

A Strategic Approach to Emergency Preparedness in the UAE

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Abstract. Disasters have a significant negative impact across the world, and this widespread impact helps to formulate policies, reviews, measures and approaches in managing them. Global efforts towards emergency management allow organizations to join hands and provide international support to developing countries in the form of assistance from international organizations or institutions such as the United Nations (UN) or the European Union (EU) in planning, responding or recovering from identified risks or disaster. Whereas, developed countries have progressed significantly in the field of EM. Therefore, this paper puts its focus on a developed country, i.e., United Arab Emirates which has adopted its EM standards from other countries such as the UK, US, and Australia. In order to improve EM standards, the countries apply a framework for the implementation of preparedness phase which depends on eight key elements. However, the literature reveals that though UAE has emergency management standards, it lacks behind in terms of emergency preparedness framework or system. Therefore, the paper aims to investigate the state of emergency management standards in the UAE, to identify if any of the emergency preparedness elements are being practiced in any capacity, identify barriers to the preparedness phases and provide recommendations for the government to adopt the strategic approach for improving emergency preparedness in the UAE.

Keywords: Emergency Management (EM), Emergency Preparedness (EP), Management standards, Preparedness Barriers, United Arab Emirates (UAE).

1 Introduction

History is filled with a large number of tragedies that occur over a period [1]. Since the Second World War the world has reacted, and governments have created acts to reduce and prevent disasters [2]. To address the challenges and the harmful effect that such emergencies and disaster brought with them; organizations have joined hands under global efforts towards emergency management. The global effort regarding emergency and disaster management guides international support provided by one country to

38 another during disaster situations; particularly in the case of developing countries.
39 While it is the legislative duty of government to protect, guide and ensure the safety of
40 the public, assets, and development from the impact of disasters, when this fails or is
41 insufficient, international efforts are requested [3] such as the United Nations (UN) or
42 the European Union (EU) in planning, responding or recovering from identified risks
43 or disaster.

44 On the other hand, developed countries figure significantly in the field of EM, such as
45 Japan, Singapore, Germany, and Sweden to mention a few. Similarly, the focus of this
46 paper will be on a developed country, i.e. United Arab Emirates which has adopted its
47 EM standards from other countries such as the UK, US, and Australia [4]. These
48 countries have experienced hazards, threats and emergencies/disasters of different
49 scales which have influenced changes in their EM policies, standards, and frameworks
50 and led to an emphasis on the preparedness phase depending upon eight key essential
51 elements. However, the literature reveals the gap, that there is no documented
52 emergency preparedness framework or system in the UAE.

53 Therefore, the rest of this paper will investigate the state of emergency management
54 standards in the UAE, identify barriers to the preparedness phases and provide
55 recommendations for the UAE government to adopt the strategic approach for
56 improving emergency preparedness in the UAE.

57 **2 Emergency Management**

58 Emergency Management (EM) is an area which involves several actors and dimensions,
59 thus making it a complex concept, as each actor defines EM in its way. The study,
60 however, has accepted the definition of EM by the Michigan Department of State Police
61 as: “a comprehensive system of policies, practices, and procedures designed to protect
62 people and property from the effects of emergencies or disasters. It includes programs,
63 resources, and capabilities to mitigate against, prepare for, respond to, and recover from
64 effects of all hazards” [5].

65 This definition is adopted because it provides a comprehensive, clear and practical
66 understanding of what EM is from a holistic perspective of practice and theory.
67 Furthermore, it gives a general framework for all kind of hazards as well as the four
68 phases of EM. Thus, it can be inferred that these phases of emergency management
69 influence the management of disaster events and emergencies to facilitate the context
70 of emergency management standards across the world including countries such as UK,
71 US, Australia, and UAE, which is the focus of this study.

72 The rest of this section will, therefore, examine the EM standards, phases and their
73 levels of responsibilities in developed countries to differentiate between the distinct
74 aspects that characterize each country’s approach to emergency management in the
75 developed countries in general and the UAE in particular.

76 **2.1 Emergency Management Standards in Developed Countries**

77 Literature shows that some the developed countries such as the US, UK, and Australia
78 are not necessarily consistent in their approaches and standards when dealing with EM.

79 Hence the levels of their centralization, responsibilities and the associated
80 characteristics also vary. Such comparisons will help position the UAE's approaches
81 and characteristics amongst these countries. This section will, therefore, attempt to
82 draw on these comparisons.

