

A Critical Review of Emergency and Disaster Management in the United Arab Emirates

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The United Arab Emirates – the UAE – a small, wealthy Gulf State country, is subject to many geographical, political, and social issues that contribute to either increased risk of disaster or ineffective disaster management. This paper discusses these issues, their causes, how they impact the country’s ability to face a disaster, and how they can be fixed from a public policy perspective. In the UAE, citizens represent only 11.6% of the total population, whereas most residents are immigrant workers who enjoy many fewer advantages in the country. Such a large demographic imbalance threatens the stability of the social system and continuity of business during and after a disaster. It also impedes community engagement in disaster planning and response. A large demographic imbalance, low public representation in public policy, and low community engagement in the planning process are highlighted as the primary community-based vulnerabilities. This paper illustrates several recommendations to alleviate the impact of these issues and urges policymakers and emergency managers to be aware of 1) the drawbacks of the exclusive planning process and 2) the social vulnerabilities that are promoted by the current public policy. More public policy research and community-based research projects aiming to promote community involvement in emergency planning and response are needed.

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Introduction:

The United Arab Emirates, the UAE, is a relatively new country comprised of seven emirates, or states, that are located along the southeast shore of the Arabian Peninsula. On December 2nd, 1971, a new federation was announced among six emirates: Abu Dhabi, Dubai, Ajman, Umm Al-Quwain, Sharjah and Fujairah. The seventh emirate, Ras Al Khaimah, joined the federation two months later. The total union size is 32,278 mi², similar to the state of South Carolina’s size of 32,020 mi². Abu Dhabi, the largest emirate, covers 87% of the UAE’s mainland, Dubai covers 5%, and Sharjah covers 3.3%. About 85% of the population lives in these three emirates in the Northeast region of the country (CIA, 2017a). Abu Dhabi city, the capital city of the Emirate of Abu Dhabi, is also the capital city of the UAE.

According to a 2015 estimation, the UAE’s population is about 9.27 million people. Nearly 85% of the population lives in urban areas (CIA, 2017a), with an annual growth rate of 1.44% according to 2018 estimations (CIA, 2018). The vast majority of the population is not UAE citizens. That is, UAE citizens represent only 11.6% of the UAE’s total population (CIA, 2017a). Therefore, more than 88% of the population are non-citizens, and most of them are immigrant workers from several Asian countries; mainly South Asia (CIA, 2017a). Immigrant workers enjoy fewer advantages, and many of them have no family in the UAE due to the high cost of living. This condition forms a state of significant imbalance for this population that negatively impacts the UAE’s emergency response process.

A great deal of the country’s workforce has lower community attachment because they

are foreigners, communicate with loose-knit social networks (see Boyle, 2012), and have the least entitlements, compared to citizens. Such a workforce is needed for public health and emergency response capabilities, such as community recovery and medical surge (CDC, 2018). For instance, most physicians in Emergency Departments (EDs) in the UAE are expatriate physicians (Fares et al. 2014). The prevalence of lower community attachment within the non-citizen groups is inherently linked to social and cultural barriers, low political involvement, and lower entitlement and service accessibility level compared to citizens. Such a low community attachment minimizes community-based capabilities, like social capital, that are useful for disaster preparedness, response, and recovery. This paper discusses the nature of hazards and vulnerabilities in the UAE, the current UAE emergency management system, and how that system could be improved from a public policy perspective to cope with local hazards and vulnerabilities.

The UAE's Political State

The UAE has a federal absolute monarchy, by which the emirates are united under one federal government that mainly governs—through the Supreme Council, Federal Council, and Cabinet of Ministries—the union entities, such as the External Affairs and the Federal Armed Forces. Nevertheless, each emirate's administration is independent in ruling its internal affairs, according to the UAE Constitution. Each emirate has a capital city which has the same name; for example, Dubai is the capital city of the emirate of Dubai. Every emirate is ruled by a ruling family as a monarchy. The Ruler of Abu Dhabi is the President of the UAE, and the ruler of Dubai is the Vice President and Prime Minister of the country. The legislative power, or constitutional authority, and executive power are represented by the Federal Supreme Council and the UAE Cabinet of Ministries, respectively. Both government branches are dominated by the members of the ruling families. For example, the Federal Supreme Council consists of seven members who are also the seven emirate rulers.

