

The Role of Natural Disaster Museums as Training Centers in Discussions of Passive Defense

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ABSTRACT: Natural disasters, bring casualties and financial loss every year around the world. This issue of defense and disaster preparedness is seen as part of the meaning of passive defense. Although places like "Crisis Management Centers" has been greatly helpful in disaster preparedness for authorities, but it did not work in the field of general education. Increasing of disastrous events, blood and mayhem have produced a group of museums whose main purpose is the exhibition of such disasters and memorialisation of their victims. All disaster museums, it seems, based on their locations, aim at contributing to preventing disasters and informing about risks that threaten our global cultural heritage, both material and intangible. The key for museums is to draw the line between entertainment and education: in any case, between museum building forms and spaces. The main problem with these sites is that how and in what way these museums can be effective on disaster awareness in every society. The importance of this issue causes to build many of these buildings in disaster sites. With various programs, trying to inform people in this field. Research Methods In This paper, is "content analysis" and "case study", and review of the documents and their content and criticise of architecture and specific programs of these buildings have been trying to get acceptable results in this study.

Keywords: Natural Disasters, Museum, Education, Passive Defense, Natural Disaster Museum

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INTRODUCTION

Human life from the beginning has always been accompanied with high risks and since human can not prevent these risks, always tried to do several Actions to reduce damages.

In our country these catastrophes, has left horrible social and cultural consequences and too much financial and physical damages. One of the important issues discussed in the context of disaster risk reduction is passive defense. "Citizens education" (as one of the most important passive defense steps) in the face of such disasters, (especially with using new technologies and disaster simulation sets) can play an important role in reducing the effects of these hazards.

Passive defense

A. Passive defense terminology

Before determine the term "passive defense", the term "civil defense" should be indicate that the "passive defense" is the part of this larger whole.

The term "civil defense", this is a two-dimensional meaning. In the first group of meanings, "civil defense" is introduced as "protecting civilians in situations of armed conflict" and it consists of "national defense which is necessary actions in order to adequate preparedness against any possible attack to country".

The second group of meanings of "civil defense" is "protecting civilians against the effects of disasters"; therefore, range of goals, actions and strategies should be developed. In contrast, the exact equivalent of passive defense "Passive Defence" is used. But the term "passive defense" is expressed in different ways. These definitions have "protecting civilians" in common. For this reason, recent definition of "civil defense" is a broad definition that "passive defense" is a part of it (Zargar and Mesgari, 2007).

Passive defense from a technical perspective

Passive defense, from a technical perspective, involves broader actions against the incidents. In contemporary technical literature, "passive defense" are used for every preparedness and defense against any disaster - whether natural or manmade incidences. In some Persian sources the difference between the two words "passive defense and civil defense" is ignored. Today, the term "passive defense" includes a wide range of technical literature meanings, planning, designing and implementation in three steps: before the crisis (preparing and warning), during the crisis (the ways of facing with crisis) and after the crisis (with the ways of Confronting and rehabilitation)"(ibid)

In this paper, the term "passive defense", is used as technical perspective. So the term "passive defense" in

this paper means defense of any disaster, whether natural or man-made. Considering to importance of natural disasters in Iran, the focus of this study on "passive defense" is to mitigate the negative effects of such disasters.¹

Disaster

A: Terminology natural disasters

Looking at the Latin root of the term "Disaster" can discover the meaning of this term. The term "Disaster" Combine of two words. "di" means a repulsive interaction, without, anti, against, and the bad. The second part of the word Latin, "Strom" is derived means star, fortune, fortune". In social work research, disasters are seen as a type of collective stress situation, in which many individuals fail to have their needs met through societal processes (Barton, 1969). Disasters are distinguished from other types of collective stress because, first of all, disasters are crisis situations (Quarantelli, 1998). This approach is consistent with the use of crisis intervention frameworks in social work disaster research (Miller, 2003). Furthermore, conflict situations such as riots and wars are generally not defined as disasters in social work research. Conflict situations, as compared to natural and technological disasters, involve very different responses of organizations and other social systems. However, conflict situations are related to disasters both because competition is present in disasters, and because disasters and conflict crises often lead to high levels of collective stress and traumatic stress. Natural disasters or man-caused disasters are happening so sudden and so devastating that people cannot overcome the damage and need the other people's help (Bahrainy, 2000). Disasters are often defined in social work research using a stress framework, with a focus on the stressor and the impacted system. This conceptualization of disaster allows for the examination of disaster impacts at micro, mezzo, and macro levels of analysis. Stress theory classifies disaster impacts according to type, demands on the impacted system, and duration (Dodds and Nuehring, 1996)

