UNDERSTANDING THE TERMINOLOGIES: DISASTER, CRISIS AND EMERGENCY

Despite the fact that there is a difference between the terms disaster, crisis and emergency, they are closely interconnected, interdependent and overlap significantly. With a blurred line between the definitions of these terms, the mainstream literature uses the terms disaster, crisis and emergency interchangeably and in combination such as 'disaster crisis management' and 'crisis and emergency management'. The aim of this article is to systematically and critically review the arguments and counterarguments about the definitions of disaster, crisis, and emergency to date. A comprehensive literature review in the relevant field has been conducted in order to improve understanding of these phenomena. A qualitative conceptual content analysis has been carried out to establish the differences and similarities between disaster, crisis and emergency. The analysis reveals that the sudden nature of the event and the damage caused are the common features of all three terms, though emergency is not always of a sudden nature. Further, many common features have been identified between disaster and crisis, so that they can be used interchangeably up to a certain extent. The term emergency does not share many common features with the other two terms and has some contradictory features. Also, the authors conclude that both crisis and emergency would lead to disaster if the event were neglected or mismanaged.

INTRODUCTION

It is widely acknowledged that preventing crises or disasters poses a challenge in managing such phenomena, because of their complexity and chaotic nature. Therefore, understanding the terms disaster, crisis, and emergency may lead to more effective strategies to reduce or stop the severity of their impacts on society and business, despite their complexity. Frequently, these terms are used interchangeably, but they actually could mean three very different phenomena (Lighthouse Readiness Group, 2015). To help improve understanding of such phenomena, an attempt has been made to untangle the concepts related to disaster, crisis and emergency. Accordingly, the paper is structured as follows: Firstly to define disaster, crisis, and emergency by reviewing key literature. Secondly, the nature of disaster, crisis, and emergency and their features have been explained. Finally, the main research question of the paper: "what are the differences and the similarities between disaster, crisis, and emergency?" is answered by highlighting the differences and the similarities between these terms.

This study is an integrative review of the literature to systematically and critically evaluate the arguments and counterarguments about disaster, crisis and emergency to date, in order to enhance the current body of knowledge in this area. This integrative review is used to relate concepts and relevant arguments in order to advance and synthesise knowledge about these three terms. In doing so, the study reveals the nature of complexity in understanding the terminologies and contributes to improving the usage of such terminologies within the mainstream literature.

LITERATURE REVIEW

To identify the key research areas pertaining to disaster, crisis and emergency, a comprehensive literature has been carried out. The definitions of each of the terms have first been analysed followed by the cross analysis between the terminologies.

Disaster Definitions

The term disaster has been defined differently by various scholars due to the system by which they are explained and based on their causes and consequences. The United Nations Office for Disaster Risk Reduction (UNISDR, 2009) confirms that disasters occur as a result of a combination of hazards, vulnerabilities and a lack of measures, where using special measures for planning, coordinating and utilising appropriate resources will minimise the adverse impact of disasters (Alexander, 2003). Disasters are largely defined as sudden unforeseen events with natural, technological or social causes that lead to destruction, loss and damage (Alexander, 2005b; Jorgustin, 2012; Iyer and Mastorakis, 2006; Parker, 1992; UNSDR, 2009). Cutter (2003) states that disasters are normally on a singular large scale, and are high impact events. Some scholars have defined disasters as situations which overwhelm local capacity to withstand, cope and recover; necessitating external assistance and involving various stakeholders (Guha-Sapir, Vos, Below, & Ponserre, 2014; Lighthouse Readiness Group, 2015; Moe, Gehbauer, Senitz, & Mueller, 2007; Coppola, 2015; Parker, 1992).

Further, definitions of a disaster vary based on time and space, for example, disasters are considered as events concentrated in time and space, in which a society or one of its subdivisions undergoes physical harm and social destruction, so that all or part of the essential functions of such a society are impaired (Wilson and Oyola-Yemaiel, 2001; Fritz, 1961; Lindell, 2013; UNSDR, 2009). Furthermore, disaster is defined as "a dynamic mechanism that begins with the activation of a hazard and flows through the system as a series of events, in a logical sequence to produce a loss to life, property and livelihood by negatively influencing the emergency systems (Iyer and Mastorakis, 2006; Biswas and Choudhuri, 2012). Baker and Refsgaard (2007, p. 332) concentrated on systems' breach claims that institutional systems charged with the responsibility to manage disaster situations face multiple challenges, including the need for quick action and the accurate targeting of aid in an environment where information quality and quantity is highly unpredictable". Operationally, disasters exceed the capacity of normal, workday systems to cope with them effectively. Temporary systems of a different character must therefore be substituted.

