Challenges Facing the Controlling Stage of the Disaster Response Management Resulting from War Operations and Terrorism in Iraq

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Abstract

The effects of war in Iraq are coupled with the susceptibility to natural hazards, which has exposed the people of Iraq to multiple man-made disasters. Despite the fact that terrorists did not have a hold on any part of Iraq before the US invasion, it is generally believed that Iraq contains many terrorists and terrorist organisations. As a result, violence in Iraq has become normalised, ranging from the Iraqi and US military assaults and sectarian militias, threat of suicide bombings, to violent street crime. Because response activities must operate in a constantly changing environment during a disaster, the response operation is complex and need more controlling efforts. Therefore, it is widely agreed that controlling the response to disaster stemming from war operations and terrorism is often considered a difficult stage within the four disaster response management stages: planning, organising, directing, and controlling.

This paper is based on an ongoing PhD study. It aims to determine the challenges facing the controlling stage of disaster response management in Iraq with particular reference to war operations and terrorism. This paper adopts a single holistic case study approach, where disaster response management is the unit of analysis. In order to develop a rich and robust data set, a mixed methods approach is utilised based on semi-structured interviews, questionnaire surveys and document analysis. A conceptual content analysis is used to articulate the primary data and this is then analysed in the context of the secondary data. The findings show that disaster response controlling stage faced different challenges such as lack of modern technology and equipment, multiple sources for the decision at the scene, lack of public education, and failure in imposing a proper security cordon.

Keywords: Controlling Stage; Disaster Response Management; War Operations; Terrorism; Iraq.

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1. Introduction

Disasters are often large intractable problems that test the ability of communities and nations to effectively protect their populations and infrastructure, to reduce both human and property loss, and to rapidly recover [1]. Even in the 1990s, it was recognised that disasters, especially man-made ones, were an ever-present threat and were happening at an increasing rate worldwide [2]. Over the course of the past century, according to Coppola [3], man-made disasters grew at a rate much greater than natural disasters. Thus, Desforges & Waeckerle (1991), at that time, argued that natural and man-made disasters, such as earthquakes, floods, plane crashes, high-rise building collapses, or major nuclear facility malfunctions, posed increasing challenges to disaster response management. To conduct proper disaster management, the sequence of activities that are logical, integrated and progressive should be acted as a cycle called Disaster Management Cycle [4]. There are different phases of this cycle, such as response, reconstruction, mitigation, and preparedness [5]. The response phase is considered as one of the critical phases of the Disaster Management life cycle [6, 7]. The complexity of the disaster response mission, in some cases, will be increased due to the high volume of potential casualties as well as the urgency of a fast response [8]. To manage response activities, four major managerial functions, namely, Planning, Organising, Directing, and Controlling should be performed [9]. The focus of this paper is about the challenges during the controlling stage of disaster response management.

Although extensive research has been carried out on disaster management, no single study exists which adequately covers the problem of disaster response management in Iraq particularly the controlling stage which is one of the four stages of the disaster response management. There has been some discussion among researchers regarding the behavioural response to the disaster as applicable to large-scale destruction and acts of terrorism [10-13]. Yet the extensive reorganisation of the disaster management system following the terrorist attacks of September 11, 2001, reinforced the traditional model of command and control [14].It is widely believed that the world changed forever after the events of 11 September 2001. It became a more dangerous and uncertain place, where no-one is safe or immune from the threat of terror. Terrorism is the most salient hazard due to a remarkable upsurge in terrorist acts in the recent past [3, 10-12]. With regard to Iraq, Iraq was ranked number 1, out of the top 10 countries most at risk of terrorism [15]. It is generally believed that Iraq contains many terrorists and terrorist organisations [12]. Not only that, the continuing effects of conflict, displacement and severe poverty have exacerbated the exposure of the Iraqi people to these disasters. Many essential services needed to manage hazards, reduce risks and respond to disasters have been crippled by war and post-war conflicts [16].

It is widely acknowledged that poor policy and institutional capacities regarding disaster management makes people and communities more prone to the effects of natural and man-made disasters. As humanitarian disasters become more complex, different countries such as Middle Eastern countries including Iraq try to overcome such disasters by enhancing disaster management in this area with research. Therefore, this paper aims to critically review the challenges facing the controlling stage of disaster response management in Iraq immediately aftermath of the disaster incidents. This paper is part of an ongoing PhD study being undertaken on the four stages of the disaster response stage, namely, Planning, Organising, Directing, and Controlling in order to manage response activities and conduct overall evaluation for disaster response management in Iraq.

