

Spatial Analysis of Multipurpose Uses in the City with Passive Defense Approach (Case Study: Miandoab Religious User)

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Extended Abstract

1. Introduction

According to United Nations forecasts, almost all of the world's population growth will take place in the urban areas, especially in the Third World Urban areas (Raphael & Dafna, 2006), and by 2030, roughly 60% of the world's population will live in urban areas (Gharakhlou & Hosseini, 2006). Due to the high volume of investment and the deployment of many facilities and economic instruments, and most importantly the large number of inhabitants, cities are always exposed to numerous threats and dangers. Whether these are natural threats, such as flood and earthquakes, or non-natural ones such as wars and terrorist attacks, etc., the only means is establishing defensive and security considerations and the adoption of necessary measures in urban plans using multifunctional spaces, which can play a significant role and have a significant impact on reducing the vulnerability of urban residents to threats. Therefore, this research has been carried out with the aim of studying and identifying the multi-purpose uses of religious practices (mosques and Husseinieh) in Miandoab city. With regard to the data and information available, it seeks to answer the following questions: How are religious uses (mosques, Husseinieh and rebellion) in the city of Miandoab distributed according to the principles of non-operating defense? And do

all the residents of Miandoab have access to religious access (mosques and Husseinieh) in times of crisis and threats?

2. Methodology

This applied research is descriptive and analytical. Field data and documentation have been used to collect data. Also, for analyzing the data, the network analysis method of the GIS software was used to determine the accessibility of residents of each urban district to the facilities and the nearest neighbor index to determine the distribution of uses in the environment.

3. Results

The result of the analysis of data regarding the nearest neighbor approach was 1.058. This indicates the random distribution of this application in the city of Miandoab. The results of the network analysis also showed for a 10-minute walk, the whole city was not covered by religious applications, while within a 15-minute walk, the whole city was covered by this service. Also, the results of the Buffering command (according to the mean running speed of men which is 6 km/h, people can only walk 955 meters in 573 seconds to reach the shelter), all residents of the city have access to these applications in the shortest possible time. Finally, the results of the dispersion coefficient method in Miandoab was 5.5, which indicates

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inequality in the distribution of religious application among six city districts.

4. Conclusion

Cities and urban spaces are also mainly exposed to damage from military strikes and natural disasters, such as earthquake flood or landslides. Damage caused by these human and natural phenomena in residential areas is more than other urban environments. One of the most important protective programs (in this area) and in the area of urban civil engineering and construction is the provision of shelters that are considered as non-operational defense targets. Miandoab city is one of the plain towns in the southern part of Lake Urmia, which due to its natural location and position in the country's divisions, is exposed to many human and natural disasters. The findings of the research show that religious uses (as a multi-use shelter) in the city have not been systematically programmed. But they have been established by the land devoted to and financed by local people. And the residents of the city do not have full access to these uses within 10 minutes, and most residents of the city have no access to these applications. Also, by using a buffering technique in the GIS environment, it was also found that a normal human being had

access to these uses fully on foot within 15-minute walk. The difference between the results of the network and buffer analysis method is in terms of the type of communication network. In the buffer method, without considering the type of communication path or barriers available for accessing these uses, the service range is determined, while in the network analysis, the estimations have been more accurate and according to the type of communication network and the speed of the calculation, and the results are more accurate than the buffer method. Considering these results, an important issue was also addressed, which is the capacity of these centers. With the mere access to these uses, it cannot be said that all residents of the city can easily benefit from this. According to the results of the study, the per capita religious density was found to be very high (5.50) in the six areas of the city, indicating the instability and inequality of the per capita level in urban areas. Therefore, in order to use the religious service in Miandoab as a multipurpose use (shelter), first the mosques are to be renovated, and second the capacity of this use should be considered with regard to the population in urban areas.