However, disregarding the number of studies on the subject of disasters and disaster management, it seems that there is no universal definition of disaster used by all scholars and institutions (Shaluf, Ahmadun, & Said, 2003). The differences in the definition of a disaster are due to various causes and consequences and also appear to be affected by the geographic, economic and political situation of the respective countries (Eshghi & Larson, 2008) making it practically impossible to summarise in brief (Alexander, 2005a).

Crisis Definitions

This section analyses the definitions provided by various authors for the term 'crisis'. A crisis is "a disruption that physically affects a system as a whole and threatens its basic assumptions, its subjective sense of self, its existential core" (Pauchant & Mitroff, 1992, p. 15). A crisis is stated as an abnormal situation which presents a high risk to business and may trigger rapid public policy changes, since it draws public and

media attention and threatens public trust (Sawalha, Jraisat, and Al-Qudah, 2013; Shaluf et al., 2003; Alexander, 2005b). Booth (1993), cited in Moe and Pathranarakul (2006, p. 402), indicate that, "a crisis is a situation faced by an individual, group or organization which they are unable to cope with by the use of normal routine procedures and in which stress is created by sudden change". Alexander (2005b) also argues that "the significance of crisis is its unexpectedness and uncontrollability which disrupts and/or impedes normal operations". Further, Shaluf et al. (2003) agree with Robert and Lajtha (2002) and Darling's (1994) view that each crisis situation is unique and so managers adjust and respond differently to each situation. In addition, the same situation may be a crisis at one time but not at another (Darling, 1994). According to Lighthouse Readiness Group (2015), a crisis is a "time of intense difficulty, trouble, or danger and can be personal, or confined to a small population, like a family, or a company dealing with a very serious problem". Crises often have past origins, and diagnosing their original source can help to understand and manage a particular crisis or lead to an alternative state or condition (Farazmand, 2001).

In an organisational context, crises are usually new situations to the organisation, often defined as unexpected, definitely unstructured and outside the typical operational framework of the organization (Beall, 2007). They are also characterized by an excessive amount of incomplete and conflicting information.

Emergency Definitions

A third terminology investigated in this paper is 'emergency'. Emergency is any natural or man-made situation that may result in substantial harm to the population or damage to property (Shen & Shaw, 2004, p. 2110). Emergency can be defined as "an imminent or actual event that threatens people, property or the environment and which requires a co-ordinated and rapid response. Emergencies are usually unanticipated, at least in terms of exactly what happens and when and where they take place. However, they can, and should, be planned for" (Alexander, 2005b, p. 159). Moreover, emergency is defined as a state in which normal procedures are suspended and extra-ordinary measures are taken to save lives, protect people, limit damage and return conditions to normal (Alexander, 2003; World Health Organization, 2002). Conversely, Eshghi and Larson (2008, p. 63) state emergency is "an event that may be managed locally without the need for added response measures or changes to procedure".

Further, concentrating on an immediate action, Jorgustin (2012) defines emergency as "an unforeseen combination of circumstances or the resulting state that calls for immediate action; an urgent need for assistance or relief". The Lighthouse Readiness Group (2015), while agreeing with Jorgustin (2012) about the fact that emergency could lead to a disaster if left unchecked, they also claim that not all disasters are preceded by an emergency. Alexander (2005b, p. 159) defines emergency as "a broader term that includes disasters, catastrophes and smaller disruptive events".