The paper is structured as follows. In Section 2, the controlling stage is discussed in general, its definitions and steps by reviewing the related literature with particular reference to disasters response management. Section 3 presents the research methodology. Section 4 introduces the research findings and discusses the findings that emerged from both primary and secondary data in order to bridge the gap between theory and empirics. The final section concludes the paper.

2. Controlling Stage of Disaster Response Management

The main intention of management is to establish the essence of proactive performance in our chaotic world as well as to assist an organisation to make the best use of its resources to achieve its objectives. To accomplish these goals, four major managerial functions, namely, Planning, Organising, Directing, and Controlling should be performed [9].

The final stage for management is controlling. Control can be defined as "a regulatory process by which the elements of a system are made more predictable through the establishment of standards in the pursuit of some desired objective or state" [17]. However, Jones and George [9] defined it as an "evaluating how well an organisation is achieving its goals and take action to maintain or improve performance". Whereas Dixon [18] stated that controlling "is the measurement and correction of subordinates' activities and the production processes, to ensure that the enterprise's objectives and plans are being carried out". Koontz and O'donnell [19] and Weihrich and Koontz [20] agree with this view, stating that, "controlling is the measurement and correction of performance in order to make sure that enterprise objectives and the plans devised to attain them are being accomplished". Controlling activities are concerned essentially with measuring progress and amending perversions [21]. The basic control process involves three steps [18, 19, 21, 22]: Firstly, to establish standards of performance. Secondly, to measure actual performance against standards. And thirdly, to take corrective actions where appropriate.

3. Research Methodology

An exploration of the current practices related to disaster response management was required. Different views of individuals were identified regarding the criteria of best practice disaster response management in terms of challenges facing disaster response process managers during controlling process. Therefore, this research requires a strategy which gathers experts' opinions and in-depth analysis. An in-depth analysis of the phenomenon under consideration is possible by case study [23]. Further, according to the definition of a case study, stated by Collis and Hussey [24], it is "*a methodology that is used to explore a single phenomenon in a natural setting using a variety of methods to obtain in-depth knowledge*". It is therefore normally used when obtaining in-depth knowledge on a particular phenomenon and is useful to accommodate different research techniques. Both qualitative and quantitative data also can be accommodated in case study research [23, 25]. Accordingly, the overall research strategy of this paper is single holistic case study. The General Directorate of Civil Defence is the main administrative body when responding to disaster [16], especially when the situation was triggered by war operations and terrorism in Iraq. There are a number of stakeholders involved during disaster response stage, namely, General Directorate of Civil Defence, Health Department, NGOs, and Iraqi Red Crescent Society. The General Directorate of Civil Defence working under the Federal Ministry of Interior can rightly be termed as the focal response agency [16] and it is the main administrative directorate during disaster response stage. Accordingly, it was considered as the critical case [25] for this single case study. Further, this paper focuses mainly on their current disaster response controlling process. Therefore, disaster response management comes to be the unit of analysis. A mixed methods approach has been used to gather both primary and secondary data. By triangulating 28 semi-structured interviews and 53 questionnaire surveys with document analysis, sets of rich and robust data have been obtained. All the respondents were executives responsible for disaster response in the Iraqi General Directorate of Civil Defence (IGDCD) and were selected based on the experts' rank, experience, knowledge, and involvement with disaster response teams.

The semi-structured interviews were conducted with Lieutenant Colonel military rank and above. The interview was designed to extract the challenges of the disaster response controlling process. To analyse the interview data which was transcribed in Arabic and translated into English, conceptual content analysis approaches have been utilised with the support of Nvivo 10 software in order to identify the key themes of challenges. The questionnaires were distributed to the staff with Captain military rank and above. The questionnaire was designed to identify the difference between the levels of importance and implementation of the elements of the best practices disaster response management that were extracted from the literature review, by using a 1-5 Likert scale. By using radar charts through Microsoft Excel software, the extent of any gaps can be acted as a good indicator of the challenges facing controlling stage of the current disaster response management in Iraq. The archival records and documents such as studies, reports, statistics, follow-up, and laws have been gathered from the IGDCD and other organisation related to disaster response to enhance the reliability.

