

A COMPARATIVE STUDY ON THE HUMANITARIAN RELIEF OPERATIONS: VAN-TURKEY AND TOHOKU-JAPAN EARTHQUAKES

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Abstract

The purpose of this article is to compare the humanitarian relief operations in Van- Turkey earthquake and Tohoku- Japan earthquake 2011. Essentially, this study questions whether the long experiences of Turkey and Japan in the management of natural disasters, especially earthquakes, have affected the development of humanitarian relief operations, what are the humanitarian relief operations of the two countries to overcome the disaster and manage it and what measures should be taken in this regard to prepare fully for humanitarian relief for major disasters in the future. Through this study, we found that the Turkish and Japanese experiences in disaster management over the years created flexibility in both countries in dealing with the Van earthquake in Turkey and the Tohoku earthquake in Japan and this contributed to the acceleration of the recovery process. However, both countries have some weaknesses in disaster management which will be evaluated through this article.

Keywords: *Disaster Management, Natural Disasters, Van Earthquake, Tohoku Earthquake, Humanitarian Relief*

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İNSANI YARDIM OPERASYONLARI ÜZERİNE KARŞILAŞTIRMALI BİR ÇALIŞMA: VAN-TÜRKİYE VE TOHOKU-JAPONYA DEPREMLERİ

Özet

Bu makalenin amacı, 2011 yılında Van- Türkiye ve Tohoku – Japonya’da meydana gelen iki büyük depremdeki insani yardım operasyonlarını karşılaştırmaktır. Temel olarak, bu çalışma, Türkiye ve Japonya’nın doğal afetlerin yönetimi, özellikle depremler konusunda ki uzun deneyimlerinin insani yardım operasyonlarının gelişimini etkileyip etkilemediğini, Afetin üstesinden gelmek ve onu yönetmek için her iki ülkenin insani yardım işlemlerinin neler olduğunu ve gelecekteki büyük felaketselere yönelik insani yardımın sağlam bir şekilde hazırlanması için alınması gereken önlemler neler olduğunu sorgulamaktadır. Bu çalışmada, Türk ve Japonların afet yönetiminde yıllar boyunca yaşadıkları deneyimlerin, 2011 yılında her iki ülkede meydana gelen Van ve Tohoku depremleri ile ilgili esneklik yarattıklarını ve bu iyileşme sürecinin hızlanmasına katkıda bulunduğunu tespit edilmiştir. Bununla birlikte, her iki ülkenin afet yönetimi konusunda bazı zayıf yönleri bulunmuştur.

Anahtar Kelimeler: Doğal afetler, Van depremi, Tohoku depremi, İnsani yardım

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1. Introduction

Natural disasters in many countries of the world are the most important threats facing the states. This is especially so if it occurs frequently and the state in question cannot deal with it without international intervention. These natural disasters kill and displace thousands of people and inflict serious damages to the infrastructure of the affected area. Therefore, countries that are constantly affected by disasters need disaster management and humanitarian aid to facilitate relief and recovery operations for affected areas. International humanitarian assistance is often the source of relief and rehabilitation for affected areas in the case of the magnitude of the disaster and the inability of the affected country to respond as well as the need to strengthen the capacity of local efforts. However, in some countries where natural disasters have repeatedly occurred, significant progress in disaster management and coordination in relief operations are witnessed and this led them to become a model and are ready for international cooperation in humanitarian action. In this study we will focus on the Turkish and Japanese model in coordinating relief operations and humanitarian assistance in times of natural disasters. This comparative study is based on the use of two case studies, which examine the performance of each state in humanitarian relief operations and coordination and its impact on effective response. This is by addressing the emergency response in the earthquake of Van 2011 in Turkey and the earthquake of Tohoku in 2011 in Japan. In this study, the performance of humanitarian relief operations is addressed in terms of effective response and coordination at the local and international levels. The study focuses on the response mechanisms and measures taken by Turkey and Japan to deal with the devastating earthquakes. The study also examines Turkish and Japanese efforts to prepare for response to major disasters in the future and the need for collaborative action in the field of international humanitarian assistance in natural disaster situations.

