

**SOCIO-ECONOMIC EFFECTS OF MARKET FIRES
OUTBREAKS: AN EVIDENCE OF MBEYA CITY,
TANZANIA**

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Abstract

Fires are considered a potential threat to sustainable development of markets. However, little information is available on the sources and socio economic effects of market fires. This study therefore, investigated the sources of market fires, socio economic effects and risk mitigation taken by micro entities to protect business loses in Mbeya City market segments. This study used a quasi-experimental research design in which chain referral sampling plan was employed. Semi-structured questionnaires were used to collect cross sectional data of which 55 micro business participants were interviewed. Descriptive statistics information was obtained by using SPSS package. Survey results showed that 83.6%, 81.8% and 89.1% of interviewed respondents had formal businesses, self employed and retailers, respectively and those were affected by fire (100%). Furthermore, it was found that 90.9% of businesses were not insured after fire outbreak. Moreover, 72.7% of interviewed participants' families' livelihood were affected because they were depending on businesses they operated. It is therefore, concluded that most of participants interviewed in small businesses were self employed, not risk averse and they lost families' livelihoods. It is therefore, recommended that the government should support small business to enhance self employment and should provide education on insurance.

Key words: Market fires, self employment, micro business, insurance and Mbeya City markets

1.0 Introduction

Fire disaster is a serious disruption of the functioning of a community or society causing widespread human, economic or environmental losses which exceed the ability of the affected community/society to cope using its own resources (URT, 2012). Fire is rapid, self-sustaining oxidation process accompanied by the evolution of heat and light in varying intensities. Fire is believed to be based on three elements being present: fuel, heat and oxidizer [<http://saarc-sdmc.nic.in/pdf/fire> visited on 20/5/2014].

Fire disasters sometimes occur in circumstances that are unexpected or unpredictable. Manmade fire caused by human/machine errors are: industrial or chemical fire disasters, fires at social gatherings due to electrical short circuit fires, accidental fire and kitchen-fires. Any confined fire could be due to many reasons like, cooking fire confined to container, chimney or fuel fire confined to chimney, incinerator overload or malfunction, fuel burner/boiler malfunction, and trash fire [<http://saarc-sdmc.nic.in/pdf/fire> visited on 20/5/2014]. Twum-Barima (2014) found that majority of the traders were aware of the causes of fire outbreak and ranked electricity power fluctuations as the major cause.

Etunovbe (2011) defines fire disaster as perilous to people, communities and institutions. Fire accidents are common in urban and rural areas. These occur in all zones at different magnitudes and severity levels (Kassenga, 2009). Kachenje *et al.* (2010) observed that most buildings users' in Dar es Salaam did not know how to operate the facilities and were not aware of the available escape means in case of fire outbreak. Similarly, Murage (2012) found that the level of fire safety awareness in Central business district of Nyeri Town was very low. Conversely, businesses may feel the impact of severely damaged due to a fire outbreak, not only is the actual physical structure impaired, but output or sales and services decline (Bittner and Ballard, 2005).

The retail trade sector is one of the larger employment sectors worldwide (Bittner and Ballard, 2005) with the average employee size one to four persons for each of micro establishments (URT, 2003) which are at risk of being affected by market fires. Furthermore, fires are often linked to socio-economic aspects, such as unemployment rate. The frequent occurrence of fire accidents in trading markets has become a serious problem in Tanzania and in Mbeya City in particular in which Mwanjelwa, Forest, Uhindini and SIDO markets were severely damaged by

fires. However, little information is available on the sources of fire outbreak and its mitigation to reduce risks in Mbeya City markets. Therefore, this study investigated the sources of fire outbreak and possible mitigation taken by micro business participants to overcome it in Mbeya City.