4. The Findings

This section discusses the findings, which emerged from the analysis of the three methods: the disaster response expert interviews, questionnaire survey, and document analysis. Accordingly, the main themes relating to challenges facing disaster response controlling stage will be presented in greater detail. Figure 1 below demonstrates the nodes for controlling challenges.

Figure 1 Nods for Controlling Challenges

4.1. Lack in Modern Technology and Equipment

Responses to disastrous events rely on the assets and manpower of the central and provincial government and with support from non-governmental agencies and international donors [26]. According to Perry and Lindell [27], in order to meet the disaster demands, resources (personnel, facilities, equipment and materials) are needed by emergency response organisations. Therefore, identifying the demands that a disaster would impose upon those organisations should be required by the planning process. Further, to respond swiftly and efficiently to disaster resulting from terrorism, modern technology and equipment, such as Security Cameras network, central alarm system, and GPS system, are crucial to act immediately. This technology might enhance the information flow both to and from stakeholders. The findings of the primary data showed that, in the context of Iraq, a large gap is present regarding the "endowment of equipment, tools and infrastructure" factor in Figure 2 and consequently affects the controlling stages of disaster response management.
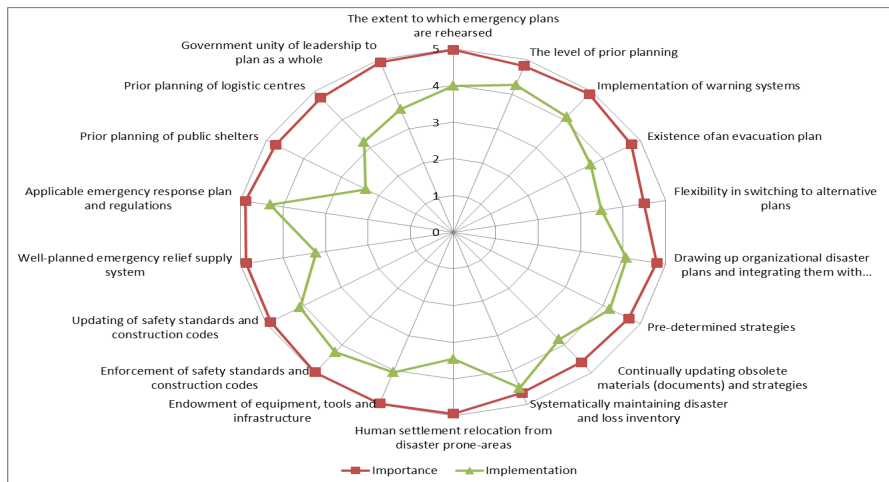

Figure 2 Comparison of the Importance of Planning Process Factors against their Implementation

This point was also supported by the interviewees; many suffer from the lack in modern technology in addition to the shortage of heavy rescue equipment. This lack in such equipment is considered the main challenging facing the controlling stage. As controlling aims to measure, maintain or improve response performance, such a lack of modern technology might hinder the control process to accomplish the response objectives and the devised plans to achieve such objectives. The secondary data upheld this view; according to Goodyear [26], to plan for mitigate and respond

to future disasters in Iraq, stronger technical and infrastructural capabilities are imperative within the Government of Iraq and other disaster risk reduction stakeholders. This is due to limited access to professional equipment and training by civil services institutions which greatly contribute to weakening disaster management systems. Humayun and Al-Abyadh [16] also support this view stating that scientific equipment and human resources that are used to assess and monitor risk are lacked in Iraqi government departments, those are responsible for undertaking risk assessments and monitoring. Further, Larson, Metzger and Cahn [28] upheld this point, stating that local first-responder resources are often overwhelmed by large-scale emergency incidents, such as acts of terrorism, human-caused accidents, and acts of nature.

