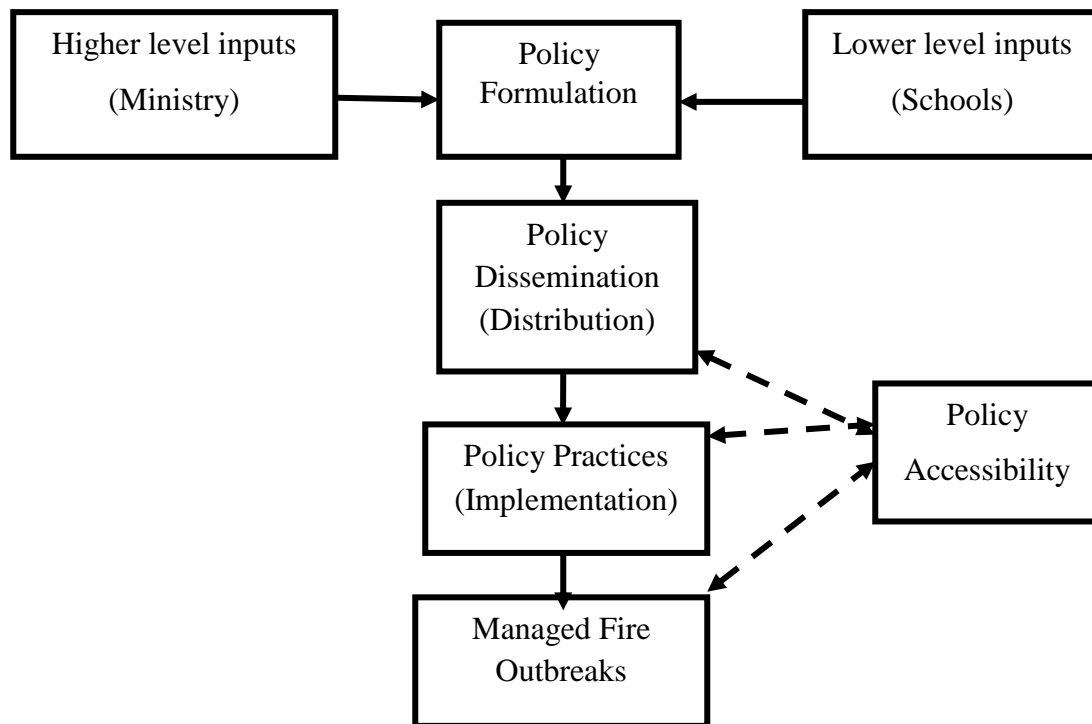


Figure 1: Conceptual Framework of the Study

The conceptual framework presents procedures for formulating a coherent public policy to manage fire outbreaks in the country's secondary schools. Towards this end, the higher level represents the MoEST, which stands at the apex of the country's educational system and is responsible for issuing policies implemented in secondary schools. Currently, the MoEST formulates policies without necessarily involving the implementers at the grassroots, including secondary school stakeholders. This worrisome trend culminates in missing essential inputs from the contexts mostly affected by fire outbreaks. The framework, therefore, suggests that, a coherent public policy for managing fire outbreaks should draw inputs from both sides, the higher level authorities (the Education Ministry in this case) and the lower level stakeholders (including secondary schools). Moreover, the dissemination, implementation and general management of fire outbreaks in secondary schools are determined by the accessibility of the public policies that secondary schools are supposed to follow. The public policy so formulated and disseminated to the implementing agents shall be popular and relevant to overcome the problem. This is a significant step towards having a rational public policy option capable of fostering the effective management fire outbreaks in secondary schools, as the contrary has prolonged the recurrence of fire disasters.

II. METHODOLOGY

The qualitative research methodology was adopted to guide the study, particularly in the selection of the research design, data collection instruments, data analysis techniques, the study sites and population of the study. Qualitative research

approach was appropriate for gathering detailed information from the policy-makers, education stakeholders, policy implementers and, specifically, the people affected by fire outbreaks in secondary schools (Cohen, Manion and Morrison, 2007). The study specifically relied on gathering verbal information from the participants at the study sites as well as the analysis of policy documents (Wellington, 2000; Schratz & Walker, 1995). The researcher relied on a multiple embedded case study design (Yin, 2011). The design facilitated the gathering of information from different secondary schools, councils, regions, zonal school quality assurance offices and the headquarters of the MoEST (Sharpe & Kelman, 2011; Ball, 1981; Lacey, 1970). The data and information obtained from various offices and secondary schools studied were amalgamated as multiple embedded cases in studying the problem of fire outbreaks in secondary schools (Komba & Mpeta, 2014; Kahangwa, 2014; Peter, 2014; Wright, 1992). Indeed, the multiple case study design engendered the gathering of rich information on the formulation and distribution of policies to manage fire disaster events in secondary schools.