RESEARCH METHOD

As part of a systematic review of the literature, free flowing text was analysed using qualitative data analysis techniques. To critically review the arguments and counterarguments about disaster, crisis, and emergency, forty one definitions of these terms were investigated from twenty eight sources by using conceptual content analysis and cognitive mapping approaches. Conceptual content analysis, which focuses on identifying and examining the occurrence and presence of concepts and/or

themes found within the text or sets of text (Busch et al., 1994 - 2012), was selected because it presents the opportunity to scrutinise the definitions from the literature so as to check the existence and frequency of a concept/theme. Significant desired raw information such as implicit or explicit data were extracted from texts or images by using this method. Before making interpretation and valid inferences, such information has been organised into a systematic concepts (Busch et al., 1994 - 2012; Kulatunga, Amaratunga, & Haigh, 2007). The dominant concepts in the definitions are categorised into codes in order to find similar cognition under the same concept. The occurrences of selected terms within the definitions were identified where such terms could be implicitly or explicitly related to the chosen concepts. Moreover, to bridge the gap between raw data and theory building, a cognitive mapping technique was used by structuring the concepts and themes into a hierarchical network. As a result, the relationships between the supporting and surrounding information and the concepts/themes were made explicit.

Figure 1: The Main Themes and Sub Themes for Disaster, Crisis and Emergency

The authors used qualitative data analysis software Nvivo 10 to manage the execution of content analysis and cognitive mapping for the study. After importing the definitions for disaster, crisis and emergency into NVivo 10, they were coded in three stages using open, axial, and selective coding processes (Corbin & Strauss, 1990). At the open coding stage, the key concepts/themes emerging from the information were assigned under established codes. Each of such codes in NVivo is called a 'node'. At the axial coding stage, the researcher reordered and categorised the nodes into groups by identifying the relationships between the codes. Thereafter, more elaboration and discussions were added to the set of codes by suitably extracting the relevant information to the concepts/themes established as part of the selective coding process which resulted in having a set of main themes and sub themes (see Figure 1).

FINDINGS AND DISCUSSION

Individual Analysis of Terminologies

Following the systematic literature review, a number of themes and concepts were coded for disaster, crisis and emergency, which are shown in Figure 1.

Based on the established codes, cognitive maps were developed for disaster, crisis and emergency (refer to Figures 2, 3, 4). The analysed data on the terms disaster, crisis and emergency has been provided by understanding their real meanings and nature of complexity. As per Figures 2, 3, 4, there are ten main themes for disaster, nine for crisis, and ten for emergency, where the majority of these themes have sub themes.

The analysis on disaster definitions reveals that the key features of any disaster are its sudden nature, being unforeseen, causing loss and damage, coping capacity, system recovery, external assistance and involvement of multi stakeholders. Figure 2 illustrates these features in a cognitive map.
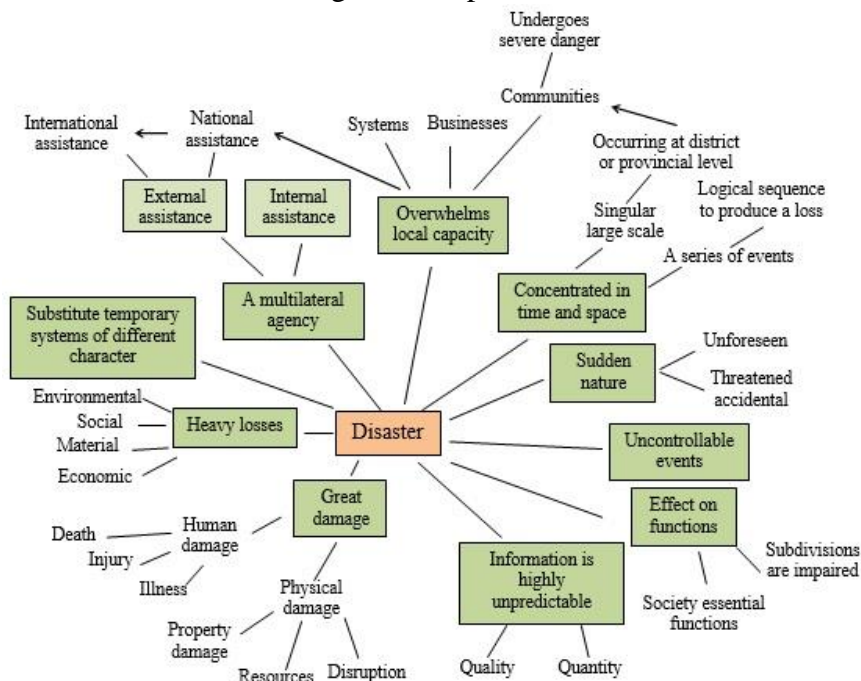

