

ANALYSIS THE PARAMETERS OF URBAN DEFENSE IN THE SABZEVAR CITY WITH POINT ON WELFARE AND DESIRABILITY PARAMETERS

Mohammadreza Akhavan Abdollahian* Masoud Taghvaei**
and Hamid Reza Varesi***

Abstract: Now-a-days people need to survive they have three different services need to be quiet and have resided within the city must have adequate safety and comfort. Countries that have experienced damage caused by wars, show special attention to passive defense in their defense strategies in order to protect their national capitals and vital resources. In order to, Sbazevar city has a special status with attention to passive defense parameters with considering its locating place near southeast Iranian border. Applied methodology is descriptive - analytical, based on library studies, modeling, and field survey studies. We have used of documental and questionnaire methods to collect information's. Results showed that we can understand that the occupancy level in the rubble of collapsed buildings is considered equivalent to 1.3 to buildings height.). It can be said that from the 384 citizens in the study 220 persons *i.e.* 57.2% has been calculated open lands criteria as a vulnerable land use. While at the same time (174 persons & 45.3%) have considered open lands as a venture land use.

Keywords: Passive Defense, Vulnerable Land use, Iranian border, Welfare and Desirability.

INTRODUCTION

Today, countries that have experienced damage caused by wars, show special attention to passive defense in their defense strategies in order to protect their national capitals and vital resources. To this end, observing passive defense considerations in urban development and design has a great impact on reducing the vulnerability of cities, financial losses and casualties as well as increasing the citizens' tolerance threshold and thus facilitating the urban crisis management (Shakibamanesh, 2014; Kameli & et al, 2014). The availability of various tasks and experts in this area has made it possible to minimize the defects of buildings and their linking spaces by creating comprehensive procedures in passive defense. Given that the main factor in raising the construction quality and subsequently the social welfare is enhancing the quality of work and material, this factor is now receiving special attention in different countries. Urban centers and hotspots in developed countries always receive great deal of attention for being reinforced and resistant against military attacks (Mousavi, 2014). Today, with advances in the technology of weapons and military equipment, urban areas are most at risk of invasion. Among

* PhD candidates of Geography & Urban Planning, University of Isfahan, Iran

** Professor of Geography & Urban Planning, University of Isfahan, Iran. Corresponding Author, E-mail: m.taghvaei@geo.ui.ac.ir.,

*** Professor of Geography & Urban Planning, University of Isfahan, Iran

the most important factors in enhancing human casualties in military attacks on urban areas, one can point to the unrealistic architecture of houses which does not conform to principles such as optimal site selection and layout of the structure of human settlements, proper distribution, principles of concealment, camouflage and deception, the high degree of vulnerability of buildings and interior architecture of buildings with regard to passive defense (Moafi et al., 2011). Active defense is intended to prevent the use of the weapon, usually by intercepting or destroying the delivery system. If one could locate and destroy an opponent's archers, a delivery system very vulnerable without infantry protection, then one could eliminate the weapon itself – the arrow – thereby defending one's troops. In modern artillery parlance, this is the idea of counter-battery fire intended to destroy an adversary's capacity to fire high explosives at one's forces. Active defense may also take the form of pre-emptive or disarming first strikes against an adversary's offensive military capabilities. During the 1991 Gulf War, the coalition's Scud hunting campaign, albeit largely unsuccessfully, sought to destroy the Iraqi mobile missile launchers dispersed in the desert before they could release their missiles or afterward to prevent reloading (Kameli & et al, 2014). The geographical distribution of the population has undergone major changes in the past fifty years, and will continue to experience significant transformations during the coming decades. While the developed world became mostly urban around 1950, developing regions, including Africa and Asia, which are still mostly rural today, will have more people living in urban areas than in rural areas by 2030. Urbanization has brought a number of advantages to the national economies and opportunities for improving people's well-being, for poverty reduction and for the promotion of sustainable development, but it also brings serious challenges in many countries. Information and analysis are essential to understand these challenges and to assist policy-makers define, formulate and evaluate policies and programs that address them (Hasanvand, Khojasteh Ghamari & Partovi, 2014). In this between Sbazevar city has a special status with attention to passive defense parameters with considering its locating place near southeast Iranian border.