Earthquakes are natural disasters that occur suddenly and lead to damage to property and lives according to the severity and location of their occurrences. It also requires intervention at the national or international level. The natural disaster as defined by the United Nations is “A situation or event, which overwhelms local capacity, necessitating a request to the national or international level for

external assistance; an unforeseen and often sudden event that causes great damage, destruction and human suffering” (United Nations Statistics Division, 2011). There is, therefore, a dire need for humanitarian relief operations to overcome this situation and to respond to natural disasters. The United Nations Office for the Coordination of Humanitarian Affairs (OCHA) identifies humanitarian operations as “Operations conducted to relieve human suffering, especially in circumstances where responsible authorities in the area are unable or weak to provide adequate service support to civilian populations” (WHO, 2008).

In the event of sudden natural disasters, particularly major earthquakes, the state is often unable to respond to the disaster and to carry out recovery operations alone without international assistance. This can be inferred from a review of the literature on international humanitarian relief operations in major disasters in countries where earthquakes are frequent. In fact, many countries are at risk of devastating earthquakes and have had experience in this area over the past years. Although earthquake-prone countries develop plans, strategies, mechanisms for prevention, intervention, and response to natural disasters, they often cannot respond to earthquakes when they occur without resorting to international assistance or accepting proposed assistance. Turkey and Japan are countries threatened by earthquakes and natural disasters and have a great experience in dealing with disasters. They have developed many mechanisms for prevention, intervention and response. They are also two countries that involved in humanitarian relief operations in natural disasters in different countries of the world.

Turkey is located in a very active area in terms of earthquakes in the world. It is pertinent to note that, certain areas of Turkey each year experiences earthquakes of varying degrees. This is evidenced by great loss of life and property caused by the severe earthquakes in Turkey. In view of the history of earthquakes, Turkey has been subjected to 146 earthquakes, which caused physical and human damage (Demirci and Karakuyu, 2004). In other words, Turkey is ranked third in terms of loss of life due to earthquakes because of its geographical location in a region experiencing severe earthquakes. It is also eighth in the world in terms of population affected by earthquakes. In general, Turkey is experiencing at least one earthquake of magnitude 5.0 - 6.0 per year. According to the statistics of 58 years, 58,000 people died because of earthquakes in Turkey, and this means 1,000 people die every year as a result of earthquakes in Turkey (AFAD, 2014). Despite the evolution of Turkey in the disaster management system, the centralization and hierarchy remain one of the most important challenges facing the Turkish system

in disaster management. In addition to the absence of special policies on encouraging vulnerable communities in mitigation and preparedness (Karanci, 2013).

Due to the geographical location of Japan it is always under threat of many natural disasters. The statistics between 1945 and 2000 indicate that Japan loses about 1,000 people annually; either dead or missing during natural disasters. In 1959, Japan suffered an earthquake that resulted in the loss of more than 5,000 people. This disaster informed the disaster management in Japan to come up with one of the most important policies and priorities. The impact of natural disasters has been reduced by measures taken by Japan and this indicates its readiness and success until the 1995 earthquake, which killed more than 6,000 people (Hayashi, 2010). After this major earthquake, Japan developed several disaster management mechanisms. About 10 percent of the world's devastating earthquakes in the 20th-century with magnitudes of 8 or more occurred in Japan. Perhaps this has made Japan one of the leading countries in disaster management in the world (Suganuma, 2006). The geographical nature and natural conditions in general made Japan vulnerable to recurring natural disasters, specifically earthquakes (Kumaki, 2014). Therefore, Japan is a country with seismic activity and experiences in many major and destructive seismic disasters. From 1855 to 2011, Japan experienced three devastating earthquakes (Ansei Edo earthquake 1855, Kant Earth Earthquake of 1923, Tohoku disaster 2011), resulting in heavy losses in properties and lives (Hunter, 2015).

Consequently, there is a marked rapprochement between Turkey and Japan on the subject of the threat of the dangers of natural disasters, particularly earthquakes. Those two countries have long experiences with natural disaster and its management. It is noticeable through this study and studies related to natural disasters in both countries that each of them has developed a specific system for disaster management from prevention work and readiness to intervene and respond.