2.0 Statement of the problem

It is increasingly recognized that Small and Medium Enterprises (SMEs) play a crucial role in employment creation and income generation in Tanzania (United Republic of Tanzania, 2003). SMEs, have been facing a number of problems despite the on-going reform programs (URT, 2003). The high cost of compliance to regulations that may discourage potential entrepreneurs from formally setting up their businesses while driving those working for them into unemployment is the foremost constraint (URT, 2003). Conversely, fires are considered a potential threat to sustainable development (Tacconi, 2003). Those market fires that occurred in Mbeya City markets at different times have continued to render much jobless, disrupt economic activities and worsening the problem of poverty of micro establishments affected (Oladokun and Ishola, 2010). Also, the socio-economic impacts of these accidents were aggravated by the fact that victims of such fire disasters, mostly small scale traders and artisans, were without adequate insurance cover (Twuma-Barima, 2014). Yet, little information is known on the source of market fires and its mitigation taken by micro business participants after fire accidents. Therefore, this study investigated the possible sources of market fires and whether micro entities have insured their businesses in Mbeya City markets.

3.0 Methodology

3.1 Study location

The survey was conducted at Mwanjelwa, Forest, Uhindini and SIDO markets in Mbeya City. These markets were chosen because they were hardly affected by market fires at different periods among other markets in Mbeya City. Also, the micro business participants whom their business activities were destructed by fire were in a position to provide best information so as to achieve study objective.

3.2 Research design

The present study employed cross sectional quasi-experimental research design in which there was no random assignment to respondent of micro business participants who were affected by market fires from Mwanjelwa, Forest, Uhindini, and SIDO markets differently (Kryisk and Finn, 2007).

3.3 Sampling plan

Survey study employed chain referral sampling whereby the cases were selected in a network during data collection (Newman, 2007). This was used because it was difficult to identify micro business participants from those affected markets in Mbeya City (Saunders *et al.*, 2009, Kryisk and Finn, 2007). The number of participants built up as each person identified multiple new potential recruits (Kryisk and Finn, 2007). Chain referral sampling was useful for locating hard-to-access participants, and it could be used when no sampling frame is available (Kryisk and Finn, 2007). The researcher also deliberately asked participants to identify potential participants who had divergent ideas or perspectives on market fires. In this manner the researcher diversified the range of attitudes, behaviors, and other elements (Kryisk and Finn, 2007) represented in the sample size of 55.

3.4 Data collection instruments

Cross sectional data were collected using closed ended questionnaire in which observation was done ones and this was the simplest and least costly approach (Newman, 2007). Cross sectional data sought to describe sources of market fires, its effect on micro establishments and their awareness on insuring their businesses as a mitigation of risks on possible losses (Saunders *et al.*, 2009).

3.5 Data analysis

Both descriptive statistics and quantitative estimation were the methods for data analysis. These methods aimed at giving detailed picture of frequencies and percentages of entrepreneurial skills of those students in their particular specializations and established causal relationships between variables (Newman, 2007). SPSS package was employed to analyze data in which descriptive and explanatory information was obtained.

4.0 Results and discussion

4.1 Characteristics of interviewed respondents

4.1.1 Sex and age of respondents

Survey findings (Table 1) showed that 83.6% and 16.4% of interviewed business dealers at SIDO market were male and female, respectively. Results indicate that male were the majority in the market compared to their counter parts female respondents. This difference could be attributed to distribution of family commitments between the two partners. Also, results showed that 54.5% followed by 27.3% of respondents were in the range of 26-35 and 18-25 age of years, accordingly. This suggests that the majority of businessmen at SIDO market were in the youth active age. Probably, this could have been caused by respondents aspirations of achieving the life goals set associated with less family binding commitments compared to the age in the range of 36-50 years of age.