Figure 2: Cognitive Map of Disaster Definitions

The literature synthesis on crisis definitions indicates that crises are generally associated with a system, organisation, and group of people or individual. The key features of a crisis are uniqueness, danger, being troublesome or causing damage,

being unexpected, and usually emotional. Figure 3 illustrates these features in a cognitive map. The analysis on emergency definitions shows some level of contradictions such as the need for measures and being managed locally without any need for measures; unanticipated and imminent. This shows that the features of emergency can vary depending on the situation. For example, a power outage could lead to a sudden emergency, whereas a tsunami after an earthquake would indicate an imminent emergency situation. The main features associated with the term emergency are the nature of urgency, being unanticipated and imminent, creating damage, and immediate actions. Figure 4 further elaborates these features in a cognitive map.
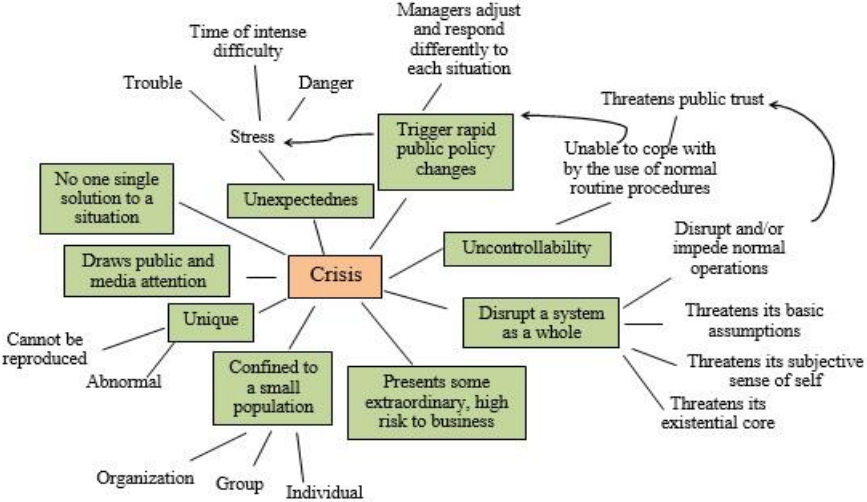

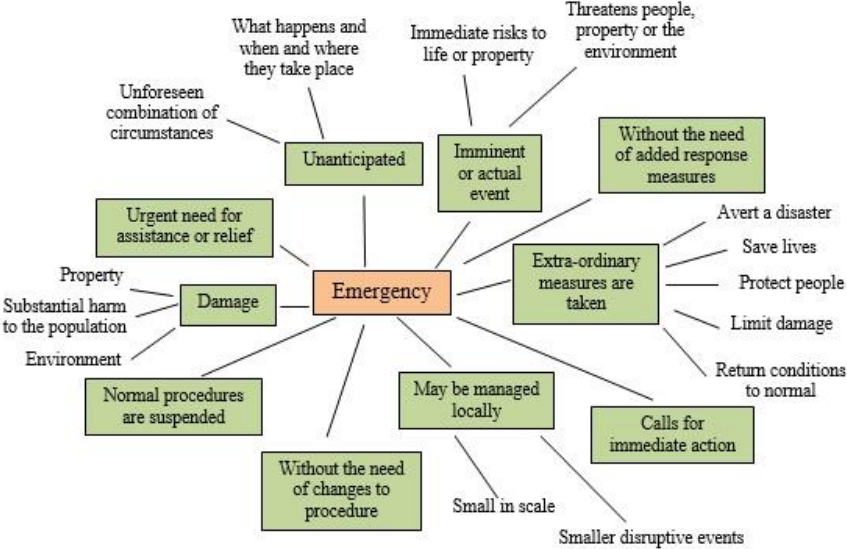*Figure 3: Cognitive Map of Crisis Definitions*

Figure 4: Cognitive Map of Emergency Definitions

Cross Analysis of Terminologies: Disaster, crisis and Emergency

This section presents the cross analysis of the terms disaster, crisis and emergency, to discuss the similarities and differences of such terms. Based on the cognitive maps, a set diagram was developed (see Figure 5) to identify the differences and similarities between disaster, crisis and emergency.