Along with that ruling authority, and to some extent because of it, the ruling family members have exceptional access to the country's wealth and natural resources.

The UAE's Economy

The UAE is a wealthy country with a per capita GDP of \$73,878.50 USD as of 2017 (The World Bank, 2018). According to the Organization of the Petroleum Exporting Countries', OPEC, the total proven crude oil reserves are 97.8 billion barrels, and the total proven natural gas reserves are 6,091 billion cubic meters (OPEC, 2017). Therefore, the UAE is ranked 7th in total world oil reserves, according to 2017 estimates (CIA, 2017b). Approximately 40% of the country's gross domestic product is directly based on oil and gas output (CIA, 2017a). However, each emirate has its own economic structure and related resources. Abu Dhabi is the wealthiest emirate because of their oil and gas reserves, followed by Dubai and Sharjah.

The Abu Dhabi emirate covers approximately 87% of the UAE mainland, so most of the UAE's oil reserve is allocated in the Abu Dhabi territory. That gives Abu Dhabi abundant financial capabilities compared to other emirates. Dubai also has some financial advantages due to its diverse economic activities: ranging from oil and natural resources, to trade, to the tourism industry. The Dubai emirate has the Jabil Ali area where the largest commercial seaport in the region is located. Other emirates are less fortunate than Abu Dhabi and Dubai and they have more limited resources.

Due to this economic dependency on natural resources, location, and the sociopolitical system, the country as a whole is prone to many hazards. These hazards can be either natural hazards or human-made hazards, such as technological hazards. In the following section, an overview will be given about these hazards with some examples from past events.

Natural Hazards

In terms of geology, the UAE is located on the relatively stable Arabian Tectonic Plate. Nevertheless, that plate has major active tectonic features forming its boundaries: the Zagros fold belt and Makran subduction zone to the north and northeast; the Red Sea Rift and Dead Sea Rift to the northwest, west, and the Gulf of Aden; and Owen fracture zone to the south and southeast (Pascucci, Free, & Lubkowski, 2008). Thus, most destructive seismic activity occurs in Iran, on the opposite side of the Gulf shore, because of the Zagros fold belt.

However, the UAE is still not free from the risk of earthquakes; several earthquakes occurred in the UAE recently. The worst earthquake in recent history in the UAE was a 5.1-magnitude earthquake, which occurred in the Massafi area on March 11th, 2002 (Barakat, Shanableh, & Malkawi, 2008), and affected mostly the Emirate of Fujairah (Dhanhani, Duncan, & Chester, 2010). The risk of earthquake damage increases in the northeastern regions of the country because of the relatively higher seismic activity, and in the northern parts of the country because of the density of population, especially with cities like Dubai or Abu Dhabi (Barakat et al., 2008).

The UAE is also at risk for cyclones originating in the Indian Ocean because of its location on the Arabian, or Persian, Gulf and the Gulf of Oman which connects Persian Gulf to the Arabian Sea and Indian Ocean. Two major storms hit the UAE in recent years: Cyclone Gonu in June 2007, and Cyclone Phet in late May to June 2010. Cyclone Gonu, a Category 4 storm, hit Oman, the UAE, Pakistan, and Iran. It claimed 78 lives and left 37 missing, most from the neighboring country of Oman (Alhmoudi & Aziz, 2016; El Rafy & Hafez, 2008). Cyclone Phet was also a Category 4 storm, but the power of the storm reduced to Category 3 by the time it reached the shore of Oman (NASA, 2010). In addition to Oman, Cyclone Phet significantly impacted the Emirate of Fujairah. People in the Emirate of Fujairah lost their land, crops, and boats (Alhmoudi & Aziz, 2016).

Technological Hazards

Because of the major production of oil in the Gulf area, the UAE is prone to oil spills and their environmental consequences. Two cities in the UAE, Ras Al Khaimah and Fujairah, are located near the Strait of Hormuz, which is the busiest oil trade checkpoint in the world, due to 35% of the traded crude oil in the world going through it. Since 1974, there have been several major tanker spills in the strait or within the vicinity of the Arabian/Persian Gulf and the Gulf of Oman. According to the International Tanker Owners Pollution Federation, or ITOPF, the most recent major oil spill incidents in the Arabian/Persian Gulf occurred within UAE territorial waters were Seki in 1994 and Pontoon 300 in 1998 (ITOPF, 2003).