Table 1: Sex and age of respondents

Sex	Participant	Percent, %
Male	46	83.6
Female	9	16.4
Total	55	100.0
Age	Frequency	Percent, %
18-25	15	27.3
26-35	30	54.5
36-50	10	18.2
Total	55	100.0

4.1.2 Marital status and household head

Findings (Table 2) showed that 54.5% followed by 18.2% of interviewed respondents were married, single and separated, respectively. Meaning that, married participants were the majority businessmen at the market than the rest participants. Survey findings propose that married business were actively involved in business, may be, because of them being able to access business loans from relatives and financial institutions through their expectations and ability to repay so as to meet their family commitments. Also, it is a scoping strategy for married businessmen to ensure daily income generation for precautionary saving purpose compared to the rest. Furthermore, 90.9% of interviewed market players were male household heads compared to their female counter part. This suggests that, male were the majority household heads at the market, indicating that male were responsible to earn a livelihood for their families. Moreover, findings (Table 2) showed that, majority (58.2%) followed by (32.7%) of interviewed

business participants had a household size of one to four and five to eight, respectively. Meaning that, majority of interviewed respondents had the least household size among the household sizes. This suggests that, business participants were aware that business activities will prosper when consumption is minimal than income generated that enhances more savings to achieve business goals set for contrary to large household sizes.

Table 2: Marital status and household head

Marital Status	Frequency	Percent, %
Married	30	54.5
Single	10	18.2
Separated	10	18.2
Widow	5	9.1
Total	55	100.0
Household head	Frequency	Percent, %
Male	50	90.9
Female	5	9.1
Total	55	100.0
Household size	Frequency	Percent, %
1 - 4	32	58.2
5 - 8	18	32.7
9 - 12	5	9.1
Total	55	100.0

4.1.3 Education level attained by respondents

Study findings (Table 3) showed that respondents interviewed had primary education (36.4%), secondary school education (34.5%) while the minority (10.9%) had attained diploma education. Results suggest that business participants with primary school education were many followed by secondary school leavers. Probably, they joined their business as they graduated from their schools through bequeathing of wealth possessed by their parents as a push way to make their children get self employed instead of being dependants, or through being employed as shops sellers of business owners in towns contrary to diploma holders. Accordingly, 81.8% of interviewed business participants were self employed while 18.2% were employed.

Table 3: Education level attained by respondents

Categories of education	Frequency	Percent, %
Informal education	10	18.2
Primary education	20	36.4
Secondary education	19	34.5
Diploma	6	10.9
Total	55	100.0
Occupation	Frequency	Percent, %
Employed	10	18.2
Self Employed	45	81.8
Total	55	100.0

4.1.4 Monthly income, type of business of respondents and fire outbreak in June, 2011

Findings showed that 47.3% of business participants interviewed earned the lowest income category followed by middle income category (36.4%) and the minority earned the highest income category. Probably, this could have been caused by fears of reporting what actually they earned because of avoiding disclosing their business information to the revenue authority. However, findings also showed that 89.9 % of interviewed respondents were retailers while 10.9% were wholesalers. This suggests that, income and business categories could be well explained by their capital structures of how they financed their businesses. However, during the period of fire outbreak in June, 2011 at SIDO, almost all interviewed respondents (100%) reported that they were affected by fire outbreak accidents (Table 4). Probably, those respondents were affected because of poor infrastructures laid at SIDO market that made difficult to rescue their goods in their shops by people with good will or the city authority.

Table 4: Monthly income of and types of business dealers affected by fire outbreak in 2011

Income categories	Frequency	Percent, %
100,000-150,000	26	47.3
151,000-300,000	20	36.4
> 301,0000	9	14.6
Total	55	100.0
Business categories	Frequency	Percent, %
Wholesalers	6	10.9
Retailers	49	89.1
Total	55	100.0

Were you affected by fire outbreak that occurred in June, 2011		
Response	Frequency	Percent, %
Yes	55	100
No	0	0.0
Total	55	100.0

4.2 Sources for fire outbreak at SIDO market

Survey findings showed that (Table 5) the reasons for fire outbreaks were associated with political issues (56.4%), followed by electrical problems (18.2%) and smoking (9.1%). The majority of interviewed business participants perceived political issues as the main reason for fire outbreaks that affected business participants at the market place. This could be attributed by the city being dominated by two political parties, ruling and the opposition party. However, the perception of the majority in that way, contradict with, on how these political parties could be the source of fire outbreak contrary to the country's policies on anti-poverty programs. Therefore, electrical problems, smoking and charcoal used by the majority, smoked by few market participants and charcoal used by food vendors for cooking at the market could be strongly linked with fire outbreaks due to carelessness in handling with no fire outbreak risk anticipation at the market place. Present findings contradict with observations made by Twum-Barima (2014) who found that electricity power fluctuation was ranked as a major cause.