B: Types of disasters

Naylor says accidents generally are divided into three main categories, 1-natural disaster 2-industrial accidents and 3-accidents caused by social and personal conflicts. He defines natural disasters: natural disaster "are incidents which are formed by unusual disorder of the four basic elements (earth, air, fire and water) and suffering caused by the severity of the situation in the past, is still repeated" (Naylor, 1989). He acknowledges that the next group of such accidents, industrial accidents

"The four basic elements (earth, air, fire and water) are the cause of accident due to wrong calculation, error and neglect" (ibid). But the third group of the accident "can not be easily attributed to the four main elements, unless the cases through the confusion, anarchy or disorder and make decisions that lead to accidents on land, air, sea or fire" (ibid). The last categories can be called man-made threats which are divided into two categories: military threats and security threats. Military threat included "air raid", "land invasion" and "Pirate Invasion". Security threats are including sabotage, bombings and etc. In Table 1 the types of disasters can be seen according to natural elements and natural and man-made disasters:

C: Stages of Disasters

In Table 2 the stages of disaster after the accident are reviewed, according to three structural perspective, sociology and psychology.

D: Learning to deal with disasters

Emergency management in social work disaster research is defined as management of the disaster social service system, which includes disaster organizations as well as the mass assault after a disaster. Emergency management focuses on preparedness for disasters, and planning for coordination of community resources during disasters (Gillespie, 1991). This Emergency management is needed to have training before a real accident.

With highly vulnerable populations such as children, prevention can take place through ensuring that children are not exposed to chemicals and other substances released during environmental and technological disasters. By avoiding exposure of people at an early age to harmful substances, it is possible to limit or prevent long-term damage to children's health and cognitive functioning (Rogge, 2003).

One of the important issues in discussions of natural disaster, are the activities before the accident, and Education is considered one of the most important activities during this period, relative to preparedness for dealing with these disasters. The basic tools of communication with the citizens are: press (magazines periodicals, newspapers and journals) TV Features (Interviews with people, popular mobilization, interviews with officials and special programs), radio facilities (talking with people, interviewing officials) and provide educational materials on Special locations (schools, recreation clubs, sports and social facilities)"(Drubek and Hoetmer, 1991). In recent years, national media has some limited educational programs in this case and The Department of Education has held manoeuvring in field of disaster. However, lacking of a center can be comprehensively addressed in this context, has always been felt. Center can fully cover all aspects of disasters.

Although places like "Crisis Management Centers" has been greatly helpful in disaster preparedness for

This doesn't mean that the importance of man-made events is low, but because this issue has Extensive discussion, addressing it is beyond the scope of the present discussion.

officials, but Cultural places such as museums, are most common used by public and it can be more effective than those centers. The museum can be defined as: "The museum is a non-profit organization that serves the

community, and it is permanent and is open to the public ; This organization collect and preserve the evidence of people and their environment for studying, education and enjoyment, and display them. "(Zahedi, 2010)

Table 1. Classification of Disaster

Elements	Natural	Industrial	etc.
Earth	The avalanches, erosion, volcanoes, landslides, earthquake,	Dam break, disregard for the environment	meeting the political, administrative and social strife, hunger, poverty, terrorism, unemployment, war
Air	Combustion air and snow, and dust storms, hurricane, typhoon, tropical storm season in the polluting substances,	Chemicals, explosives, nuclear material distribution, hazardous chemicals, explosives	Like criminal exploitation, eliminate the virus Technical defects such as architecture, engineering
Fire	Forest fires, lightning	The steam from the boiling liquid to Tshzast, high density residential and spontaneous combustion	Like health, pest, pests Major transport accident air, road, rail, sea and air
Water	Drought, flood,	Chemical contaminants in food, industrial waste, air and oil spills	