BACKGROUND

Security and developing policies to gain the internal and external security has always been a great concern to the most countries in the world. Basically countries draw their security plans according to their power requirements, geographic situation and ideology so that it would provide the most possible security in all directions. Generally, defense may be defined as “elimination of an offensive opportunity” and therefore all the defensive actions would lead to a defense or to decrease the effects of offensive actions of invaders. But the state of defense depends upon a number of different factors. In general, the state of defense may be divided into two different categories, namely; active defense and passive defense. The active

defense concerns all the defensive plans, programs and actions which require weaponry means. On the other hand, the passive defense concerns all the parameters taken into account when there is an aggressive threat to the nation, national economy and the territory. The difference between the two categories are the requirement of man power for mobilizing and managing the active defense factors such as weaponry, education and management of the personnel, without which their application would be impossible. The passive defense, on the other is defined as facilities to engineer the warfare so that without any weaponry it would be possible to increase the capability of the military and defensive forces. The collection of the basic and infrastructural activities which may lead to passive defense goals are the actual principles of the passive defense as follows: Camouflage, cover, Deception, Separation, dispersion, hardening, early warning, and the Localization. Of course there may be other factors which are not taken into account and yet have great impact on the quality of the defense. Some of these are namely, natural and artificial barriers, availabilities and accesses, and shelters (Mohsenzadeh and Zandyeh, 2013). The prime objective of the passive defense is to establish and continue the basic and infrastructural activities, to supply the vital requirements, to continue public services, to ease the management of the country at the time of crisis and to safeguard the defensive stamina of the country at the time of crisis, by undertaking passive defense projects to reduce the damage to the sensitive. Important and vital installations (Vahabi & et al, 2015). Faramarzi and Haghghat Naini (2013), in a study titled "Locating shelters, with a passive defense, in District 12, Tehran" analyzed, and studied literature in the areas of passive defense, shelter and location, and they account 11 criteria for location of public shelters, generally in the form of four criteria, the next step was Determining coefficient importance of the indicators and criteria, using the technique of analytic network process (ANP), and finally, identify them, the most preferred places, in proportion to the objective, through overlapping layers of information (Overlay), and applying these coefficients, in software Arc Gis. Givechi et al (2013), in a study titled "locating temporary housing after the earthquake, with the use of GIS, and the technique AHP, Case Study: Zone Six of Shiraz", they weighting under study criteria and indicators, according to experts in crisis management, using paired comparisons technique, and software Expert choice, after specifying the criteria that are effective in locating temporary housing. Then, using the model of AHP and software Arc GIS, layers of each criterion were determined according to each weight, and were combined with each other, that the output of it is the zoning map from district six of Shiraz municipal, for temporary housing of disaster victims (Ebrahiminejad & Zohrehi, 2014; Katerina & et al, 2011). Passive defense as one of the most effective and sustainable ways to defend against threats, has been crucial for most countries and even countries like America and the former Soviet Union, despite having a very high military special attention to this issue have been and neutral country like