1.1. Objective

The main objective of this article is to compare the humanitarian relief operations in Van – Turkey earthquake and Tohoku - Japan earthquake 2011. Essentially, this study questions whether the long experiences of Turkey and Japan in the management of natural disasters, especially earthquakes, have affected the development of humanitarian relief operations, what are the humanitarian relief operations of the two countries to overcome the disaster and manage it and what measures should be taken in this regard to prepare fully for humanitarian relief for major disasters in the future.

1.2. Methodology

To achieve these goals, we:

1. reviewed literature on the challenges of natural disasters, specifically earthquakes and how to manage natural disasters in Turkey and Japan.
2. identify the main points of national and international humanitarian aid in the case of natural disasters.
3. study two separate cases to identify problems faced by states in humanitarian relief operations and natural disaster management.

This discussion will be concluded with reference to the importance of international cooperation efforts in disaster management, particularly in international humanitarian relief operations, particularly between Japan and Turkey, due to the long experience in this field. At the same time, we will present some proposals that could contribute to increasing the effectiveness of international humanitarian relief operations in natural disasters.

2. Natural disasters and the need for international humanitarian assistance

All the countries of the world without exception are vulnerable to disasters. As we live in the age of globalization, the disasters of one country can affect people in neighboring countries and the world as a whole. But natural disasters can be devastating in less developed countries because of weak infrastructure, resulting in human and material losses and consequently creating social unrest. Countries suffering from recurrent natural disasters should, therefore, prepare appropriate resources and equip disaster management centers, emergencies, and cooperation at the regional and international levels (Bennett, 2012). International cooperation in this area focuses on capacity-building and the deployment of disaster response experts in high-risk countries. In this context, high-risk countries are responsible for creating an environment to reduce disaster risk through legal reform (Assembly, 2003). Humanitarian assistance from international cooperation to affected countries is often based on relief aid rather than investment in disaster reduction work (Seck, 2007).

In general, cooperation is the necessary basis for dealing with the destructive consequences of earthquakes. With the recurrence of disasters and the development of mechanisms to deal with them, we find that local cooperation in emergency management is one of the most important mechanisms because the aid may not contact for hours or days (Waugh Jr and Streib, 2006).

However, relief during or in the aftermath of natural disasters, requires rapid steps in dealing with survivors and identifying and providing their basic needs. Relief activities usually occur in the early days of the disaster and it varies according to the nature of the disaster. This usually involves search and rescue, medical services, shelter and basic survival materials. Consequently, disaster relief is a multilateral continuum. In general, the aim of humanitarian assistance in natural disasters is first and foremost to protect life first and to limit human suffering and preserve their dignity based on international humanitarian principles. It is also to restore normal living conditions by taking the necessary actions for reconstruction and cooperation in the area of disaster prevention. It should be noted that humanitarian assistance must be a direct response to the needs of the affected people or affected society as well as do not neglecting the cultural aspect and its importance in accepting assistance and access to affected people (Somers, 2009). This lies in the concept of relief and its goal as “foreign intervention into a society with the intention of helping local citizens”(Long and Wood, 1995).

3. The coordination of humanitarian relief operations and disaster management

The primary responsibility for disaster management lies with the affected State and its local and community institutions. The disaster-stricken country is the first response line in the case of natural disasters through effective community involvement. Coordination of humanitarian relief operations for an effective response is in cooperation with the international community, to strengthen and support local and regional efforts in managing disasters. However, there are major challenges facing the international community while working to strengthen the country’s disaster management capacity and response as well as future plans (Assembly, 2003). For example, host governments’ response to humanitarian logistics operations can facilitate or constrain the operational effectiveness of the international community’s efforts to deliver humanitarian assistance (Kovács and Spens, 2007).

The huge damage caused by disasters, coupled with unpredictability, has made humanitarian aid after disasters one of the most important things. Humanitarian logistics are at the core of the relief operation and response to the disaster. This requires a high level of coordination and cooperation between local and international relief organizations. Effective coordination and successful cooperation avoid problems that can result from delayed rescue and erroneous response to an emergency (Feng and Tian, 2016). Therefore, in order to reach an effective

response, humanitarian disaster relief operations must go through three phases: before, during and after the disaster, i.e. the preparation phase, the immediate response phase, and the reconstruction phase (Lee and Zbinden, 2003).