Besides the harmful effects of oil spills on the marine life, the oil spills in the Arabian/Persian Gulf could also impact the water desalination plants that supply water for major cities in the UAE as well as in Saudi Arabia. The Pontoon 300 incident, which resulted in a spill of 5,500 tons of oil, presented risk of contaminating the desalinated water (Elshorbagy & Elhakeem, 2008). The diesel oil entered the intake of a desalination plant and resulted in contamination of the water supply of 500,000 people (Elshorbagy & Elhakeem, 2008). The impacts of oily seawater include 1) increased biofouling of the entrance of the intake filters or screen, which leads to the second impact, 2) reduced water intake, and 3) lowered desalination plant performance due to the decrease in the heat transfer capacity (Elshorbagy & Elhakeem, 2008). To prevent such negative outcomes, a major shutdown for the desalination plant was necessary to perform intensive flushing and equipment cleaning in the plant (Elshorbagy & Elhakeem, 2008).

Other human-made hazards include, but are not limited to fires, wars, and terrorist attacks. Dubai and Abu Dhabi, the country's two major cities, have many skyscrapers. Dubai has the highest skyscraper in the world, the Burj Khalifa—has experienced many fire incidents. On April 3rd, 2017, a fire occurred in an under-construction skyscraper and resulted in one fatality (Aljazeera News, 2017). On New Year's

Eve 2015, a fire broke out in a 63-story luxury hotel in Dubai and caused at least 15 injuries, and one victim had a heart attack during the evacuation process (Aljazeera News, 2016; The Guardian, 2016). Even though there is no history of major terrorist attacks in the UAE, the country is still at risk of such attacks due to its political role and involvement in some ongoing conflicts in the Middle East, such as the Yemen War.

Vulnerabilities

Vulnerability can be defined as “a measure of the propensity of an object, area, individual, group, community, country, or other entity to incur the consequences of a hazard, and is the result of physical, social, economic, and environmental factors” (Coppola, 2015, p. 150). In the UAE, vulnerabilities could be exacerbated by political exclusion, social exclusion, demographic imbalance, injustice in wealth distribution, and economic injustice. As mentioned earlier, the UAE’s government is a federal absolute monarchy in which the ruling families have full authority on the decision-making process within their emirates. With that absolutism in the government system and the significant wealth sources in the UAE, a combination between absolutism and rentierism came into existence. Such a condition was well-elaborated in Michael Herb’s book *The Wages of Oil*. Herb (2014) argues that such a condition enables “the ruling families [to] adopt policies that suit their own interests” (p. 107). Consequently, public representation in the decision-making process is severely reduced because the ruling family is such a small subgroup of the population. Hence, the UAE ruling families do not reflect medium and low classes in many policies that affect those classes. This overall situation, which is rooted in the process of absolutism and extreme rentierism, leads to a further problem: demographic imbalance.

The demographic imbalance in the UAE is a major issue. It is a country where citizens are a minority group and immigrants are a majority group. Financial resources and industrialization due to oil discoveries led to a

massive immigration influx (Boyle, 2012; Al Shehabi, 2015). As an earlier study noted (Seccombe & Lawless, 1986), the dramatic oil price increases in the 1970s enhanced the international labor flow into the country and made the UAE depend more on foreign workers.

In the light of Schneider’s (2007) ‘dynamic model’, a framework that explains how histories and ecologies determine the language structure in Postcolonial Englishes, Boyle (2012) argues that the UAE represents a special case of an ‘adstrate community’ (Boyle, 2012, p. 313). The adstrate community—a term that is given by Schneider (2007) to population groups who are neither indigenous people, nor settlers—is enormous in the UAE (Boyle, 2012).

The expatriate communities, or adstrate communities, in the UAE, as well as in other Gulf States, is made of economic immigrants whose influx resulted from the rapid development of the region (Boyle, 2012). According to Boyle (2012), the adstrate community is different in the UAE than in other postcolonial societies because 1) they represent the majority of the the UAE population and 2) they are not offered an opportunity to have permanent residence in the UAE (Boyle, 2012). Boyle’s argument is that norm-enforcement is reduced, and language change might be accelerated among expatriates in the UAE because they interact with a loose-knit social network (Boyle, 2012). The argument is that expatriate communities in the UAE, as presented by Boyle (2012) could hinder effective community engagement, because of the loose-knit social interactions among them and the infeasibility of having permanent residence.