83 **A. Approach**

84 By examining the various approaches and standards of EM, distinct similarities
85 between the principles of emergency management used in the US, UK and Australia
86 emerge. All three follow, roughly:

- 87 • **The Comprehensive Approach:** includes overlapping and concurrently
88 running phases such as Mitigation/Prevention Preparedness, Response and
89 Recover. As reviewed, UAE emergency management is modelled after this
90 comprehensive approach under the direction and management of National
91 Crisis and Emergency Management Authority (NCEMA).
- 92 • **The All Hazards Approach:** working on the basis that many risks cause
93 similar outcomes requiring similar responses; this approach involves
94 managing a wide range of possible crisis outcomes [6]. Although NCEMA
95 was only established less than a decade ago, the authority has been quick to
96 learn that any risks cause significant impact on the public. Due to which it has
97 offices in all the seven emirates to promptly identify new threats, hazards and
98 crises suggests a structure that is progressive, which is one of the principles of
99 EM.
- 100 • **The Integrated/All Agencies Approach:** includes the involvement of
101 government agencies such as local councils, emergency services such as
102 police, fire, ambulance, as well as NGOs such as local community groups and
103 volunteer organizations [6]. This is also evident from the operational
104 procedures used by NCEMA and all emergency agencies in the UAE.

105 Reference to the preparedness phase in the US, UK and Australia EM standards have
106 helped this study to identify the possible gaps in the UAE system. However, there is no
107 reference to the preparedness phase in the UAE being enhanced, improved or changed
108 based on the response to previous challenges or disasters.

109 **B. Phases**

110 Emergency management is often defined in terms of "phases.", a concept used to help
111 describe and comprehend disasters, and to help organise the practice of emergency
112 management. The US process of emergency management involves four phases:
113 prevention (or mitigation), preparedness, response, and recovery or rehabilitation
114 [7,8,9]. Similarly, Australia works on the US system and follows the "4 phases",
115 although the UK, seeking to embrace a holistic approach, views the wider context of
116 Integrated Emergency Management (IEM): the UK Cabinet Office specifies six stages
117 in its emergency management concept: anticipation, assessment, prevention,
118 preparation, response and recovery [10]. Therefore, the phases of EM are a global
119 concept used by many developed countries and which the UAE has been quick to adopt
120 for usage. These phases and the relationship between them are well understood in the
121 UAE and is coordinated by NCEMA in partnership with other emergency agencies such

122 as police, civil defence etc. However, it seems the problems are not with the four phases
 123 of EM, but the composition and application of each phase and how the activities of each
 124 phase link to the next, the link between the preparedness and response phases, which
 125 are very important for reducing the impacts of any emergency or disaster.
 126 The evaluation of the US, UK and Australian EM standard and phases show that the
 127 UAE struggles to link the preparedness phase with the response phase by enhancing
 128 and applying the preparedness elements.

129 C. Levels of Responsibility

130 Literature reveals that levels of responsibility relating to emergency management in all
 131 three countries follow the lines of their national system of government, in the UK at the
 132 national, regional and local level, and in the US at national, state and local level.
 133 Australia deviates slightly from this [11]. Unlike the ever-present federal government
 134 approach in the US, the Australian approach to emergency management could be
 135 described as “bottom-up” [13]. This approach puts leadership in the hands of the person
 136 on the ground. Perhaps this approach is what the UAE was also trying to incorporate
 137 into its standards when the NCEMA signed an MOU with Australia in June 2013. Since
 138 Australia is the only country with which the UAE has an MOU, it seems that the
 139 NCEMA wants the opportunity to learn from the EM concepts used in Australia to
 140 improve the UAE emergency management standard. However, in order to make the
 141 learning process effective, it is important to understand areas which require
 142 improvement, which is what makes this research important.

143 In conclusion, there are distinct aspects which characterize each country’s approach
 144 to emergency management, as seen the table 1 below:

145 **Table 1.** Emergency Management Approach

Country	Approach	Cycle	Levels of responsibility	Main characteristics
US	All hazards, Comprehensive & Integrated	Four phases	Three levels: government, state & local	Closely linked to prevention of terrorism
UK	Integrated Emergency Management (IEM)	Four phases, with two guidelines	Three levels: government, area & local	- Decentralized - Bottom up
Australia	Comprehensive & Integrated	Four phases	Two levels: commonwealth (state) & local	-Decentralized -Volunteerism
UAE	All hazards, Comprehensive & Integrated	Four phases	Two levels: Federal and local	-Decentralized

146 As reviewed from the literature the standards and frameworks used by the US, UK
 147 and Australian, preparedness is at all levels based on capabilities and risks that have
 148 been identified and assessed. The US, UK and Australia have certainly experienced
 149 hazards, threats and emergencies/disasters of different scales which have influenced
 150 changes in their EM policies, standards and frameworks and led to emphasis on the

151 preparedness phase. However, the literature reveals that there is no preparedness
152 framework in the UAE emergency management standard.