Leading humanitarian operations partnership is considered to be the best when government capacities are still evolving. The weakness of government capacity triggers the United Nations agencies or NGO networks' suitability for humanitarian operations-oriented response to the disaster (Bisri, 2016). Therefore, the successful response to natural disasters is through networks of formal and informal organizations with shared goals and responsibilities (Roberts, 2010).

In general, countries that are constantly exposed to natural disasters must have a comprehensive disaster management framework and approach. Disaster management should therefore include five phases as indicated by UN / ISDR (2002) 1. Predictability: this phase includes structural and non-structural measures that need to be taken to reduce risks and take response measures in advance. It is a phase that can be described through preparedness and mitigation activities via early warning and timely evacuation. 2. Warning: this stage is based on accurate information from responsible institutions that provide information in a timely manner which helps individuals at risk to take appropriate risk avoidance and effective response. 3. Emergency relief: at this stage intervention and assistance at the time of the disaster and immediately after is done. The aim is to preserve life and provide basic living needs for victims. 4. Rehabilitation, which is the stage of restoring and improving living conditions to the pre-disaster level while taking the necessary measures to reduce the risks of natural disasters. 5. "Reconstruction: this phase includes the essential activities conducted during mitigation, preparedness activities in prediction phase; response activities in warning and emergency relief phases; and recovery activities in rehabilitation and reconstruction phases" (Lin Moe and Pathranarakul, 2006).

Taking into consideration the disasters that occurred throughout history, it is found out that the response capabilities exceed the limits and capabilities of one or several nations. The disaster-affected country thus, needs resources from international response community and this cooperative response is called international disaster management. With the recurrence of disasters, there have been systematic processes to respond to international disasters and have been recognized internationally. These international systematic processes in disaster management have been worked out, improved and developed to be able to assess the various damage and needs of disaster-affected countries. International disaster management includes the following elements»Victims, Local first responders, The governments of

the affected countries, Governments of other countries, International organizations, International financial institutions, Regional organizations and associations, Nonprofit organizations, Private organizations—business and industry, Local and regional donors”. One of the things to keep in mind is that the inability of the state to respond to the disaster does not make the disaster international, but there is the need to accept the participating countries during their appeal and recognition of the need to provide support to respond to the disaster (Coppola, 2006).

4. Repeated earthquakes in Turkey and Japan and disaster management efforts

Turkey has faced repeatedly large natural disasters that have resulted in a loss of human beings and property. These disasters are multi-species, but given the magnitude of the loss, earthquakes account for 64 percent of Turkey’s natural disasters. Thus, earthquakes are one of the most important natural disasters facing Turkey (Yavaş, 2005).

Therefore, it can be said that Turkey has a legal background and very detailed practical experience in disaster situations. When considering the development of disaster management system in Turkey we see the focus of the events of the previous disasters of the Marmara earthquake in 1999 was on food aid and clothing, health services, and the need to meet the needs of victims of disasters, rather than disaster reduction (proactive disaster management) and preparations. At present, given the Disaster and Emergency Management Authority (AFAD) leadership’s understanding of disaster management and the duties and responsibilities of its service units in the Foundation Act, post-disaster systems are the most dominant (Tercan, 2018). However, Turkey after the 1999 earthquake began with reforms aimed at empowering local authorities away from radicalization and improved cooperation in the management of earthquakes and disasters in general. These reforms and cooperation have improved Turkey’s response to disasters, particularly in the 2011 Van earthquake. Previously, bureaucracy and centralism were among the main reasons for the inefficiency of the disaster management system. This is contrary to the international call for disaster management based in decentralized and cooperative (Hermansson, 2017).

Disaster management systems in countries are shaped by the types of disasters they face. Countries have developed disaster management systems according to the degree of negative impacts of disasters. A disaster management system has been developed to combat earthquakes in Turkey (can be described as a country built on earthquake zones). When considering disaster management systems