The study adopted purposive sampling to pick 4 secondary schools, 4 councils, 3 regions, 3 zonal school quality assurance offices and 1 ministerial headquarters (the MoEST). The selection was based on the persistence and existence of secondary schools critically affected by the problem of fire outbreaks. In this regard, only areas and secondary schools, which had experienced incidents of fire outbreaks more than once were drafted into the study. The areas selected proved to have rich and sufficient information on the occurrence of fire

disaster events and how stakeholders were involved during the policy formulation process for managing fire disasters. The secondary schools were selected as major victims of fire outbreaks, and thus were able to provide in-depth information on stakeholders' participation in policy formulation and reception of the policy documents issued by the MoEST for implementation purposes. The zonal school quality assurance offices, councils and regions, were also purposively selected because of their strategic placement as monitors of secondary schools by ensuring that policies issued by the MoEST reached the schools and were properly enforced. The education zones selected were the Southern Highlands, Highlands and North-Eastern, which encompass Iringa, Mbeya and Kilimanjaro regions. The councils purposely selected for study were Iringa Rural, Mbeya City, Hai and Rombo districts. The headquarters of the MoEST was exclusively chosen for its dual role as the creator and source of education policies disseminated to schools for execution.

In all, the study generated data from 116 participants comprising 61 students, 35 teachers, 3 Heads of School (HoSs), 4 District Secondary Education Officers (DSEOs), 3 Regional Education Officers (REOs), 7 Zonal School Quality Assurers (ZSQAs) and the Commissioner of Education (CoE). Data were collected using face-to-face interviews, focused group discussions, physical observation and documentary review. The triangulation of research instruments enabled the researcher to obtain rich information which could not be gathered through one technique (Wellington, 2000). Moreover, the researcher visited the population under the study in the natural setting for gathering information on fire disaster incidents which took place in their localities. The visits enabled the researcher to verify some information

provided by the participants through observing the remnants of fire disaster events. The data and information obtained from the study sites was analysed with assistance of NVivo 11 to avoid being overwhelmed by the resultant voluminous data. Units of analysis were based on the groups of participants studied, namely students, teachers, Heads of School, School Board members, Education Officers, School Quality Assurers and the Commissioner of Education. The researcher identified themes and sub-themes from the data analysed, used as headings and sub-headings during the presentation and discussion of the study findings. Furthermore, the qualitative data was then subjected to Huberman and Miles' (1994) techniques of qualitative data analysis comprising data reduction, data display, conclusion and data verification.

III. STUDY FINDINGS

The first part of the study sought to answer the research sub-question: How were the stakeholders involved during the policy formulation process? The study findings show that only the Heads of Department and the Commissioner of Education at the ministerial level (MoEST) participated in formulating policies to manage fire disasters in the country's educational institutions, including secondary schools. Results from study also indicate a variation of information provided by the participants on their participation in formulating policies for managing fire outbreaks in secondary schools. Some of the participants of the same group said they did not participate but others said they were involved through some activities done. The summary of information provided by the participants (students, teachers, Heads of School, School Board Members, Education Officers, Zonal School Quality Assurers and the Commissioner of Education) is presented in Table 1:

Table 1: Information on the involvement of stakeholders in formulating fire disaster management policies issued by the MoEST

Category of participants	Involvement in formulating policies	Number of participants	Percentage (%) within a group	Total	%
CoE	<ul style="list-style-type: none"> Preparation of policy proposal Through discussions in the Ministerial Committees 	1	N/A	1	N/A
REOs	<ul style="list-style-type: none"> Not involved in policy formulation 	1	33.3	3	100
	<ul style="list-style-type: none"> Through responding against questionnaires 	2	66.7		
ZSQAs	<ul style="list-style-type: none"> Not involved in policy formulation 	5	71.4	7	100
	<ul style="list-style-type: none"> Through preparation of the school inspection reports 	2	28.6		
DSEOs	<ul style="list-style-type: none"> Not involved in policy formulation 	4	100	4	100
SBMs	<ul style="list-style-type: none"> Not involved in policy formulation 	2	100	2	100
HoSs	<ul style="list-style-type: none"> Through participating in seminars 	2	66.7	3	100
	<ul style="list-style-type: none"> Not involved in policy formulation 	1	33.3		
Teachers	<ul style="list-style-type: none"> Through curriculum implementation (teaching & learning process) 	2	5.7	35	100
	<ul style="list-style-type: none"> Not involved in policy formulation 	33	94.3		
Students	<ul style="list-style-type: none"> Not involved in formulating the policy 	61	100	61	100