153 Therefore, the next section will summarize the findings of frameworks/models of
154 emergency preparedness as used in the US, UK, Australia and will try to investigate the
155 state of preparedness in UAE.

156

157 2.2 Emergency Preparedness Models/Frameworks

158 Emergency Preparedness can be defined as the arrangement to ensure that all resources
159 and services required for coping with any imminent emergency or actual emergency
160 are identified, determined, mobilised and deployed [14, 15]. In order to understand the
161 application concept of emergency preparedness, preparedness models and frameworks
162 used in the US, UK and Australia were examined. These models/framework aids in
163 identifying eight key elements which influence the preparedness phase. Authors such
164 as [16, 17, 18, 19] and [20] have repeatedly emphasized the significance of these
165 elements which are: risk assessment, early warning system, information system,
166 planning, training, exercise, organize and equip and public education.

167 Since review and evaluation of emergency management standards in the previous
168 section helped to identify that no emergency preparedness framework or model exists
169 in the UAE, it important to be able to identify if any of the emergency preparedness
170 elements are being practiced in any capacity in the UAE. Therefore, the next section
171 will focus on the methodological steps applied in order to achieve the aim of the study.

172 3 Methodological Steps

173 This section will help to address the aim of the study; to investigate the state of
174 emergency managements standards in the UAE, to confirm the findings of key elements
175 of preparedness stage and to explore barriers and deficiencies faced by emergency
176 preparedness in UAE. A pure qualitative method of data collection was suitable;
177 according to the objectives which can be achieved via the following methodological
178 steps.

- 179 • **Literature Review:** aids in understanding the emergency managements
180 standards in the UAE and identified the eight key elements of preparedness
181 stage.
- 182 • **Pilot study:** a pilot study using input from international experts in the field of
183 emergency management; which further confirm and examine key elements
184 affecting emergency preparedness identified from the literature review.
- 185 • **Interviews at federal level (NCEMA):** The primary data collection involves
186 semi-structured interviews at federal level (NCEMA) to gain a deep
187 understanding of the current situation of emergency preparedness in the UAE
188 and barriers that effect its implementation: The findings suggested that the
189 elements exist in the UAE's emergency management standard as an idea and
190 not under a preparedness framework. Barriers faced in the implementation of
191 these eight elements in the UAE's emergency management standard.

- 192 • **Interviews at local level (LTCEM):** In order to confirm the validity of the
 193 responses from the federal level it is triangulated at the local level. The results
 194 show that the interviewees from local level agree with the findings from
 195 federal level.
 196 • Finally, recommendations addressing the barriers are presented for effective
 197 emergency preparedness strategy for the UAE.
 198 The methodological steps have aided in addressing the aim of the study and to draw
 199 recommendation to overcome the barriers identified.

200 **4 Recommendations**

201 This section highlights the barriers identified and provides the solution for the barriers
 202 and outlines the recommendations for solving those barriers in Table 2. These
 203 recommendations are considered as the strategic approach for improving emergency
 204 preparedness in the UAE.

205 **Table 2.** Recommendations

Barriers	Recommendations
B1: Lack of EM standards understanding	Promote a long term and sustainable strategy to educate all S/H on the fundamental stages of EM standards; Promote innovative ways of engaging S/H in the understanding of EM standards; Encourage innovative research to identify deficiencies in the current standards their effective implementation; Educate and train S/H in the understanding of the whole life cycle of EM standards; Raise employee awareness of the EP risk levels through dedicated training programmes; Promote training to enhance effective leadership and management skills and offer training to enhance employee IT skills and information management systems.
B2: Lack of Limited & Focused on Government Employee Training	To promote specialized training for government employees; Support employees to obtain further specialized training in the field of EM; Change of culture and attitudes towards engaging employees in training and development and conduct training needs assessment to determine the level of training and knowledge required by each employee or government department
B3: Speed of submitting tasks i.e. delays and lack of committed staff	Increase the Human Resources to cope with the needs for specialized employees with specific roles; Assign specific staff to specific roles and offer training to enhance stakeholders understand of EP requirements and speed up the communication process.