in developed countries, their application to a risk-focused disaster management system is noted. For example, Japan, which is similar to Turkey in being threatened by earthquakes, had until 1960 managed disaster management systems in the form of material assistance and healing after the disaster. With the “Basic Law for the measures against disasters”, which was issued in 1961 and updated in 1997, Japan has moved to risk-oriented disaster management system. There are two separate units in the organizational structure of the system, one permanent and one in disaster periods. The “Basic Plan for Disaster Prevention” is developed and implemented by the active institutions of the Permanent Unit. In the basic plan, details of how to coordinate, what to do and who to do before, during and after the disaster are prepared and implemented. During the disaster, the emergency center provides effective coordination with relevant institutions and persons under the plan. Demirci and Karakuyu (2004), noted that Japan has shown the success of these efforts and efforts in the disasters it has experienced. For example, the earthquake in Japan in 2003 measuring 7.6 and 7.8 resulted in only a few deaths (Yazılıtaş, 2015). In general, Japan is one of the leading countries in the management of natural disasters and specifically earthquake. It has a clear plan in disaster management as follows: “Central Council for Accident Prevention, chaired by Prime Minister, set of cohesive rules for immediate response to all of the unexpected incidents, the advanced research system and the extensive public education about disasters”. As a result of this disaster management plan, the community, its organizations, state institutions and rescue teams can work in a coordinated manner that accelerates recovery and reduces risks away from chaos (Zaré and Afrouz, 2012).

5. 2011 Van Earthquake

Van; one of the busiest cities in the region; is located in the eastern region of Turkey on the Iranian border. A large part of this city is located on a geographical area exposed to earthquakes of the first degree. On October 23, 2011, the city of Van was hit by a 7-magnitude earthquake, according to the Richter scale. Also, on November 9, 2011, the city was hit by a devastating 5.7 earthquake, where 644 people died and 1966 injured. Rapid intervention and rescue were witnessed in the first minutes of the earthquake as search and rescue operations were conducted mainly by AFAD, NGOs, municipal teams, the private sector and teams from abroad. This is a notable advance in post-disaster rapid intervention compared with the 1999 Kocaeli earthquake, where the first intervention was after four and a half hours of the disaster. AFAD, the search and rescue teams of all institutions and

organizations, non-governmental organizations, the private sector and municipalities, coordinated and implemented their activities quickly in exemplary cooperation. After the earthquake, rescue operations and local and international cooperation began to work quickly. Local search and rescue operations were carried out by 140 teams composed of 4,418 individuals. In addition, 12 foreign bands from countries such as Azerbaijan, Mexico, Iran, Spain, France, South Korea, Belgium, Japan, Switzerland, and Malaysia supported their work (AFAD, 2014).

In response to the disaster at the local and international levels, the local response was to work from the first moment by 24 hours a day, seven days a week, from search and rescue operations to housing, health, education and psychological and social support. All these local efforts were carried out in cooperation between governmental, non-governmental institutions and civil society institutions. At the level of international humanitarian assistance, the Turkish government has contacted the Office for the Coordination of Humanitarian Affairs (OCHA) to obtain assistance only on tents, prefabricated houses, and containers. The refusal of hundreds of thousands of people to return to their homes in addition to the weather and extreme climatic conditions were the main reason that prompted Turkey to seek international assistance. USA Ministry of Foreign Affairs Defense, German Red Crescent, Belgium Red Crescent, UNHCR, Finland Red Crescent, Netherlands Red Cross, Iranian Red Crescent, Swiss Red Cross, Canada, TRNC Red Crescent, Japanese Red Cross, Norwegian Red Cross, Austrians Red Cross were among the institutions and international associations that provided humanitarian assistance (Office of the UN Resident Coordinator, 2011).

The losses caused by the Van earthquake created an urgent need for local and international relief and humanitarian relief campaigns. In addition, it called for cooperation between the public sector and civil society to manage crises and identify the needs of those affected. In the first place, the needs of earthquake victims have been supported by the provision of housing, heating, food, clothing and psychosocial support widely by many NGOs at the national and international levels as well as public institutions (TÜSEV, 2012).

After the earthquake, a large number of local and international aid was sent to the region. This assistance was provided in general by public institutions, NGOs, and municipalities. It is important to note that these organizations have played major roles in disaster management right from the scratch. In view of the assistance provided and the intervention in managing the disaster, we found that each of AFAD and the Turkish Red Crescent participation was about 40%, municipalities was 14% and civil society organizations 2%. Therefore, it can be described as the

highly contributed institution that provided aid (Deniz, 2017). Romania, Spain, Pakistan, Sweden, United Kingdom, United States (USA), Germany, Azerbaijan, France, Russia, Kazakhstan, Ukraine, Egypt, Ireland, Switzerland, Syria, Algeria, Austria, Jordan, Finland, the Netherlands, Norway, Iran, the Turkish Republic of Northern Cyprus (TRNC), Bulgaria, the United Nations High Commissioner for Refugees and the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) provided a total of 26,832 tents as an international humanitarian assistance, 24 general purpose tents, 93,980 blankets and 24 tents the public 15 living containers, 536 camps, 1000 beds, 684 fireplaces and 40 generators (Aljaazeera Turk, 2013).