Key words: Passive defense, Religious land use, Network analysis, Miandoab

References (in Persian)

1. Akhbari, M., & Ahmadi Moghadam, M. A. (2014). Barrasi padafand geiramel dar modiriyat shahri [Investigation of passive defense in urban management]. *Journal of Geopolitics*, 10(2),36-69, (in Persian).
2. Behtash. M. F., R., & Aghababaei, M.T. (2011). *Mafahim padafand geiramel dar modiriyat shahri ba tamarkoz bar shahr tehran* [Concepts of passive defense in urban management focusing on Tehran]. Tehran: Center for Study and Planning of Tehran City.
3. Dezfulinejad, M., Ranshadnia, M., & Talouri, E. (2015, February). *Barrasi ideh edgamkarbari masjid va panahgah be manzor ejrayeh barnamehhai padafand geiramel dar toseh paydar kalanshaahrha* [Exploring the idea of incorporating mosque and shelter for implementation of passive defense programs In Sustainable Development of Metropolises]. Paper presented at the first national conference on development of metropolitan cities with the investment approach of Islamic Azad University, Ahwaz Municipality.
4. FarzamShad, M., & Aaraghizadeh, M. (2011). *Mabani barnamerizi va tarahi shahr amn az manzar padafand geiramel* [The basics of planning and designing a safe city from the perspective of passive defense] (1st ed.). Tehran: Elm Afarin Publication.

5. Gharlakhlo, M., & Hosseini, S.H. (2007). *Shakhshayeh toseh paydar shahri [Indicators of sustainable urban development]*. *Journal of Geography and Regional Development*, 4(8), 157-178.
6. Hashemi-Fesharaki, S. J. (2013). *Tarahi shahri az manzar defaegeiramel [Urban design from the perspective of passive defense]* (1st ed.). Tehran: Bostan Hamid Publication.
7. Heidarian, M. (2010). *Barrasi ideh edgamkarbari masjid va panahgah be manzor ejrayehbarnamehjai padafand geiramel dar toseh paydar kalanshaahrha [An analysis of inequality of distribution of cultural services with social justice approach using GIS case study of Zanjan city]*. (Unpublished master's Thesis). University of Zanjan, Zanjan.
8. Hosseini, S. A., & Shahanaghi, V. (2015). Hamahangsazi fane tahlili swot az didgah motaleat padafand geiramel [Synchronization of the swot analytical technique from the perspective of passive defense studies]. *Journal of Passive defense*, 6(1), 57-66.
9. Hosseini, S. B. (2010). *Tadvin meyarhai asli padafand geiramel dar tarahi memari sakhtemanhay emomi [Formulating the main criteria for the development of passive defense in the architectural design of public buildings]*. Tehran: University of Art Press.
10. Jalali - Farahani, G. (2012). *char goftar dar babeh padafand geiramel [Four speeches on passive defense]*. Tehran: Mohaddas Publishing.
11. Kamrani, H., & Hosseini Amini, H. (2013). Karbord padafand geiramel dar jheopolotic va barnameh rizi shahri [The use of passive defense in geopolitics and urban planning (sharyar province)]. *Journal of Geography*, 10(35), 1-27.
12. KhankeShihpour, S., & Reza, H. (2013, April). *Arzyabi eimeni shahr Rasht az manzar padafand geiramel [Safety assessment of Rasht city from the perspective of passive defense]*. Paper presented at the National Conference on Sustainable Architecture and Urban Development, Bukan, Desert Construction Co.
13. Khumr, G., & Saleh Gohari, H. (2013). Barnamerizi padafand geiramel va makanyabi panahgahhay shahri ba estefadeh az mantegh fazi [Passive defense planning and locating urban shelters using fuzzy logic (Case study: Kerman township area)]. *Journal of Geography and Environmental Studies*, 2(7), 21-34.
14. Mehdi, M., & Azadi, S. (2014, April). *Tarahi shahri va rahkarhay padafand geiramel [Urban design and passive defense strategies, urban design and non-operating defense strategies]*. Paper presented at National Conference on Architecture, Civil and Urban Development, Tabriz.
15. Mizragoltabar, M., & Mizragoltabar, A. (2011, September). *Modiriyat bohran va sharyanhay hayati va makanyabi sazeh amn dar padafand geiramel [Managing critical and critical arteries and locating secure structures in passive defense]*. Paper presented at 4th National Civil Conference, (Retrofitting and maintaining sustainable buildings), autumn 2011.
16. Nagshe Mohit Consulting Engineers Group (2013). *Tarheh toseh va omran(jameh) shahr tabriz [Development plan (Comprehensive) of Tabriz City: Passive ddefense studies]* (1st ed.). Tabriz: Ministry of Roads & Urban Development.
17. Nasser- Jahromi, R., Marzougi, R., Karbassian M., Turkzadeh, J., & Mohammadi, M. (2015). Barnamehjai darsi padafand geiramel: Barrasi tatbigi iran, America, englis, rossyeh va osrralia [Passive defense training curriculum comparative study of Iran, America, England, Russia and Australia]. *Journal of Crisis Management Research*, 7(1), 87-96.
18. Pourahmad, A., Maroufi, A., Sheikhi, A., & Hamzeshpour, R. (2014). *Nagsh karbari mazhabi dar barnamerizi padafand geiramel shahri (mored motaleeh: masjid shahr Bukan) [Role of religious user in urban passive defense planning (Case study: Bukan city mosques)]*. *Journal of Geoscience Research*, 2(6), 1-26.
19. Pourmohammadi, M. R., Maleki, K., Shafati, A., Heidari Far, M. R., & Karami, M. R. (2014). *Padafand geiramel, zarorat ijad karbarihay chand manzoreh: roykardi jaded dar ayandenegari toseh va amniat paydar shahri ba takid bar zelzelekhizy shahr Tabriz [Passive defense and*