Involvement through preparation of the policy proposal

The interview conversation with the Commissioner of Education (CoE) revealed that she was involved in formulating the fire disaster management policy by preparing the policy proposal, which was shared with other heads of department at the headquarters of the ministry of education. This means only education officials at the headquarters of the MoEST participated in formulating the policy for managing fire outbreaks in secondary schools. On the other hand, the majority of the stakeholders at the lower levels of the ministry were denied an opportunity to contribute their views. This scenario is reflective of the top-down policy making theory (Birkland, 2001), which ignores inputs from the people mostly affected by fire outbreaks (that is, teachers and students in secondary schools). The situation might be the root-cause of prolonged occurrence of fire disasters in secondary schools, despite the ministry's issuance of policy to manage the problem. During face-to-face interview, the CoE admitted:

I am responsible for preparing the proposed circular [policy proposal] together with other heads of ministerial departments, before subsequent discussions and approval ... then the circular is issued to different stakeholders to put into practice [implementation].

Participation in discussions in ministerial committees

Information obtained from the CoE during the interview session shows that only education officials (heads of department) and the CoE participated in discussing the policy proposal, later approved by the Minister responsible for Education. Implicitly, stakeholders at the lower levels (zonal, regional, district to school) hardly got involved in discussing the relevance of the policy proposal to manage fire outbreaks in secondary schools. Failure to seek inputs from relevant contexts, where fire disasters occur, reveals rigidity to changing the system of formulating policies. In this regard, formulation of a coherent policy should involve the policy agents facing a problem of fire than imposed by the top-down approach whereby the top authorities reigned (Alphonse, 2000). This reveals further that the continued occurrence of fire in secondary schools was driven by the issuing of unpopular and irrelevant policy to the people responsible for implementing them. Suggestively, the top-down policy-making approach should be changed for the better (Kreitner, 2009) by involving all the stakeholders responsible for implementing the policy throughout the process. The procedure of discussing the policy proposal at the ministerial level was verified by the CoE who explained:

The proposed circular [policy] is discussed by the management, which is made up of the three Ministerial Departments of different levels, primary, secondary and Teacher education together with the School Quality Assurance and the Commissioner's office ... later, the Commissioner presents the proposed circular to the Minister for previewing and

providing advice against it ... if the circular is adhered and approved by the Minister, the Commissioner shall publish and issue the document for implementation... School Quality Assurers at the zonal and district levels, Regional and District Education offices, and secondary schools, are not involved in the preparation of the circulars.

Involvement through participation in seminars

Information from two Heads of School (HoSs) out of three interviewed confirmed that they were involved in participating in seminars. Indeed, the short-term training was attended by the HoSs for awareness creation against fire outbreaks in secondary schools. The information obtained from the HoSs contradicts with that provided by the CoE to the effect that those stakeholders at the lower levels of the ministry were not involved in the policy formulation process. And yet, the involvement of the HoSs is crucial for the incorporation of the contextual issues in the final policy document. Principally, seminars were conducted to inform HoSs on how to implement fire disaster management policies, and not necessarily to develop the policy. In other words, the HoSs were not involved during the policy formulation process, and instead they were responsible for executing ready prepared policy directives. Failure to involve the HoSs created a knowledge gap between the policy demands and the actual situation existing in secondary schools. In this regard, one Head of School interviewed clarified: "The Heads of School are the only ones involved in seminars but had never been involved in preparing circulars and directives used for managing fire disasters in our schools."

Responding to questionnaires

Findings from information provided by the Regional Education Officers (REOs) shows that they were involved in responding to questionnaires administered by the ministerial officers from the President's Office, Regional Administration and Local Government (PO-RALG). However, in the Tanzanian context, policies guiding the education system in the country are formulated by the MoEST. In other words, data collected by PO-RALG were used for other purposes rather than the preparation of policies for managing fire disasters in secondary schools. The misunderstanding posed by the REOs was levelled at the CoE who espoused that only heads of department from the MoEST headquarters participate in formulating policies to guide the management of fire outbreaks in secondary schools. However, this connotation calls for the involvement of education officials from the regional level, including REOs in providing inputs for making rational policy option to manage fire disasters in secondary schools. The Ministry of Education, Science and Technology (MoEST) should change the current policy making approaches by involving lower level school supervisors throughout the process, as suggested by Mosha (2006) and Mullins and Christy (2013). Reinforcing the ideas, one REO further explained:

I remember the time when working at the Council level, people from the President's Office-RALG came with questionnaires to see what should be done particularly in Boarding Secondary schools to reduce incidents of fire ... Therefore they got inputs from the council, but at the regional level, personally I had never been involved by any means, to comment or give opinions about the policies concerned with fire made by the Ministry of Education.