Switzerland, despite two world wars and the threat of being exposed, this is a great deal of attention. Despite the geopolitical situation in our country, possessing huge oil and gas wealth, antagonism system and entering the field of new technologies and the threat of global arrogance, did not pay much attention to the issue of passive defense and even inflammation of the war years is also necessary to reduce vulnerability consciousness and attention to sustainability issues in terms of security and defense, did not play a good role. Passive defense to increase deterrence can start a large role in reducing the likelihood of military conflict and, if properly implemented, could reduce the damaging effects of the coming invasion. Passive defense strategy itself has some key features that can be considered as a guarantee of safety (Hasanvand, Khojasteh Ghamari & Partovi, 2014). During World War II using aircrafts, bombing of cities, industrial and investment centers and after that using rockets by Germans were started. Damages produced by these attacks to human and non-military places were more frequent in comparison to First World War, and this led to give more concerns to passive defense by various countries. Civil defense to avoid getting into financial damages or injuries or to minimize the damage caused by the attacks without the use of any weapons and munitions consist wide range of measures. Their performances are possible with low-cost and only parts of it require relatively high costs. Kamran et al. (2011) in their paper about the application of passive defense in urban planning in the region of Shahriar concluded that it necessary at least the vital centers of the administrative town, e.g. government office, gas and water offices, etc., to be decentralized and each of them to be moved surround the town. Locating on the path of earthquake fault lines and potential flooding would prevent development of the town (Haji Ibrahim et al., 2006). In an article on the passive defense in architecture, mechanisms to reduce disaster risk by using the principles of passive defense in comprehensive programs of crisis management, it was concluded that by using effective action along with practical, cost effective and multi-objective plans in the preparation stage before the crisis, we can reduce significantly the severity and extent of damage and casualties caused by hazards (Abdullahi, 2001). In the book of crisis management in urban areas, it is concluded that it is necessary to operationalize activities such as dam, canal, etc. by municipality, increasing the number of rescue stations, involvement of people through organizations crisis institutions (Taheri and Behbahani, 1996). Other related studies include: proper design of urban spaces in order to reduce the vulnerability of cities by Parvizi, investigating the causes of flooding and solutions to deal with it by Poor Mohammad and Makhlooq, crisis management and solutions for control of influential factors on the occurrence of flood with case study in Nekarood of Mazandaran by Amri, Mousavi and Soleimani, crisis management and securing cities against natural disasters by Hadizadeh and flood and urban networks by Jalalian. Iran, because of several reasons including its geopolitical situations, having underground rich in oil and mining resources,

having high population density and rich history is under threatening. Because of enemies' high tech and dynamics of modern technology, it is necessary to have a strategy, doctrine, and comprehensive, coordinated, scientific and cultural executive programs to meet the technical demands. For these reasons, the use of passive defense measures against further damage and decreasing enemy invasion is a fundamental issue. In recent years with the development of passive defense in the world, extensive studies were carried out in this area. In Iran, because of political and strategically importance and military tensions from other countries, the importance and paying much attention to passive defense was formed in late 2003. Schmidlein et al (2011), in a study entitled "Earthquake casualties estimation modeling, and social vulnerability, in Charleston, South Carolina" were examined, the spatial relationship between social vulnerability, and estimates of earthquake casualties. The results show that, for those who are experienced disasters in areas with higher levels of vulnerability, there is greater relative impact, therefore, may have greater difficulty in recovering after the event is compared to the areas with lower vulnerability (Ebrahimejad & Zohrehi, 2014).

TABLE 1: EXPERIENCE DIFFERENT COUNTRIES ABOUT PD & UD

<i>Country</i>	<i>Measure</i>
Germany	<p>Compilation of laws and required for passive defense</p> <p>Double use of facilities, shelters</p> <p>Compilation of preparatory measures for foundation of cities in the area of land aiming at equal distribution of small and medium cities after World War II</p>
Switzerland	<p>Establishment of a safe subway in proper depth functioning as urban life and shelter</p> <p>Necessity for public shelters, multipurpose, in required numbers at desirable areas of the country</p> <p>Compulsory development of shelters by private units through public partnership and financial encouragement of the government</p>
Former Soviet Union	<p>Use of shelters and evacuation plan by people regarding major and target areas to safe places prior to attack of the enemy</p> <p>Construction of simple and light shelters for people</p> <ul style="list-style-type: none"> • Construction of strong shelters for maintaining industrial installations and workers • Great depth of the subway for required policies to be used by people as shelters
America	<p>Construction of similar military stations and dispersing of the same</p> <p>Strengthening of Intercontinental ballistic missiles and headquarters and control of telecommunication centers thereof</p> <p>Construction of light and atomic fall resistant shelters for protection of population and public evacuation of highly populated areas</p>