What is interesting in this data is that the "sudden nature" and "damage" are the common features for the three terms disaster, crisis and emergency. The common feature between crisis and emergency is "confined to a small population". Although the difference between disaster and emergency is fairly vast (Jorgustin, 2012), they still have a common feature of having an "urgent need for assistance or relief". From Figure 5, it is apparent that there are comparatively more common features between disaster and crisis, such as being unique, uncontrollable, triggering rapid public policy changes, presenting something extraordinary, being a high risk to business, and disrupting a system as a whole. This clearly indicates that both disaster and crisis are quite similar in nature compared to that of emergency.

From the data in Figure 5, the unique features of emergency have some contradictions, for example, "emergencies are usually unanticipated" (Alexander, 2005b, p. 159; Jorgustin, 2012), and also can be imminent events (Alexander, 2005b, p. 159); there is no "need for added response measures" (Eshghi & Larson, 2008, p. 63) and conversely, "attention is focussed exclusively on measures" (Alexander, 2003, p. 118; World Health Organization, 2002, p. 10). As such, it informs that features of emergency can vary depending on the situation. Further, it appears that emergency differs from disaster and crisis in the aspect where there is "no need for changes to procedure", however disaster and crisis "trigger rapid public policy changes". There is also a difference in timelines of the two events: a disaster has already happened, while an emergency can still be pending (Lighthouse Readiness Group, 2015).
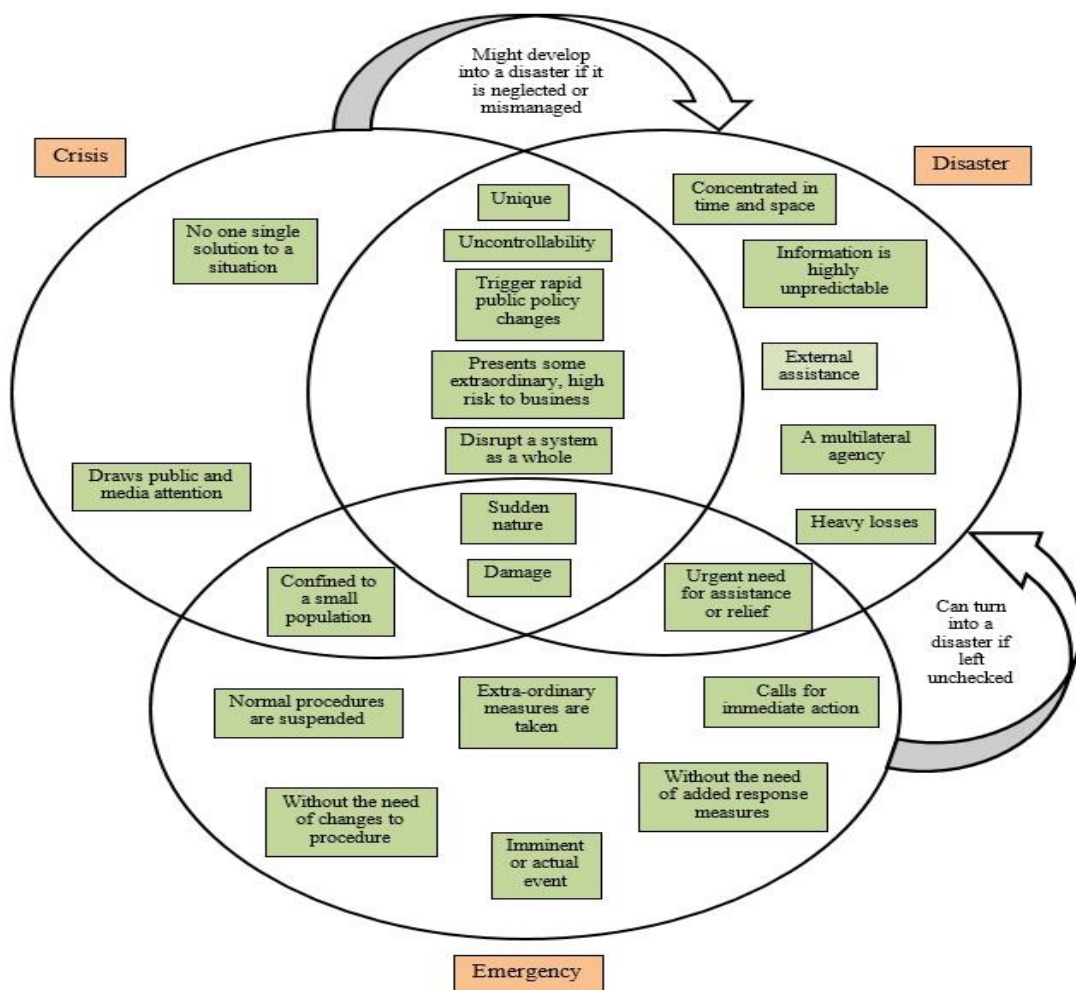