Table 2. Occurrence of Accidents

View	Step	Comment
Structural	Emergency	It takes about a week, the main activities include rescue victims - bringing the wounded to hospital - pulling out bodies- providing food, clothing and shelter are the basic steps
	Transitional (temporary)	It takes a few months to a year, the first outreach activities have been completed but have not yet started the process of normal life. At this point, the victims live in semi-permanent dwellings. Reconstruction
	Reconstruction	Life returned to normal and permanent condition
Sociology	Instant Relief	About a week
	Organized	Three months after the event
	Reconstruction	More than three months after the event
Psychology	Denied	In injury time
	Champion	
	exponential	
	Facing Reality	
	Reconstruction	

Museums can draw the line between entertainment and education, between investigation and voyeurism for having a great impact on the different levels of society, from children to executives.

"The museum provides educational purposes, in two general ways. The traditional form of education should be understood as educational programs with different purposes and for different audiences, from specialists to general audiences are held at the Museum visitors.

But the different form of learning, is the effective role of the museum in stimulate the museum audiences' curiosity by visiting the museum, and exchange the experiences of survivors to them "(ibid). Formal training programs can be formed in the following formats.

"Program of lectures by experts, The presentation of Audio and video and related programs, performances of music, theatre and folk, traditional dances, holding group tours led by museum leaders, hold formal classes for children and adults, Holding artistic, industrial, and

technological and historical seminars "(ibid., pp. 62 and 63).

Due to study various aspects of passive defense and consider to preparedness to deal with disasters before they happen and the fact that training is the most important aspect of preparedness to face with disasters, Consequently, "Museum of Natural Disaster" can be Mentioned as the best place to teach the people to face with disaster. Figure 1 has shown the "Natural Disaster Museum" as a passive defense to prepared people to face with disaster.

Museum of Natural Disasters

Disasters, natural and man-made, accidental or intentional, have long been the subject of museum exhibitions, sometimes permanent ones, and an on going focus, especially for certain types of museums: natural history, science and technology, archaeology and history, ethnography and anthropology, regional and city museums (Hochroth, 2005)