<i>Country</i>	<i>Measure</i>
Sweden	Construction of shelters at residential buildings to be used as parking space, storage room at the peacetime Establishment of poer centers, fuel reserves and urgent supplies beneath ground Execution of the plant for probationary evacuation of threatened area by the people to more safe areas
Denmark	Construction of shelters at personal buildings and factories
Finland	Establishment of group shelters made of reinforces concrete and drilling inner rock shelters
Pakistan	Taking cautionary measures such as control of lighting system of roads, camouflage and concealment
North Korea	Adoption of decentralization policies aiming at decreaseof vulnerability of vital and significant resources Transfer of a major part of vital and critical facilities and civil installations to the depth of earh and inner parts of rocks
India	Use of voluntary public organizations in urban defense operations
Italy	Use of specialized services for civil defense: mountaineering federation and ... Convenation of briefing classes at schools with respect to passive defense
Former Yugoslavia	Having enough food reserves in a country and control of marked as well as ration of significant items such as gas station Closing down schools and universities at the wartime anduse of the said places by army
China	Foundation of military and nucleus centers at mountaineering areas and forests Development of Chinese defending wall as the clearest and the most effective measures taken earlier by humans regarding passive defense
Iraq	Construction of shelters, hospitals and communication centers in depth of earth Fixing restrained aerial balloons surrounding economic, military and vital centers teaching people to campaign against dangers and protection themselves and passive defense measures Amazing wall construction as an important passive defense

Source: Yeganegi & et al., 2011.

MATERIAL AND METHODS

Applied methodology is descriptive - analytical, based on library studies, modeling, and field survey studies. We have used of documental and questionnaire methods to collect information to determine the parameters of urban defense in Sabzevar city. In this research, we have different dials to assessment the vulnerabilities and site selection criteria for urban with emphasis on abnormal crisis.

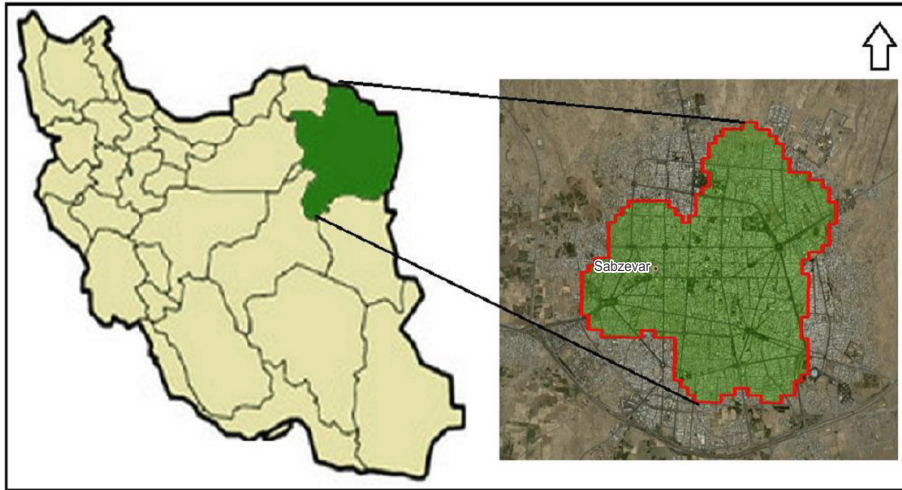


Figure 1: A view of case study region

FINDINGS AND RESULTS

Distance and time are considered as two important factors in the measuring of human comfort. Now, with attention to passive defense approach, providing ease of access to vulnerable applications in the field of passive defense is one of the major concerns in urban planning.

Welfare Parameters

First studied subject in this part is assess the accessibility and its level measurement in the case study region, according to fig (2), we can understand that the occupancy level in the rubble of collapsed buildings is considered equivalent to 1.3 to buildings height. In addition, it is necessary to be sure about addition of closeness and at least 3 meters to be considered from the passage way to the pedestrians and relief at the time of the incident. It must be said that there is an inverse relationship between accessibility and quality of roads without consideration their levels in urban margin of Sabzevar city as case study region for this research. As the core focus of the city to the border town of Sabzevar confuses the quality of access networks and it has been reduced and the risk factor will have added when it was faced with a disaster. On the basis of public transport, taxi and bus routes on the pattern of urban network are set up and developed in this way as well, it is well visible in figure (3).