4.2. Multiple Sources for the Decision

The magnitude or the complexity of the needs associated with disaster response cannot be addressed without coordination, particularly, coordination between organisations. Moreover, a successful initial emergency response, and subsequent rehabilitation, was only achieved, however, through collaborative working between key players [29]. To avoid confusion and to facilitate an effective response, skilful coordination among the wide range of possible stakeholders that might provide assistance during a disaster, such as utility companies, the military, private sector entities, and NGOs, is critical [30]. Undoubtedly, responding to disaster demands critical decisions that might be made in awkward circumstances. Despite the fact that disaster decision-making is typically posed as a series of dilemmas, presence more than leadership at the scene will increase the problems and cause the failure to obtain satisfactory results. According to the interview analysis, lack of knowledge about who is commanding the scene has a negative impact on the controlling process. As overlapping in the duties with the rest of organisation at the scene might happen and make confusion. Meanwhile, the answers given to the questionnaires pinpoint an important failure in the implementation of a "government unity of leadership to coordinate as a whole". Consequently, the gap that there is between its important and its implementation might support the interviewees' opinions. Secondary data have further support to the aforementioned opinions. Based on Chen, Sharman, Rao and Upadhyaya [31] the coordination of emergency response is complicated by factors such as multi-authority and massive personal involvement; infrastructure interdependencies; the high demand for timely information; and conflict of interest. Uhr, Johansson and Fredholm [32] support this view indicating that the complexity of the response operation was often due to the unclear distribution of authority in the disaster response. Such unclear distribution sometimes causes confusing. This view was also supported by interviewees' opinion stating that due to the intervention from other organisations, there is a difficulty in commanding the scene. Moreover, although working partnerships were crucial to the immediate response and subsequent recovery [29], this might led to limit the authority of command at the scene, based on interviewees' opinion. They further explained: presence more than leadership at the scene will increase the problems and causing the failure to obtain satisfactory results. In agreement, Comfort [14] and Nolte and Boenigk [33] found that most of the management problems that are highlighted by researchers and practitioners might be attributed to joint disaster management activities of public and non-profit organisations. Such joining was possibly lacked to information exchange, coordination, and trust. Comfort [34] touch in this problem, stating that some organisations might not have linked them to a larger community-wide response process. Because of the variation of the size and type of organisations involved in response operations, the disparity in knowledge, skills, access to information, and equipment widens among the participants in the response process.

4.3. Public Education

Disaster education is now accepted as an essential component in formulating the proper disaster risk reduction strategies for any country. An opportunity to reduce the risks and vulnerabilities risks of various social groups can be obtained by adapting proper application of technical and scientific knowledge on disasters [35]. According to interviewees' point of view, because the material of civil defence is not covered in the curriculum as in the past, public education is considered one of the common challenges during the controlling stage. Interviewees criticise citizens' irresponsible intervention at the scene and the crowd near the scene. Consequently, this challenge might cause problems for the responders, in that the public remain uneducated as to the best way to respond. Questionnaire respondents partially agree with this aforementioned view, as shown in Figure 3, although their answers about factors

"undertaking public educational activities", "involvement, education and review" have a smaller gap (between importance and implementation) compared with the other factors.
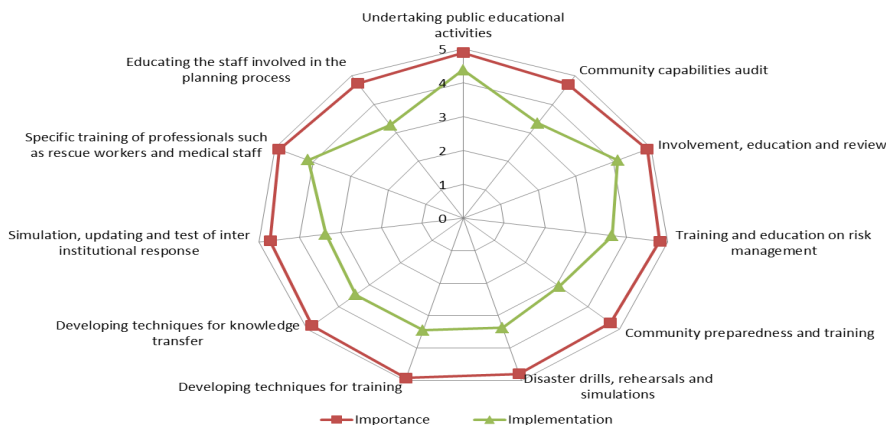

Figure 3 Comparison of the Importance of Education about Disaster Risk Factors against their Implementation

This may be because of the public educational activities only being limited to employees in particular organisations and students in secondary schools and higher education, so the questionnaire respondents partially agreed with the interviewees. Committee 101 [36] within document analysis supported this challenge stating that there is a "weakness in capabilities at all levels particularly in local communities". This point was also supported by Planning Department [37] who sees this from the operative point of view "non-inclusion of all society segments in capacity building". Similarly in secondary data, in Turkey, one of many problems in organising a proper disaster management and response system are the absence of an organised educational program for the general public [38]. Whilst in the Caribbean, training materials, in most cases, were focused on prevention and response to the hazardous event with little or no focus on vulnerability [39].