The Presidency of Disaster and Emergency Management in Turkey has been the main actor for the management, coordination, and implementation of all phases of the disaster response until relief and recovery were achieved. The recovery process in Turkey involves removing debris, assessing damage, rebuilding homes and workplaces, and providing long-term lending. This process takes two months to several years, due to factors such as the intensity and type of disaster and number of people affected (Oktay *et al*, 2013).

6. Tohoku earthquake 2011

The Tohoku earthquake, happened on March 11, 2011, with 9.0 magnitude which is considered the most severe earthquake experienced in Japanese history. This earthquake, which hit the northeastern part of Japan, led to major losses and a long-term international nuclear crisis. This is the third most powerful earthquakes in the world after the earthquake in Chile in the 1960's magnitude 9.5 and Alaska earthquake in 1964 with a magnitude of 9.2 degrees. Despite the international response during the days of the disaster, we found out that "by March 30, 134 countries and regions and 39 international organizations had expressed their willingness to provide aid to Japan. Twenty-three countries and regions had sent out rescue teams and experts on nuclear accidents. The statistical data released by the Narita branch of Tokyo Customs on March 29 showed that, in total, 190 batches and 1300 tons of relief goods from 29 countries and regions arrived at Narita Airport between March 12 and 25. Of these 190 batches, 60 were from China, 40 from the United States, 30 from Thailand, and 20 from Korea. The major types of goods included food, blankets, mineral water, radiation protection suits, and emergency lamps. By April 3 the Japanese Red Cross had received over one billion USD as donations in response to the disaster and dispatched more than 200 emergency relief teams to the disaster zone" (Norio *et al*, 2011).

In terms of the scale of the disaster and devastation caused by the earthquake, it can be said that despite the efforts made by the Japanese government to respond to the disaster, the Disaster Response Systems failed due to the vast areas affected by the earthquake and thus some municipalities lost their functions (Umeda, 2016). In general, response to the disaster was through the Japanese government that convened an emergency meeting and set up a disaster response team headed by the prime minister and mobilized thousands of soldiers for direct intervention. In addition to local efforts, the Japanese government accepted international assistance in overcoming the disaster and asked the US military to help with relief efforts (OCHA, 2011). The Tohoku earthquake destroyed Japan's earthquake management preparations, which was developed for decades. Although Japan has developed infrastructure and mechanisms for dealing with multi-magnitude earthquakes, it was not prepared for a massive 9-magnitude earthquake. The response to the disaster, reconstruction and project formulation prompted Japan to seek international cooperation from certain countries especially when was impossible to overcome the disaster without international cooperation (Des Marais *et al*, 2012). However, the Japanese government has only accepted international aid from 14 countries despite receiving a proposal for assistance from 128 countries and 33 international organizations. At the local level, all ministries have effectively played active roles and that included provision of health, food, education, shelter and housing services and their associated services. The local response to the disaster was coordinated by all relevant authorities and organizations as planned before (OCHA, 2011). However, despite detailed response plans for all cities and measures taken in advance to enhance response to natural disasters in Japan, they were not followed because they were a model of a small disaster and could not be applied in this huge magnitude. The lack of pre-preparation for the worst-case scenario was one of the main reasons that hindered the government's effective response to the challenge faced by Japan (Holguín-Veras *et al*, 2012, January).