The issue of demographic imbalance could have implications on the country’s stability and ability to recover after disasters going forward. The poor community attachment, which was discussed in an earlier section of this paper, is supported by Boyle’s argument about the economic community. Boyle (2012) explains that the adstrate community “interact[s] by means of loose-knit social networks in which norm enforcement is

reduced and in which language change might well accelerate” (Boyle, 2012, p. 327-8). In other words, most of the immigrants come to the UAE as workers, so their long-term interest in developing the country is insecure because the relationship between them and the UAE is purely transactional: work for money.

A great proportion of the UAE’s working immigrants leave their families in their home countries because “many of them are not allowed to resettle their families with them” (AlShehabi, 2015 p. 18). This is an ideal way to make money for immigrant workers, who mainly come from Asia and receive low wages, as the living cost is significantly higher in the UAE compared to their home countries. Without work, they have no ties making them part of a country where they have no citizenship identity or family. If there is a war or disastrous event that threatens the residents’ safety, it is highly expected that a great proportion of the workers will leave the country, comparable to what happened in Kuwait in the second Gulf War in 1991 (Shah, 1994; Abella, 1991). Such a sudden massive exodus of workers would increase the impact of a disastrous situation like war, because of the high dependency of the country’s economy on the productivity of those immigrants.

Besides politically and economically rooted vulnerabilities, the UAE is subject to other vulnerabilities that are in geological in nature and are exacerbated by various aspects of the UAE society. An excellent example of such vulnerabilities is the issue of water and food security. The UAE is a country that depends heavily on seawater desalination and is ranked 2nd in the world in producing desalinated water after Saudi Arabia (Sawe, 2017). Despite the heavy use of desalination, the UAE has a severe shortage of fresh water because it is a desert country with no rivers or lakes (Sawe, 2017). All the Gulf Cooperation Council, or GCC, states are within the top five countries dependent on seawater desalination.

Even though the UAE uses its financial capabilities for desalinating seawater and importing food to overcome their vulnerability in water and food security, these are both

temporary solutions that can contribute to long-term negative impacts. Depending on desalinated water allows for more urbanization and population density than can be met in the a time of crisis. One limiting factor to unsustainable overpopulation, however, is that the only water the UAE can access for desalination is the Persian Gulf water: a body of water full of oil fields. The Persian Gulf is prone to oil spills that could quickly cease water desalination. As previously discussed, in 1998, a desalination plant in the UAE was shut down when diesel oil entered its intake. According to Elshorbagy & Elhakeem (2008), that threatened the water supply for half a million people.

Emergency Management in the UAE

The UAE’s emergency management system reflects the country’s absolute monarchy. The police department, Civil Defense, the UAE Armed Forces, National Emergency Crisis and Disasters Management Authority (NCEMA), and ambulance services are all centralized government agencies that dominate emergency response efforts. Also, several non-governmental volunteer organizations help in the emergency response in the UAE, such as the Red Crescent and Sanid, which is a program for the national emergency response volunteers (Alhmoudi & Aziz, 2016). Table 1 summarizes the primary roles of the above organizations.

Table 1: Emergency agencies

Agency	Location	Major Role	Level of Operation
GOs*			
<i>NCEMA</i>	Abu-Dhabi	Coordinating and legislative Planning at national level	National
<i>Emirate Police</i>	Each emirate	Local area	Local
<i>Civil Defense</i>	Each emirate	Warning system First responder Planning at local level	Local
<i>Emirate medical Services</i>	Each emirate	Pre-hospital medical services	Local
<i>The UAE Army</i>	The UAE	Middle East Region	Local/national/international
NGOs*			
<i>Emirate Red Crescent</i>	The UAE	Humanitarian work	National/international
<i>International Humanitarian City (IHC)</i>	Dubai	Humanitarian organization hub Warehouse for all non-profit organization (airlifts transport aid evacuation for the staff)	International

Source: Data were retrieved from the official websites of NCEMA, government.ae, Emirate Red Crescent, and IHC.

*GOs are governmental organizations; NGOs are non-governmental organizations; Local refers to within each emirate or state.