Involvement through the preparation of school inspection reports

This information was provided by 2 (28.6%) out of 7 Zonal School Quality Assurers (ZSQAs) during the face-to-face interviews. Findings from this segment revealed that the ZSQAs were involved in the policy formulation process during the preparation of school inspection reports. However, there was no clear evidence if the comments from school inspection reports were accommodated during the preparation of policies for managing fire outbreaks in secondary schools because none was involved from the zonal level. Failure to involve lower level personnel working with secondary schools denies the ministry necessary inputs which would be incorporated in the policy formulated to match with contextual demands. The researcher suggests that, the Ministry (MoEST) should change the mind-set by involving the ZSQAs to provide in situ inputs in the policy to manage fire disaster events in secondary schools. Arguably, the persistence of fire outbreaks in secondary schools is attributed by lack of contextual inputs from the policy implementers at the lower levels of education managements. One ZSQA interviewed admitted that:

It is true that we are not directly involved ... what I can say, may be indirectly from our school inspection reports ... after inspection of a school affected by fire outbreak, we should provide suggestions and recommendations including what should be done to manage fire disasters ... however, we had never been involved directly to prepare a policy or a circular for managing fire disasters in schools, just a belief that our suggestions and recommendations in the school inspection reports are incorporated in the policy formulated.

Participation through curriculum implementation

Data from teachers obtained through the Focused Group Discussions (FGDs) show that 2(5.7%) out of 35 said were involved in curriculum implementation in the classrooms. Findings from information revealed that teachers were involved through teaching and learning process, particularly in science subjects. The findings revealed further that science subjects, such as Chemistry, had topics dealing with fire rescue and First Aid. However, the teaching and learning process is an integral part of the implementation of policies of managing fire outbreaks in schools rather contribution of inputs to formulate them. Simply put, the teachers did not

participate in the policy formulation process rather implementation of it. Failure to involve teachers in the policy formulation process is at odds with the suggestion by Alphonse (2000) and Mosha (2006) to the effect that leaders and the led should share ideas to formulate rational policies for resolving a particular problem in the society. The MoEST, therefore, should adopt the change management theory (Hussain, Lei, Akram, Haider, Hussain, & Ali, 2018; Kotter, 2012; Kritsonis, 2005; Pryor et al., 2008) to incorporate ideas from the people at the lower levels of the ministry during the policy formulation process. During the FGDs a teacher further commented:

Teachers are involved, to a great extent, in the curriculum, that means in Form One there are such topics which deals with fire accident and fire fighting, only that one, but not through seminars or conferences or conducting interview to teachers ... only in the curriculum that teachers are involved through educating students in those issues.

Another teacher said:

Also in the syllabus we have components that we teach how to fight against fire, for example in the Chemistry subject. We are also required to teach the uses of fire-extinguishers ... this is found in the curriculum ... Therefore we teachers are involved that way.

Non-involvement in policy formulation

Findings from information articulated by the majority of participants, that is 1(33.3%) REO, 5(71.4%) ZSQAs, 4(100%) DSEOs, 2(100%) SBMs, 1(33.3%) HoS, 34(97.1%) teachers and 61(100%) students indicates that they did not participate in formulating policies to manage fire outbreaks in secondary schools. Primarily, the stakeholders at the lower levels of managements (below the ministry level) are the ones mostly affected by fire disaster events, particularly students and teachers in secondary schools. Moreover, these are responsible for implementing policies and directives issued by the ministry to overcome or stave off fire disasters. In this regard, their inputs could help make coherent policies for managing fire disasters in secondary schools. However, their contribution was not considered, instead the top-down policy making approach (Birkland, 2001) was adopted. The approach contravenes findings of the World Bank Disaster Risk Management Hub (2017); Kitagawa (2014); Tanaka (2012) and Pasipamire (2011) that the governments modified their policies to overcome the regular occurrence of fire outbreaks in schools. The Tanzania government, therefore, should adopt the change management theory to ensure that policies made for managing fire disasters in schools incorporated ideas (inputs) from implementers at the lower levels, particularly students and teachers (major disaster victims). Failure to involve key stakeholders in the policy formulation process denies a sense of awareness and responsiveness to mitigate fire disasters, hence leading to prolonged recurrence of the

problem in secondary schools (Gichuru, 2013; Kanyi, 2014; Kisurulia, Katiambo & Lutomia, 2015; Shibutse, Omuterema & China, 2014). A teacher in one school said: “There is no participation of teachers in formulating policies for fighting against fire disasters in secondary schools.” In addition, a student in another school explained:

From my side, during the preparation of all those policies, I had never see participation of the whole school to contribute our views, may be teachers were invited to represent us, but students did not participate at all.