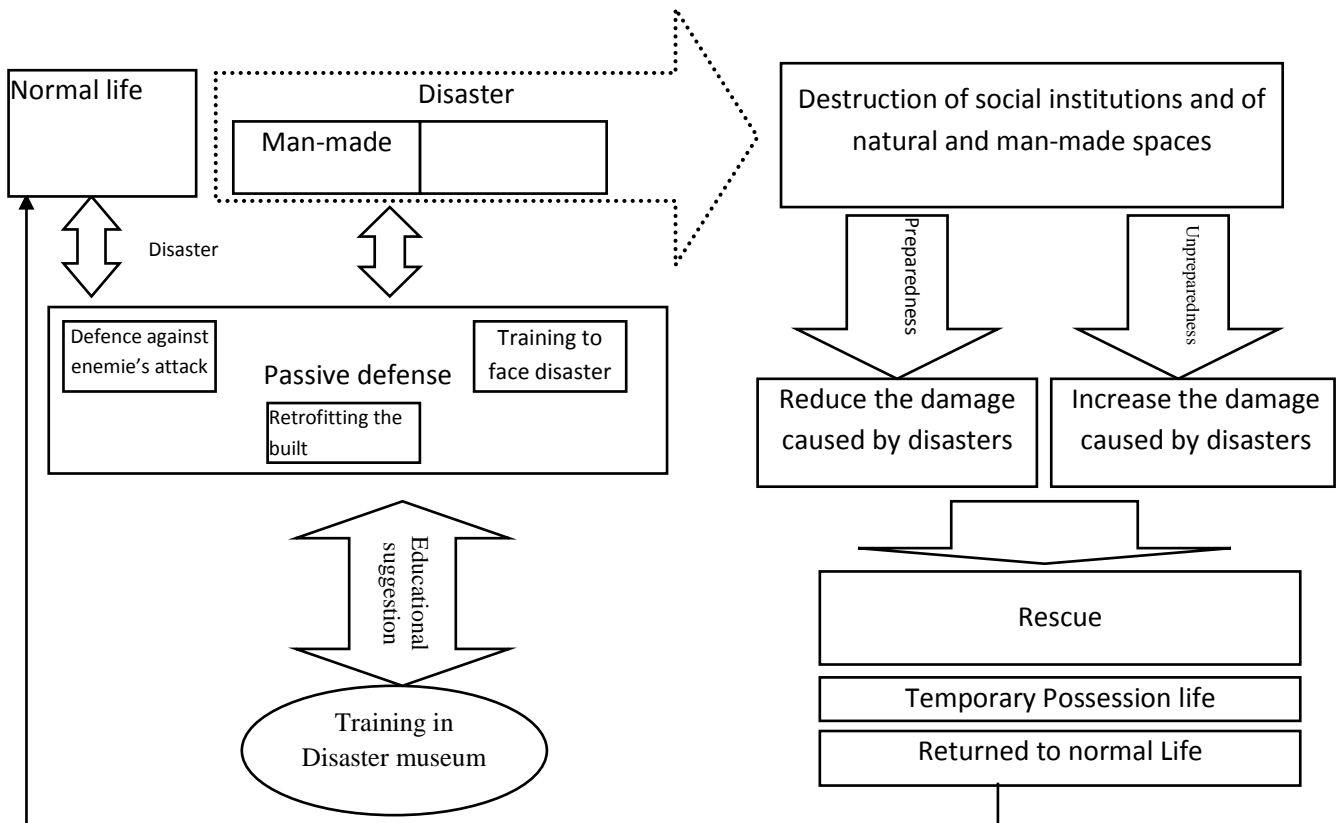


Figure 1. Natural disaster museums as training centers in discussions of passive defense

Disaster museum's history

Indeed, one also thinks of the history of war and memorials. Memorial museums aimed at remembering the war dead and glorifying the combat are as old as the focus of the sacrificial classical cultures (Egyptian, Greek, Roman, Aztec, Maya, Aztec, Toltec) that produced sacred monumental architecture including some stepped pyramids, theatres, coliseums, and ball-courts, where the display of victims' suffering was the main attraction (Roman Forum, Tonina Site Museum, Palenque Site Museum, etc.). These classical examples appear to be at the root of museum categories, such as war memorial museums or monuments. They differ from this new category of disaster museums in which memorialisation does not stand apart from the goals of prevention, rehabilitation, reconciliation, and consciousness-raising.

The goals of Disaster museums

Disasters from war and armed conflict; atomic and radiation disasters; environmental pollution of air, water, and land; fire; drought; earthquakes; tsunamis; floods; hurricanes; tornadoes; contagious epidemics; de-territorialisation of populations (population transfers) through colonialism; slavery; segregation; violent political regimes; and mass murder, ethnic cleansing, massacre, genocide and holocaust have all found museum housing. Today, the twist is a significant one, but not unconnected to that human thread. At the heart of this type of "issue-based" museum is the focus on the suffering of victims of disaster as opposed to the glory of the fallen or conquering

heroes. However, the cathartic function of tragedy seems to be inverted in present models. Instead of expiation and a cleansing of the soul, the museum visitor is a spectator who is called upon to help reduce the victims' suffering, by getting actively involved, donating to their cause through sympathising with the others' experience. (Hochroth, 2005). Museum programs that can help for achieving this goal, have been categorized in these issues: 1.The connection between museum and the site of disaster 2.Collection and preservation of documents 3.Training personnel for disaster management 4.museum exhibits 5.Scientific research and professional levels for disaster mitigation 6.headquarters of assistance in disaster response 7.Work as a coordinator between various social groups 8.Respect for the dead and the survivors.