The local emirate governments vary noticeably regarding resource availability and prioritization of emergency policies. Dhanhani et al. (2010) conducted a cross-sectional study to compare the emergency system and preparedness capabilities in two emirates: Dubai and Fujairah. Dubai is a wealthy emirate that has a diverse economy, while Fujairah has limited resources and is more exposed to natural hazards, such as earthquake and cyclones, due to its location (Dhanhani et al., 2010). Dhanhani et al. (2010) concluded that the rich emirates possess the resources necessary to handle the impact of disaster and they can provide other emirates and countries with some of these resources, while the smaller emirates are reliant on the federal government for support when they need to respond to a large event.

Fares and his colleagues reached the same conclusion when they explored emergency medicine in the UAE (Fares et al., 2014). Fares et al. (2014) concluded that the wealthiest emirates (Abu Dhabi and Dubai) have advanced and well-organized pre-hospital emergency care as compared to the rest of emirates. Among those five other emirates, Sharjah has the best operational state regarding pre-hospital emergency medicine (Fares et al., 2014). There are 103 pre-hospital care providers in Sharjah, compared to just 17 in Ajman, 21 in Ras Al Khaimah, 13 in Fujairah, and none in Umm Al Quwain (Fares et al., 2014).

From a political ecology perspective, Martins (2017) developed a conceptual model that guides the analyses of vulnerabilities from a political ecological approach. The political ecology framework recognizes the environmental process within the broader frame of political and economic factors as a core for most ecological analyses (Martins, 2017). Martins' framework investigates the vulnerability within four dimensions: social, political economy, environmental, and sociocultural adaptation (Martins, 2017, p. 60). Contrary to other ecological frameworks of vulnerability, such as Hewitt's (1997) theoretical perspective and Blaikie et al.'s (1994) Pressure and Release Model, Martins' framework acknowledges the historical dimension as an

important factor in analyzing the local vulnerabilities from a political, economic and environmental approach (Martins, 2017).

Including the historical dimension when analyzing vulnerabilities relevant to political and economic factors is also supported by Oliver-Smith (1996). For example, the most highlighted vulnerability in this paper is demographic imbalance in the UAE, which resulted from public policies that enhanced economic immigration to help the country develop after the discovery of oil. At the same time, the UAE naturalization process is very long and demanding. Most immigrant workers who come from non-Arabic speaking countries need to spend 30 years of residency in the UAE and become proficient in the Arabic language in order to be considered for UAE citizenship (UAE Government, 2018). As a result of this, the country suffers a significant ongoing demographic imbalance level, which threatens its stability and recovery after a disaster.

As the concept of vulnerability is associated with weaknesses or disadvantages inherent to a community or a place (Hewitt, 1997), the concept of resilience is associated with the capabilities that a community or a nation possesses. Hewitt (1997) stresses lack of resilience as an area of vulnerability by defining the lack of resilience as "limited or no capability to avoid, withstand [,] or offset and recovery from disaster" (p. 27). Vulnerability and resilience are neither similar, nor opposite to each other. It is possible to find a community that inherits several vulnerabilities due to its geographic location or its political economy yet has abundant resources that build effective emergency capabilities and improve the resilience process. Resilience factors are "characteristics that help to cushion or mitigate the effects of disasters" (Tierney, 2007, p. 288). Even though Tierney (2007) discusses business resilience factors, the concept of resilience in business remains similar across other areas as long as it is tied to the recovery capabilities.

Due to location, political economy, and financial capacity, different emirates have different vulnerabilities and capacities for resilience. Table 2 illustrates the variations

among emirates regarding their vulnerabilities and resilience to disaster.

Table 2: The variation among emirates regarding vulnerabilities and resilience

Resilience	(More resilient, Less vulnerable) None	(More resilient, More vulnerable) <ul style="list-style-type: none"> • Dubai • Abu Dhabi
	(Less resilient, Less vulnerable) <ul style="list-style-type: none"> • Sharjah • Ajman • Umm Al-Quwain • Ras Al-Khaimah 	(Less resilient, More vulnerable) <ul style="list-style-type: none"> • Fujairah
	Vulnerability	

Cooperation in time of disaster is offered under the umbrella of the Emirate Federation. Three UAE constitutional articles - 118, 142, and 143 - shape such cooperation and the relations between the Federation and the seven emirates, as shown in Box 1. Those articles confirm the administrative collaboration as well as military assistance among the seven emirates when a

situation calls for it. It is worth noting that the UAE Constitution of 1971 and its amendment through 2009 never mention the terms emergency, crisis, or disaster even once in the constitutional articles (Constituteproject.org, 2018). However, the word “danger” in 143 may imply an emergency or other relevant term.