B4: Lack of Coordination and transparency between government and S/Hs	Recognize the importance of the S/H role in EP; Seek strategies to build levels of trust with S/H in order to enhance collaboration and transparency; Develop clear policies for S/Hs roles and responsibilities during the EP process and develop strategic training programme to engage the S/H with government activities for EP.
B5: Refusal and restriction to change of organizational culture and attitudes	Seek innovative ways of engaging experienced and older leaders in the sectors responsible for emergency preparedness; Develop policies which ensures that new technology is used by everyone; Build in monitoring and evaluation process for everyone including “old school” leaders to ensure that everyone is progressing; Have policy which guides data sharing and data protection among stakeholders of emergency preparedness and develop policies to ensure that all feedback from exercise and training is adopted for mobilizing equipment and organize preparedness activities
B6: Lack of Coordination between the federal and local government	Adopt and implement all eight elements of EP in a combined way; Have policies which clarify roles and responsibilities of emergency organizations at local and federal levels; Develop strategy for enhancing EP education for EP elements; Put in place policies, conduct training and orientation to teach and state the relationship and coordination between federal and local levels.
B7: Lack of policy to speed up initiatives leading to emergency preparedness with pending projects	To priorities the most essential tasks and complete them; Share some of the responsibilities with other emergency organizations such as the civil defense, police & Red Crescent to quicken the completion of projects and tasks and use comprehensive principle of EM to achieve EP elements and collaborative tasks
B8: Availability of public awareness strategies; Inefficient efforts and strategies to educate people	Work in partnership with other emergency organizations, private sector, media and NGOs to deliver public education; Adopt best practice as guidelines for delivering public education; Use public communication timeline as one of the strategies for implementing public education; Engage the public through creative ways and send information through businesses, organizations, religious and community groups; Use public communication timeline and best practice to teach about preparedness and risks of emergencies and reassure the public about safety and boost their confidence by using positive examples of how preparedness helped in other parts of the world.

B9: Stakeholders training; lack of awareness, knowledge about risk assessment with absence of policies.	Conduct risk assessment training to improve the level of knowledge and awareness for stakeholders and employees; Adopt best practice guidelines used in other countries and write a risk register peculiar to the UAE; Have routine training schedules to teach stakeholders and employees over a period of time; Formulate policies using principles of EM standard and best practice in training and exercise for preparedness training requirements and have feedback process to monitor and evaluate the effectiveness of training for stakeholders and employees.
B10: Lack of clear public policies and regulations	Formulate policies, law & regulations to guide the implementation and operations of all the eight elements of EM preparedness; write procedures based on adopted best practice and EM standard to guide all activities relating to the implementation of EM standard and eight elements of preparedness and conduct regular training and briefings to clarify formulated policies and regulations and to define the roles of different organizations in using the policies and regulations to implement EM practice and all eight elements of preparedness

206 The solutions presented are based on principles, best practice and lessons learnt in
 207 emergency and disaster management. Solutions are also based on theoretical
 208 underpinnings for emergency preparedness as documented in several literatures on
 209 emergency and disaster management as well as in the literature review of this research.

210 **5 Conclusion**

211 An overview of emergency management practices in the US, UK, Australia and the
 212 UAE, which is the focus of this study was carried out. The rationale for this is to provide
 213 a good background into the research area and concept of emergency management and
 214 standards used to carry out operations within this field. In order to better understand the
 215 relevance of the EM standards for safety, the emergency preparedness phase was
 216 identified as of crucial importance in achieving effective emergency management.
 217 However, a critical examination and evaluation of the emergency preparedness
 218 elements shows that even though the UAE has an emergency management standard it
 219 uses, the emergency preparedness phase, in particular the elements, has not been given
 220 the attention it receives in the US, UK and Australia. In addition, unlike the other
 221 countries examined, the UAE does not have any emergency preparedness framework
 222 or cycle. While the reasons for this vary and might exceed the scope of this research,
 223 the research identified some barriers to implementation, although not for developing or
 224 instituting a preparedness framework. A set of recommendations were drawn to assist
 225 the UAE government to improve emergency management in general and emergency
 226 preparedness in particular.

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