A: The connection between museum and the site of disaster

The "disaster" museum is on or near the site of the disastrous event (Tuol Sleng Museum in a high school transformed into a torture prison by the Pol Pot regime, Cambodia, the Johnstown Flood Museum (Pennsylvania, U.S.A), Nonsuch Island Living Museum (Bahamas), which is the entire revived natural habitat of the island itself, etc.). When the "disaster" museum is very distant from where events occurred, it usually retains an important link to the site of the events; conceivably, on or near the site of survivors of disasters, given diaspora initiatives, such as the planned Canadian Genocide Museum (Ottawa), the Armenian Genocide Museum,

(Washington, D.C.), and Holocaust museums (Victoria, Australia and Florida, U.S.A). These institutions assimilate their function to a host of existing museums of history, ethnography, anthropology, and natural history. On national, regional, or local levels, they act as museums for displaced populations (Hochroth, 2005).

Figure 2 illustrates the Taiwan earthquake museum which was built on the ruins of the city and the impact of the earthquake is seen in parts of the museum.

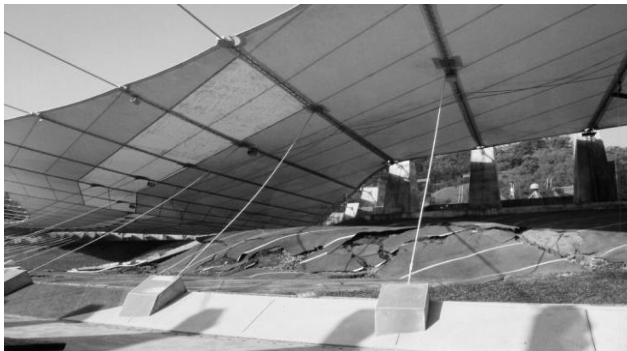


Figure 2. The Taiwan museum is located on the site of Earthquake (http://en.wikipedia.org/wiki/File:Museum_921.JPG)

B: Collection and preservation of documents

Collect information about the previous accident, authorities and the general public can make a lot of experiences. From the collection of the Museum of Accidents Syant and use such information and documents from the museum. To ensure that the profound feelings of disaster victims and the lessons of the Great Hanshin-Awaji Earthquake do not fade from our memory, DRI works in association with local citizens and communities to continuously collect information on the Earthquake and disaster reduction, and to develop its database. DRI displays and disseminates this information in an easy-to-understand manner to citizens. (Kawata, 2005)

Figures 3 and 4 show the Institute (D, R, I) and Pacific Museum where the documents relating to accidents, such as the images are stored.



Figure 3. Collection and preservation of documents in the institution. D.I.R,

(http://www.virtualtourist.com/travel/Asia/Japan/Hyogo_ken/Kobe-974466/Things_To_Do-Kobe-Hanshin_Awaji_Earthquake_Museum-BR-1.html#1)

Pacific Tsunami Museum Documentation also seeks to preserve the remaining historical and cultural region.» To preserve the social and cultural history of Hawaii with regard to major tsunamis that affected the development of this area (Saiki, 2005) Also some other museums which are active in this case are: "science and education in Beijing, China(for reduce the effects of earthquakes)", "Ukraine Chernobyl disaster Museum", "Nagasaki Bomb Museum" and "Peace Memorial Museum" in Japan .



Figure 4. Collection and preservation of documents of the Pacific Tsunami Museum (http://www.hawaii-guide.com/big_island_of_hawaii/sights/pacific_tsunami_museum)

C: Training people for disaster management

The next goal for establishment of disaster museums is training people for disaster management. «DRI conducts training of local government practitioners who play central roles in disaster management. In these training programs, DRI shares the experience of the Great Hanshin Awaji Earthquake, and systematically incomprehensively provides practical knowledge and skills in disaster reduction, based on the latest research results (Katawa, 2005).

«Using audio, visual, virtual and physical activities such as simulators and virtual tours) museums such as the Museum of online virtual earthquake) could be The main programs in a museum.

Figure 5 shows the simulation of a destroyed street after Hanshin earthquake in DRI institute.



Figure 5. Simulations of Street which was destroyed by the earthquake in Japan, (<http://museumchick.com/wp-content/uploads/2010/12/Earthquake-damage-expressway-model.jpg>)

Figure 6 shows the different parts of the Japanese earthquake museum

- The tremendous destructive power of earthquakes is portrayed using sound and dramatic images on a big screen
- The realistic dioramas reproduce devastated streets just after the Great Hanshin-Awaji Earthquake.
- Documentary films show towns and people in the recovery and reconstruction process after the earthquake as time goes on.