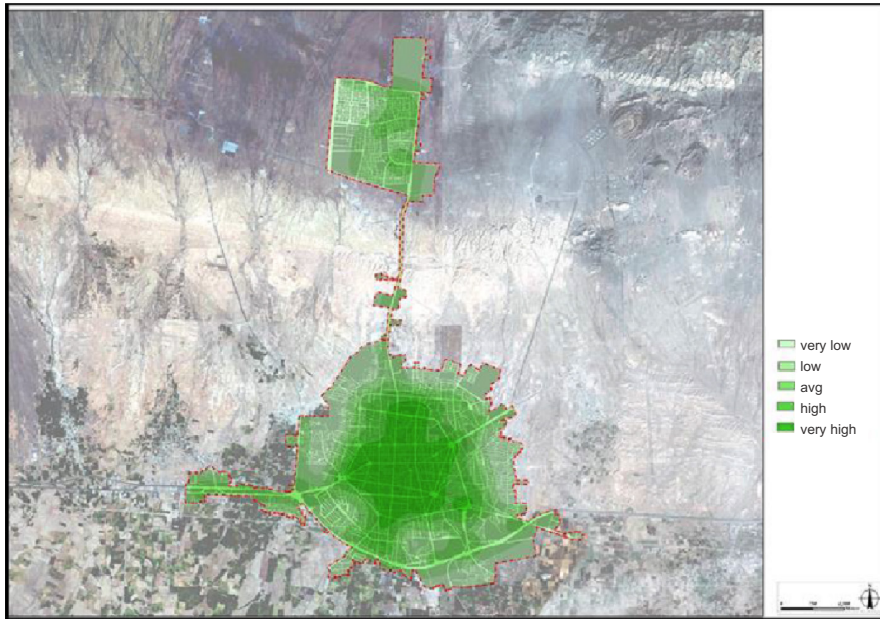


Figure 2: Analysis the accessibility routes in case study region

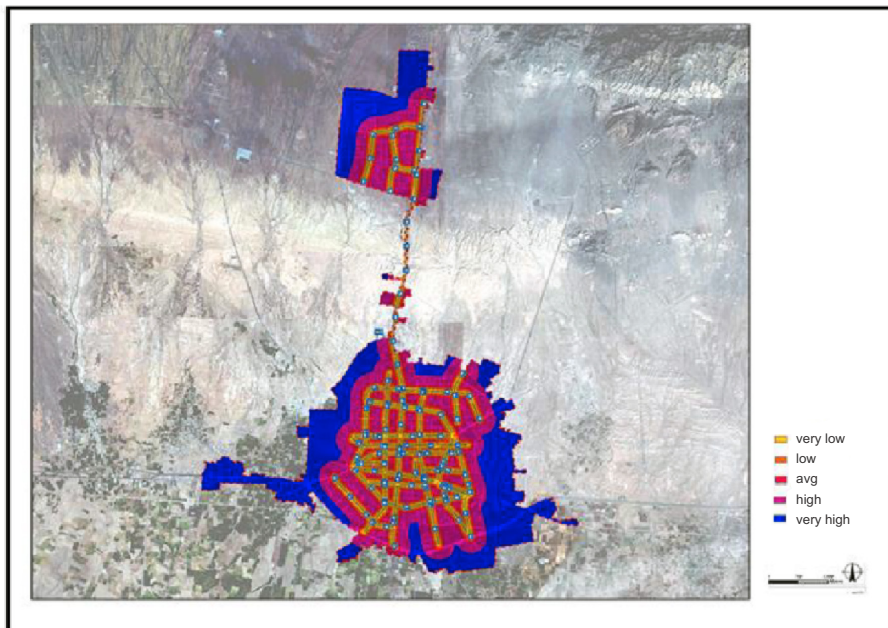


Figure 3: Analysis the public transportation in case study region

In this figure that it is obtained according to distance function, in this way, the closer areas to these tracks have more weights. Whenever we take more distance from public transportation system the tracks have find less weights. So, as result the areas near to these tracks have very high desirability and tracks with more distance have very low rate.