Box 1: Articles 118, 142 and 143 of the UAE Constitution

Article 118

All the member Emirates of the UAE shall seek to harmonize their legislation in the different fields to unify that legislation as far as possible.

Two or more Emirates may, subject to the approval of the Supreme Council, gather together in a political or administrative unit, or unify all or part of their public services, or establish a single or joint administration to run any such service.

Article 142

The state alone has the right to establish armed land, naval, and air forces.

Article 143

Any Emirate shall have the right to request the assistance of the Federal Armed Forces or the Security Forces in order to maintain security and order within its territories whenever it is exposed to danger. Such a request shall be submitted immediately to the Federal Supreme Council for decision.

The President of the UAE and the Federal Council of Ministers collectively, may, if the Supreme Council is not in session, take any immediate measure which cannot be delayed and considered necessary and may call the Supreme Council into immediate session.

Source: (Constituteproject.org, 2018).

According to the above constitutional articles, police and civil defense will be utilized in a different location under the umbrella of the federal government when there is a need for them, even though the management and ownership of these resources is a local affair for each emirate. Because the UAE has not experienced a large-scale disaster in its recent history, there has not been an opportunity to test how the constitutional interpretation

regarding the use of local resources at the national level would be implemented.

Non-Governmental Organizations

Some of the non-governmental organizations, such as the Emirates Red Crescent and Sanid, that are active in the UAE are mainly funded by the government, and the chairs of these two organizations are members of the ruling family in Abu Dhabi. Such organizations are recognized both nationally and internationally as the arm of humanitarian work in the UAE. In Dubai, there is the International Humanitarian City, or the IHC, which is considered a warehouse for international and national humanitarian organizations. The IHC covers an area of more than 120,000 m², and established a authority-free zone for humanitarian actors (IHC, 2017). There are many offices for international and national humanitarian organizations, such as UNHCR, UNICEF, OCHA, CARE Foundation, etc., that are considered IHC members (IHC, 2017).

Essentially, allocating humanitarian organizations in one place facilitates humanitarian work and promotes the logistic services that help humanitarian organizations. The major drawback here is that having all the resources or a great deal of the resources in one place is a significant vulnerability. If a disaster hits the region, it could also hit the IHC zone, which is highly probable due to the small size of the country. In such a case, the humanitarian organizations would require assistance in lieu of providing it for others.

Past Emergency Management

Both non-governmental and governmental organizations in the UAE have some experience with disaster in neighboring countries, such as the Bam earthquake in Iran in 2003 and Pakistan earthquake in 2005 (Dhanhani et al., 2010). Some governmental departments, such as the Dubai police, were able to respond to both events effectively and gained some experience regarding how to respond to similar events (Dhanhani et al., 2010). Additionally, the UAE has participated in

and become a member of many international and regional conventions and committees. The UAE is a member of the Gulf Disaster Center in Kuwait and the regional office of the United Nations International Strategy for Disaster Reduction, or UNISDR, in Cairo.

Recent Developments

In the last 10 years, the UAE government started recognizing the importance of coordination in the disaster response process. Besides being a co-founder of the Gulf Disaster Center that operates under the umbrella of the Gulf Cooperation Council, the UAE Federal government initiated NCEMA as a joint authority that coordinates the disaster management among the seven emirates. According to the UAE Supreme Council for National Security, under which NCEMA was established, NCEMA's mission is "to enhance the UAE's capabilities in managing emergency, crisis and disaster by setting the requirements of business continuity, enabling quick recovery through joint planning, and coordinating communication both at the national and local level" (UAE Supreme National Security Council, 2017, p. 27). NCEMA promotes the supportive and authoritative roles of the UAE federal government in disaster management. Such roles include but are not limited to building a strategic emergency plan; coordinating operations among emergency agencies; defining bodies' responsibilities; and overseeing and controlling emergency committees (Dhanhani et al., 2010, p. 76).