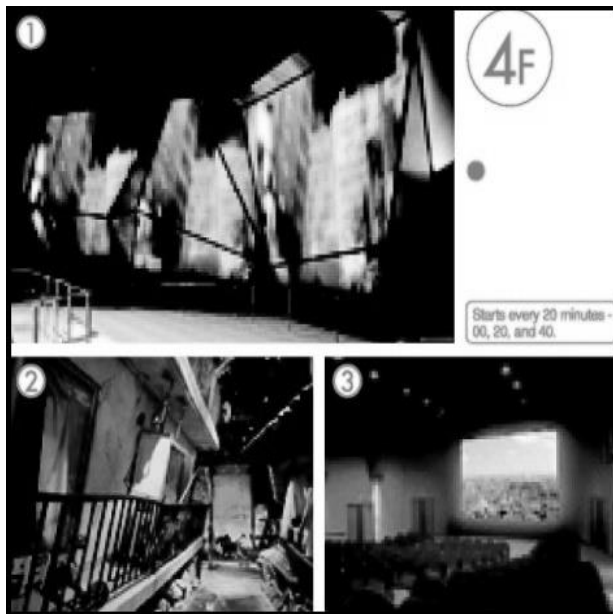


Figure 6. Streets just after the Earthquake in D. R. I., (Kawata, 2005)

D: museum exhibits

Advances in the science exhibition from the Museum of Natural Disasters other purposes. In collaboration with disaster victims, local citizens, and volunteers, DRI exhibits live experiences and lessons of the Earthquake to people of the world as well as to the children who are to create the future. DRI motivates citizens and visitors to take a sincere interest in, deliberate upon, and understand the importance of disaster reduction, preciousness of human life, and the value of mutual dependence of people (Katawa, 2005)

Different exhibitions at the Museum can be organized by basic elements: (water: floods, wind storms, Earth: earthquakes, Fire: thunder)

Figure 7 shows the different parts of the exhibition of Japanese earthquake museum:

- Memories Corner: This corner exhibits earthquake related-material along with the stories of those who donated the materials.
- “People’s life” and “aspects of the towns in the reconstruction process after the earthquake” are explained with graphics.
- Stories and experiences of the earthquake are shown by video and told by storytellers in person



Figure 7. Exhibition held at the Museum of the Japanese earthquake, (Kawata, 2005)

E: Scientific research and professional levels for disaster mitigation

The Institute (D.R.I) For example, different parts of the museum is devoted to the». Based on the experiences of the Great Hanshin-Awaji Earthquake, as well as on academic research achievement, DRI adequately understands the challenge for public entities. DRI conducts action research that contributes to the formulation and implementation of disaster reduction policies and management actions by the central and local governments, communities, and business enterprises. In addition, DRI takes a lead role in promoting and increasing the value of such practical research approaches within the academic society (Kawata, 2005)

"The Museum of the Pacific earthquake activity is one of the main activities." To feed the research and cultural change, an international center for research and education institute be established"(Saiki, 2005). Figure 8 shows the Disaster Prevention Workshop in D.R.I institute:

Visitors can acquire practical knowledge on disasters and disaster prevention. Practical study in the form of experiments or games is also available.



Figure 8. Museum audience familiar with the scientific achievements of the Japanese earthquake, (Kawata, 2005)

F: headquarters of assistance in disaster response

In case of large-scale disasters, DRI dispatches experts with practical and systematic knowledge in dis-

aster response to provide appropriate information and advice to headquarters managers, thereby contributing to damage mitigation as well as to recovery and reconstruction (Kawata, 2005).