Desirability Parameters

Desirability and pleasantness of land uses location it means that attempt to preserve the natural factors, create open spaces and pleasant, formation of roads, buildings and urban spaces. It can be said that in the location studies of land uses it is essential for vulnerable land uses to have a special area in the earth surface of case study region according to their function in times of crisis and how it functions in peacetime. In order to, there were examined the urban space and location of land uses utility in framework of land area, open fields and the width of streets dials in the view of citizens and elites. With attention to fig (4). It can be said that from the 384 citizens in the study 220 persons *i.e.* 57.2% has been calculated open lands criteria as a vulnerable land use. While at the same time (174 persons & 45.3%) have considered open lands as a venture land use.

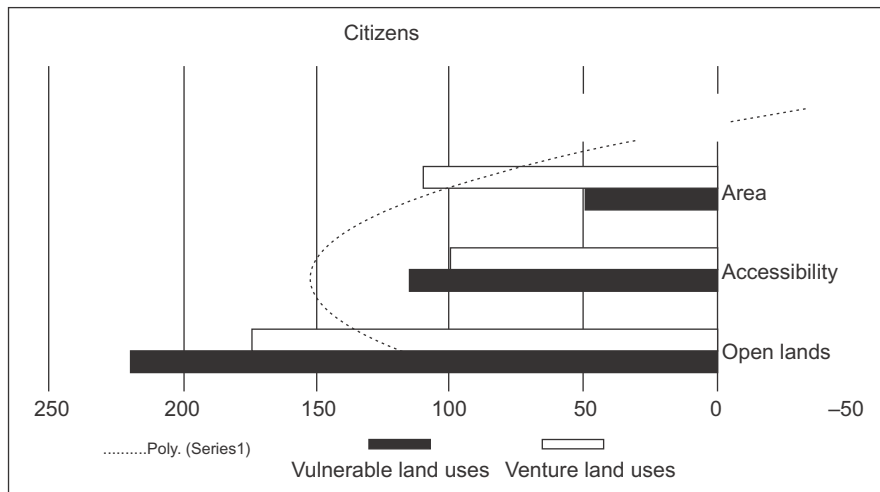


Figure 4: Analysis the land use utility in view of citizens

In this between, the areas of land use by the citizens with the lowest percentage (12.7%) have been introduced as a vulnerable land use. Meanwhile, about 115 persons (29.94%) have calculated accessibility to land use as a venture land use.

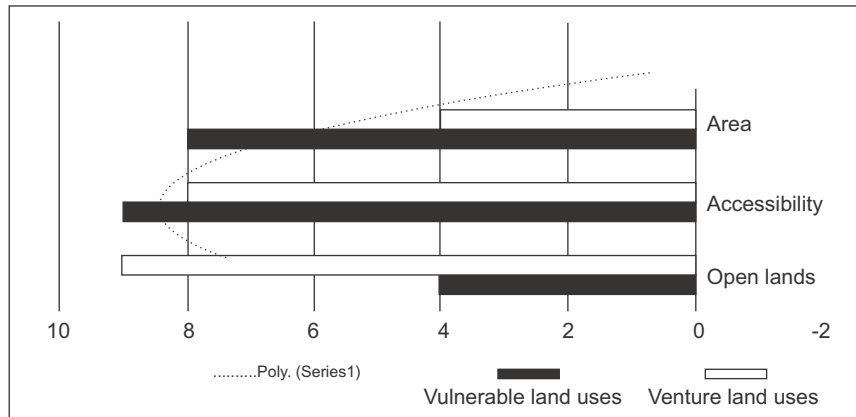


Figure 5: Analysis the land use utility in view of elites

According to this fig, utility of indexes analysis on various criteria in some cases, the pattern has been different from those of citizens and in some cases has followed the same approach. On this basis, (38%) of officials and the elites have been considered area as vulnerable land uses and about 42.85% have considered accessibility as vulnerable land uses. However, in the open land in the municipal utility during the crisis (38%) have calculated that venture.

SUGGESTIONS

1. Improve the participation role of citizens in prepare passive urban defense programs in Sabzevar;
2. Find suitable locations to fundamental facilities in urban area and its surroundings to protect citizens and facilities in front of enemy's attacks;
3. Improvement the parameters of welfare and accessibility about passive urban defense.
4.

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