Unfortunately, neither enhancing community attachment, nor improving community involvement in emergency planning and response seems a goal of NCEMA. NCEMA's terms of reference (Dhanhani et al., 2010, p. 76) indicate that NCEMA emphasizes the paternalistic role of the government, rather than empowering community roles. Such emphasis on a centralized emergency management role of the federal government or local government of different emirates is not recommended by the disaster research community (Wenger, Quarantelli, & Dynes, 1990; Dynes, 1994). The strategy of enhancing

government control during a disaster reflects the perspective that disaster is social chaos and that preserving social control can prevent disaster (Dynes, 1994).

Strengths and Weaknesses

Emergency management in the UAE has many advantages and capabilities that strengthen the process of rapid and effective response to disaster. It benefits from being a small country with generous natural resources and excellent diplomatic and cooperative relations with neighboring countries, like Saudi Arabia and Bahrain, who can rapidly deploy needed resources if any disaster occurs. The UAE also maintains good relations with countries that have advanced and well-developed emergency response capabilities, such as the U.S. The political and financial state of the UAE enables it to receive assistance from those countries when it is needed. Such cooperation can be seen in some previous events, such as the help provided by the U.S. Coast Guard in cleaning the oil spill that resulted from the *Seki* vessel accident in 1994.

One weakness that the UAE experiences is not having much experience with disaster management. Lack of experience may reduce the emergency officials' and public's' ability to deal with future disastrous events. The country has not suffered from significant disaster impacts that could result in fatalities and great social disruption since its foundation. Table 3 summarizes the major emergency management strengths and weakness in the UAE.

Table 3: Strengths and weaknesses

Strengths	Weaknesses
Financial resources (natural resources)	Low public engagement (political system)
Strong federal relationship (size of the country)	Reactivity (functionalist perspective)
Strong regional relationship (shared strategic goals, GCC)	International Humanitarian City (location)
International Humanitarian City (logistic Services and facilitating the coordination)	Emergency Plans (no information sharing) The absence of clarity in the planning process (bureaucracy; reactivity) Central Management approach (absolute monarchy regime)

As illustrated in Table 3, the UAE's strengths are inherent to their financial capabilities and political relationships. Also, having a national disaster response agency (NCEMA) enables different emirates to communicate, coordinate, and support each other in disasters. Given that disasters are usually considered local issues, each emirate can tailor their disaster response policies to fit their resources and context, and in the same way, that emirate can reach out to the other emirates for resources when demand overwhelms their capacities. That is mainly because of the limited number of decision makers influenced by the Supreme Council that contains only seven rulers.

On the other hand, the country's weaknesses are inherently linked to the political system in place and the demographic imbalance, which reduces public interest and public inputs in the emergency planning process. The emergency system was built by UAE policymakers into government institutes, such as Civil Defense and NCEMA; hence, it is usually influenced by the administrative structure and government policies. The UAE emergency system seems to be a well-defined,

centralized system that mimics the federal absolute monarchy system of the country. That is, the emergency system may give the appearance of having covered most of the demands with a high level of cooperation and communication among emirates, while it is an exclusive system that is concentrated around a few stakeholders. Having poor public inputs, acting on a reactive basis, and not having a clear public planning process or community involvement are just a few symptoms of such an exclusive system.

Conclusion

The UAE is a wealthy country that has an excellent opportunity to strengthen its emergency management system using its financial resources. However, the government needs to focus on local vulnerabilities and act on improving community capabilities; such improvements require political solutions rather than mere economic improvement. The most noticeable vulnerability is the demographic imbalance, with most of the country's workforce being economic immigrants who have minimal community engagement. Also, the low community-level participation in the

emergency planning process, associated with the low public representation in the policy-making process, is a major politically-created vulnerability that impacts the disaster management process. Engaging the community in the emergency planning process, balancing social capabilities by providing immigrants more well-defined rights, strengthening their bonds to the country, educating and training for all social classes, and conducting emergency training programs that are tailored to the local, natural, and technological perils are some of the many recommendations to the UAE emergency managers. Generally, this paper urges the emergency managers and policymakers be aware of 1) the drawbacks of the exclusive planning process and 2) the social vulnerabilities of the UAE. More research is needed to reveal issues that affect emergency management in the UAE and develop innovative solutions or test their applicability in the UAE context. Public policy research and community-based research projects aiming to correct and enhance the community involvement in emergency planning and response could be beneficial in the case of UAE's emergency management.

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