G: Work as a coordinator between various social groups

Museum of natural disasters can be used as a joint for coordinating the various agencies to discuss any subject related to disasters (such as the Red Crescent clinics, fire fighting center, police, telecommunications, communications, transportation, etc.). "Communication to establish DRI functions as a crossroad of government practitioners, researchers, citizens and business enterprises with experiences and interest in the Earthquake and disaster reduction. It provides a venue for encounters of various disciplines and people, as well as for domestic and international cooperation, so as to promote diverse initiatives for mitigating social vulnerability" (Kawata, 2005)

H: Respect for the dead and the survivors

Museum "accident" with the victims of these accidents are related to individual or collective. "Cultural characteristics of museum architecture, decoration, Mvnmmanha and customs are certain concepts that are usually done, so pictures, manuscripts, religious rituals like Mrdhsvzany, symbols and rituals are considered, such as the Rwandan Genocide memorial museum in Kigali" (Hochroth,2005)

"Mass movements (religious ceremony) that involves aspects of architecture (Yadvsh part of Israel), and the Holocaust Museum in Washington, DC. C) and transfer programs of the museum." (Hochroth, 2005)

In design of Tsunami Museum in Aceh, Indonesia, with many local people still in need of proper accommodation, the architect has taken care to ensure that the building acknowledges both the victims, whose names are to be inscribed on the wall of one of the museum's internal chambers, and the surviving members of the local community (Figure 9).



Figure 9: Names of some tsunami victims, Tsunami Museum, Banda Aceh (http://4.bp.blogspot.com/-YU40hIq5_Wc/T5pTOQvZY5I/AAAAAAAABUI/0qrd5gCH_Jk/s1600/P1050972+tsunami+museum.JPG)

CONCLUSION

In the present paper, passive defense is called as a notion for prepare for and defend against any disaster - whether natural or man-made and it is noted that the term "passive defense" in a technical literature view, encompasses a wide range of design concepts and programing in three stages: before the crisis (to be prepared and warning), during the crisis (as a means of exposure) and after crisis (and exposure to coping and recovery). The "training in dealing with natural disasters" is known as one of the steps before the crisis in passive defense. Various aspects of natural disaster were investigated to allow this information to be used in training. It also became clear that the main problem facing the teaching of natural disasters, there was a center which drew the line between entertainment and education, between Search the firing of audience's curiosity. To achieve that goal, the natural disaster museum as one of the most important centers for training people was reviewed. By reviewing some of the centers, a comprehensive program for these center were developed

In table 3 the programs and policies in this paper are summarized:

Table 3. Programs and policies of Natural Disasters

Museum	
Disaster museum activities	Museum design guidelines
Contact the museum with the site of disaster	<ul style="list-style-type: none"> • Museum could be built on the site of the accident • For more prepared to deal with potential disasters museum could be built on the site of an accident at
Collection and preservation of documents	<ul style="list-style-type: none"> • Areas to keep and maintain the remaining traces from different accidents
Training people to deal with disasters	<ul style="list-style-type: none"> • Through simulation Resumes • Through multi-dimensional films • Through the reconstruction of disaster areas in the museum space.
museum exhibits	<ul style="list-style-type: none"> • Exhibition of remaining document from the earthquake • Presenting memories by disaster survivors Through images, videos and lectures
Scientific research and practice to reduce the impact of disasters	<ul style="list-style-type: none"> • Holding different classes to learn different sciences related to disasters • Science laboratories related to disasters
Work as a coordinator between various social groups	Connection with organizations like the Red Cross, clinics, fire, police, telecommunications, roads, communications, transportation etc.
headquarters of assistance in disaster response	
Respect for the dead and the survivors	<ul style="list-style-type: none"> • contacts between museums audiences and survivors and creat the memorial spaces for dead people • Hold religious services and rituals

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- [Http://en.wikipedia.org/wiki/File:Museum_921.JPG](http://en.wikipedia.org/wiki/File:Museum_921.JPG)
- [Http://www.virtualtourist.com/travel/Asia/Japan/Hyogo_kobe/Kobe-974466/Things_To_Do-Kobe-Hanshin_Awaji_Earthquake_Museum-BR-1.html#1](http://www.virtualtourist.com/travel/Asia/Japan/Hyogo_kobe/Kobe-974466/Things_To_Do-Kobe-Hanshin_Awaji_Earthquake_Museum-BR-1.html#1)
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- [Http://museumchick.com/wp-content/uploads/2010/12/Earthquake-damage-expressway-model.jpg](http://museumchick.com/wp-content/uploads/2010/12/Earthquake-damage-expressway-model.jpg)