The second part of the study sought to answer the second research sub-question: How are policies for managing fire disasters disseminated in Tanzania’s secondary schools? Findings from the information provided by the HoSs, DSEOs, ZSQAs, SBMs, REOs, CoE, teachers and the students generated using face-to-face interviews and FGDs show that policy documents did not reach all the secondary schools on timely basis and in the manner they should. Moreover, the study findings revealed that there were no proper channels for communication monitoring by the MoEST to ensure that policies reached in schools ready for implementation. The ministry’s failure to issue policy documents in secondary schools on time denied the schools accessibility to the directives and lack of awareness among the key implementers (students, teachers and the school community in general). In other words, the school managements did not have a guideline to lead them on how to manage fire disasters in their localities. The main consequence of this anomaly was the continuation of fire disasters including repeated fire outbreaks in the same schools and others. During the interview conversations with CoE, it emerged:

The approved policy documents are channelled to the Heads of Department at the Ministry’s Headquarters who should issue further instructions down to secondary schools for implementation. But I am not sure if those documents reach secondary schools or not ... it is real a challenge to us and nobody makes follow-ups to ensure that policies are received in schools.

One of the ZSQAs interviewed further claimed:

Generally, on my side, I am not sure if those policies or circulars from the Ministry, used to manage fire disasters in schools, had been here ... what I know is that in the past four years the government ordered all the schools to install smoke detectors ... that is all, but the circular or policy is not yet brought here ... just our top leaders announced without any document.

The study further sought to establish the policy documents in secondary schools for managing fire outbreaks. Findings from documentary analysis show that the policy documents issued by the MoEST for managing fire outbreaks did not exist.

Instead, there exists minutes of the School Board meetings conducted after occurrence of fire disaster events. Moreover, there were directives issued by local councils (regional and district authorities) which did not match with the MoEST policies. This mismatch did not help secondary schools manage fire disasters effectively; instead the problem continued unabated over the years. The contention indicates that the MoEST policies for managing fire disasters did not reach secondary schools as they should, which resulted in lack of awareness among policy enforcers at the school level. Subsequently, the problem of fire outbreaks continued to exist over the years.

IV. CONCLUSION AND RECOMMENDATIONS

The study investigated the approaches adopted by the Ministry of Education, Science and Technology (MoEST) in formulating and disseminating policies for managing fire outbreaks in secondary schools. The general findings from the study indicate that only the ministerial level officials (top-level managements) participate in formulating policies. This top-down approach adopted by the ministry denied the most needed inputs from the lower levels (contextual issues) in the formulation of rational policies for managing the problem. Despite claims from some participants that they were involved in curriculum implementation, preparation of school inspection reports, respondents in the questionnaires and participation in seminars, general findings from the study indicated that the education stakeholders below the ministerial level did not participate in the policy formulation process. These findings conflict with the spirit of the change management theory (Hussain, Lei, Akram, Haider, Hussain, & Ali, 2018; Kreitner, 2009; Kotter, 2012; Kritsonis, 2005; Pryor et al., 2008) which insists in the top level managers to share ideas with their subordinates in a bid to prepare a coherent policy for the effective management of fire disasters in Tanzania’s secondary schools.

The findings further indicate that policies issued by the MoEST for managing fire disasters did not reach secondary schools. Implicitly, the channels of communication from the ministerial level downwards to secondary schools did not work. Indeed, without having policies in place, people lack the guidelines of what should be done to manage the problem affecting them. Suggestively, the ministry officials should change the current approach to policy formulation by incorporating ideas raised by lower level managements for issuing rational and workable policies to overcome fire outbreaks. In addition, there should be known and working channels of communication from which policies should reach implementers at lower level managements, including secondary schools. The MoEST should, therefore, build the capacity of school monitoring teams, such as the School Quality Assurers to visit schools regularly for monitoring the availability of policies issued by the MoEST and how they were being implemented on the ground. The monitoring team may also draw on opinions from lower levels to the attention of top level managements and vice-versa to ensure that

policies issued are shared by both sides. Generally, the problem of fire outbreaks in Tanzania's secondary schools can be managed if both sides, top and lower level managements, cordially participate in the policy formulation processes and ensure that the policy document reach implementers at the lower levels. Otherwise, the persistence of fire disaster incidents in secondary schools would still remain as unanswered question.

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