Table 5: Sources of fire outbreak

Reasons	Frequency	Percent, %
Political issues	31	56.4
Electrical problems	10	18.2
Charcoal cooking	4	7.3
Smoking	5	9.1
Don't Know	5	9.1
Total	55	100.0

4.3 Have you insured your business after fire outbreak?

Study findings (Table 6) showed that 90.9% of interviewed business participants were yet insured their businesses after fire outbreak while only 9.1% had insured. This suggests that, probably, the majority of business owners were not aware with the possible mitigation methods that could be used to reduce, transfer, avoid or to share risks with others in the business chain. Else, this could be contributed by attitude of business owners being risk lover.

Also, study findings showed that 83.6% of businesses surveyed were formal while 16.4% were informal. This suggests that majority of business owners had registered their businesses and they were paying

government revenues contrary to informal business. Probably, being operating forma businesses could have enabled them to insure while anticipating for compensation of losses in case of any risk like fire outbreak. Moreover, 72.7% of interviewed respondents reported that their family depends on what is earned from their businesses contrary to 27.3%. This suggests that majority of businesses participants had lost their families' livelihood earned from businesses operated contrary to the rest similar to findings obtained by (Bittner and Ballard, 2005).

Table 6: Have you insured your business after fire outbreak?

Response	Participant	Percent, %
No	50	90.9
YES	5	9.1
Total	55	100.0
Business operated by respondents		
	Frequency	Percent, %
Formal business	46	83.6
Informal business	9	16.4
Total	55	100.0
Family livelihood dependence on business		
Response	Frequency	Percent, %
No	15	27.3
Yes	40	72.7
Total	55	100.0

4.4 Access to start up capital and family livelihood after fire outbreak

Business owners were asked on how they get started their businesses after fire outbreak. Survey findings showed that 74.5% of respondents reported they were able to start up their business while 25.5% of them were not (Table 7). This could be attributed to their ability to access funds as a startup capital during their businesses re-organization. This proposes that social capital or trust and being able to repay loans history were the likely sources for startup capital. Furthermore, 58.2%, 23.6% and 18.2% of interviewed business participants took a loan from financial institutions, had other businesses and used precautionary saving, respectively as a source for family consumption during their business distress. The present study findings agree with observations made by Oladokun and Ishola (2010) and Twuma-Barima (2014) who found that market fire affects sales and victims with inadequate insurance cover are affected.

Table 7: Access to start up capital and family livelihood after fire outbreak

Were you able to access startup capital?	Frequency	Percent, %
Yes	41	74.5
No	14	25.5
Total	55	100.0

Source of Family livelihood	Frequency	Percent, %
Had a precautionary Saving	10	18.2
Had another Business	13	23.6
Took a Loan from a Bank	32	58.2
Total	55	100.0

5.0 Conclusion and recommendations

Based on survey findings that 83.6%, 81.8% and 89.1% of interviewed respondents had formal businesses, self-employed and retailers, respectively. It is therefore, concluded that participants interviewed in small businesses were self employed. Furthermore, 90.9% of business participants reported that their businesses were not insured after fire outbreak, it is therefore concluded that participants in small businesses were not risk averse. Moreover, findings had shown that 72.7% of interviewed business participants reported their families livelihoods depend on their businesses they operated. It is therefore, recommended that the government should support small business to enhance self employment. Also, it is recommended that the government should provide education on risk sharing by facilitating insurance of small businesses so as to enhance family income sustainability through compensation of any loss caused by fire outbreak.

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