Figure 5: Set Diagram for Disaster, Crisis and Emergency

Regarding the relationship between the terms, emergency is a situation that could lead to disaster if left alone or unattended or unchecked (Jorgustin, 2012) but not all disasters are preceded by an emergency (Lighthouse Readiness Group, 2015). A disaster may come quickly and without warning. Furthermore, a disaster will likely to affect more people and/or will have more devastating consequences than that of an emergency. An emergency can turn into a disaster, while a disaster is inherently an emergency situation, if noticed ahead of time. Not all bad results of an emergency will reach the level of disaster (Jorgustin, 2012). Moreover, research has shown that successful disaster management results primarily from the activities of emergency organizations (Quarantelli 1986, p. 2). Sawalha et al. (2013, p. 212) while agreeing with Shaluf et al. (2003, p. 29) say that a crisis might develop into a disaster if it is neglected or mismanaged. Farazmand (2001) agreed with this aforementioned view stating that, if crises are not managed successfully, it might lead to failures and further disasters. This view was also confirmed by the Lighthouse Readiness Group (2015) stating that a crisis is an event that is expected to lead to a dangerous situation, whether it is an emergency or a disaster.

According to Wilks and Moore (2004), it is important to make a practical distinction between risk, crisis and disaster management in describing potential shocks and threats to society. All risks have the potential of escalating 'out of control' and becoming a crisis; but most of them will not escalate if they are dealt with in a systematic manner. Baker and Refsgaard (2007) have a different point of view indicating that, if emergency response capabilities are pressed and their capacity is exceeded, a crisis situation can result. Consequently, if a crisis creates an unmanageable situation and the injury caused by the disturbance cannot be contained, disaster strikes. Jorgustin (2012) supports this view arguing that an emergency is a situation which may be an impending crisis.

CONCLUSIONS

The increasing number of disasters has stimulated researchers to understand the dynamics of disaster, crisis and emergency more than ever before. This research contributes to improving the understanding of the terminologies such as disaster, crisis and emergency, in disaster management literature. Frequently, these terms are used interchangeably, but they actually could mean three very different things. A comprehensive and systemic review of literature was undertaken to understand the nature and complexity of the terms disaster, crisis and emergency, and to further establish the similarities and differences of these terms to use them more effectively within the mainstream literature. The sudden nature of these events and the damage caused are the common features of all three terms, even though emergency does not always have to be of a sudden nature. In addition, the unique features associated with each term and the common features between two of the three terms were also identified. Accordingly, crisis and disaster share many common features compared to emergency, and as such they are closely interconnected. Further, the term emergency has some contradictory features of its own, which indicates the nature of the emergency can vary depending on the situation. Also, by analysing the relationships between the terms, the authors conclude that both a crisis and an emergency would lead to a disaster if neglected or mismanaged. As such, the whole idea of this paper is to provide analysed data on the terms disaster, crisis and emergency by understanding their real meanings and nature of complexity, so that the usage of these terms within the mainstream literature will be improved. Moreover, this paper contributes to

enhancing the knowledge and awareness of the community in improving their level of resilience.

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