In terms of recovery after the disaster, it was not easy because of the magnitude of the disaster, but Japan's richness in high-quality institutions, as well as human and social capital, may have been sped up the recovery process (Banerji and Singh, 2013). In two years following the disaster, the Japanese government launched humanitarian relief operations by providing support to disaster survivors. The Japanese government set up a reconstruction agency immediately after the earthquake to respond to the evolving needs and accelerate the recovery process. It adopted a strategy aimed at eliminating pollution, improving living conditions, supporting education, health, and psychosocial care. At this stage, the

Government has focused on cooperation with non-profit organizations and with many organizations to meet the needs of survivors (Japanese Red Cross Society, 2013). In 2013, most recovery and reconstruction plans were completed in the disaster area, where these operations were carried out more quickly than typical reconstruction projects in Japan (Leelawat *et al*, 2015).

7. Preparedness efforts to respond to major disasters in the future

The constant preparedness of all types of disasters at all times and the necessary measures before a disaster befalls a nation, is the function of contemporary societies and nations. The development of prevention strategies is, therefore, better than post-disaster healing (Öztürk, 2003). In other words, the policy of natural disaster reduction and the taking a proactive step are wise investment (International Strategy for Disaster Reduction, 2004). Past experience in dealing with natural disasters is one of the most important factors that help to recover and overcome the disaster quickly. In the case of natural disasters, specifically earthquakes, the important role of non-governmental actors should also be emphasized. Non-governmental organizations also contribute significantly to building the capacity of the community and strengthening its role in dealing with disasters that may occur in the future. The community's ability to respond is therefore strongly linked to community participation (Comfort, 1999; Waugh Jr and Streib, 2006).

The preparedness to respond to future disasters lies in the state's understanding of the nature of the threat, which lies in the development of distinct methods of forecasting, this helps to guarantee preparedness and response to the disaster. Therefore, it is necessary for a nation to quiz itself with many questions towards the preparation for disasters. This includes questions like: "What populations are at risk? What is the resilience of local communities? What is the prospect of instability or conflict in the aftermath of a disaster? What is the capacity of the government, both national and local, to respond (i.e. what is the resilience of its power generation, infrastructure, and most importantly medical systems)? What is the willingness of the local government to respond to offers of, or appeal for, outside assistance? Are there insurgents, criminals, or other illicit actors that might hinder the capacity of outside assistance groups to deliver aid?" (Bennett, 2012).

8. Conclusions and Suggestions

This comparative study presents some important conclusions regarding the response to natural disasters and humanitarian relief operations in the most disaster-prone countries. In the light of this study, a number of recommendations have

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been made to enhance effective response by natural disaster response agencies. This study is essentially based on humanitarian relief operations during the period of earthquake through a comparative study between Turkey and Japan.

Natural disasters, particularly earthquakes in Turkey and Japan, are an unquestionable threat. Repetitive and destructive earthquakes is pushing these countries to take the necessary measures to reduce losses and ensure rapid recovery. Through this study, it was found that the Turkish and Japanese experiences in disaster management over the years created flexibility in both countries in dealing with the Van earthquake in Turkey and the Tohoku earthquake in Japan in 2011 and this contributed to the acceleration of the recovery process. However, both countries have some weaknesses in disaster management. The most important of these is lack of preparedness for disasters that reach the strength of 9 degrees and above. Meanwhile studies indicated Japan's unwillingness, to deal with an earthquake of more than 8 degrees for example. This is a dangerous indicator due to the geographical location of earthquake prone areas.

One of the similarities between the two countries in responding to natural disasters is the need for international aid and international intervention. Despite the progress made by the two countries in disaster preparedness and capacity-building capable of responding locally, the need for international cooperation and international humanitarian assistance is essential in the event of a major disaster. In other words, there is no effective and responsive response system capable of responding to major real disasters in both countries without international cooperation. Japan which is considered one of the leading countries in the management of natural disasters, has detailed plans for all cities to follow when the disaster is happening, but it did not work properly because it was prepared on a small model of the disaster. Thus, countries that are at risk of earthquakes and natural disasters must have comprehensive plans to respond to huge natural disasters. In addition, there is a need to channel donations and local and international assistance in accordance with priorities and needs of victims and affected ones. One of the most important points to be mentioned is the need to enhance Turkish-Japanese cooperation in building a common model, owing to the fact that, both countries have vast experiences in this field. This model should be capable of responding effectively to the largest earthquakes expected to occur. It is also necessary to focus on the efforts of international cooperation in the management of natural disasters, specifically between the two countries through the development of projects aimed at increasing the effectiveness of international humanitarian relief operations in natural disasters.

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