4.4. Security cordon

By establishing a security cordon, disaster responders can be protected from danger. According to the College of Policing [40], there are two types of cordons: an inner cordon and outer cordon. "The inner cordon encloses the scene of an incident and contains any area of hazard or contamination. The size of the inner cordon is determined by the incident. The outer cordon creates a safe working area for the emergency services and responding agencies. The radius of the cordoned area depends on the type and scope of the incident, the availability of resources and the needs of the community. The tactical commander determines this in consultation with other emergency services". In the context of Iraq, based on interviewees' opinion, there is often a failure in imposing a proper security cordon. Interviewees tried to give some reasons for this failure, for instance, it could be attributed to adapting incorrect techniques in imposing the cordon in the first place, or having unclear cordon access authorisation, or the lack of expertise by local police in maintaining the cordon. This view was upheld by the questionnaire respondents. Figure 4 shows the gaps in implementing the "existence of the cordon" and "cordon access authorisation" factors. Such gaps further confirm the failure in applying this important cordon and adopting unsuitable procedures to access it by disaster responders. In agreement, some scholars see controlling the exclusion zone as being critical. According to Batho, Williams and Russell [29], to prevent further injury, physical danger or looting, controlling the exclusion zone is considered a critical process. On the day of the bomb blast in Manchester in 1996, and in the days after, there was a problem in ensuring access for those people who needed to get through the cordons, while keeping out any who did not require access. On the day of the blast, for example, getting through the barriers of the outer cordon was deemed as one of the difficulties faced by both emergency planners and building surveyors trying to travel into the city centre. In the days following the bomb, getting appropriate access for specific people past the inner cordon, while preventing access by members

of the public was also a problem, as people still wanted to carry on as normal, even when they realised there was a bomb, and so maintaining the inner cordon once it had been established was extremely difficult [29].
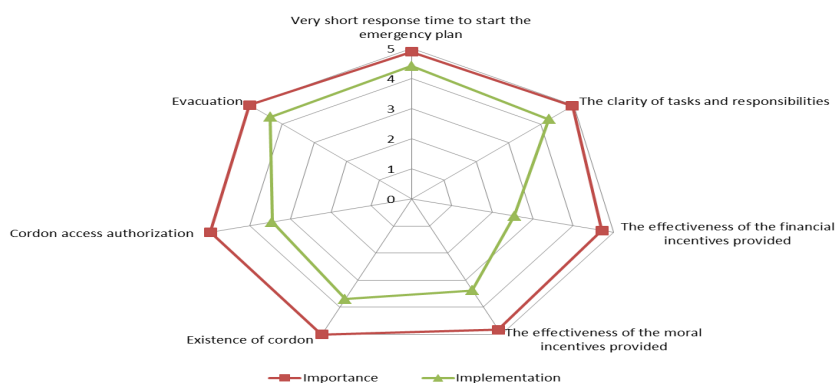

Figure 4 Comparison of the Importance of Speed of Response Factors against their Implementation

5. Conclusion

   Natural and man-made disasters posed increasing challenges to disaster management response more than ever before. This study contributes to the scarce literature currently published on the subject of disaster response management in developing countries such as Iraq. The uniqueness of such studies could be attributed to the very limited attempts that have been made in the past to explore disaster response management in Iraq, possibly due to the difficulty in collecting data during terrorism activities. This paper has focused on the controlling stage of the disaster response management, with attention being focused on the challenges facing the disaster responder immediately aftermath the disaster incidents. The case of disaster response controlling management in Iraq illustrates that there are four main challenges pointed out in current disaster response management namely, lack in modern technology and equipment, multiple sources for the decision at the scene, lack of public education, and failure in imposing a proper security cordon.

   To sum up, four challenges were revealed from the interviewees' transcriptions, questionnaire respondents, document analysis, and the literature review. The majority of these points emerged from both primary and secondary data. Interestingly, the points were determined stemming from external challenges to the General Directorate of Civil Defence. Moreover, the challenges identified from this paper will be of value to those involved in developing response measures and to strategic responses to disasters stemming from war operations and terrorism. Moreover, by offering insight into the controlling stage in the disaster response in the Middle East countries, particularly in Iraq, a real-world example is unravelled from which other countries and disaster management professionals can take advantage.

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