- the necessity of creating multipurpose applications: A new approach to future development and sustainable urban security with an emphasis on the earthquake in Tabriz]. *Journal of Human Geography Research*, 47(2), 26-231.
20. Saidi, A., & Irandost, A. (2012). Molahezat padafand geiramel dar makanyabi marakez mazhabi(masjed) [Passive defense considerations in locating religious centers (mosques)]. *Journal of Passive Defense*, 4(8), 29-51.
 21. Salehi, H. (2012). *Tahlil anaser gardeshgari dar mohit shahri ba estefadeh az model tahlil shabakeay motaleeh moredi: shahr zanzan* [Spatial analysis of tourism elements in urban environment using a network analysis model (A case study of Zanzan city) (Unpublished master's thesis). Zanzan University, Zanzan. Molahezat padafand geiramel dar makanyabi marakez mazhabi(masjed).
 22. Statistical Center of Iran. (2011). *Salnameh Amari ostan azarbayjan gharbi* [Statistical Year book of West Azarbaijan Province]. Retrived from: www.amar.org.ir.
 23. Statistical Center of Iran. (2011). *Sarshomari omomi nfos va maskan* [the General Population Census of 2011]. Retrived from: www.amar.org.ir.
 24. Sultanzadeh, H. (2015). Mogeiat masjed jameh va erbebat anha ba sayer fazahay mohem dar shahrhay tarikhi [The location of Grand Mosque and their relation to other important spaces in historic cities]. *Journal of Human Geography Research*, 48(2), 36-67.
 25. Tajividi, G. (1381). *Makanyabi va barnamerizi mohit zist ba samaneh etelaat joghrafiiai* [Locating and planning the environment with geographic information system]. Tehran: Tehran University Press.
 26. Ziyari, K. (2001). Barnamerizi padafand va panahgah shahri [Planning for defense and city shelter]. *Journal of Sofe*, 11(32), 76-89.

References (in English)

1. Alemi, R. (2008, November). [Study on unsustainable security based unsustainable development]. In A. Khamesan (Ed.), *Paper proceeding of conference on human security in west Asia (ICHSWA)*, Birjand University, 107-118.
2. Ancy, C., Gervasoni, C., & Meunier, M. (2004). Computing extreme avalanches. *Cold Regions Science and Technology*, 39(2), 161–184.
3. Eckert, N., Parent, E., & Richard, D. (2007). Revisiting statistical–topographical methods for avalanche predetermination: Bayesian modelling for runout distance predictive distribution. *Cold Regions Science and Technology*, 49(1), 88–107.
4. Eckert, N., Parent, E., Faug, T., & Naaim, M. (2008). Optimal design under uncertainty of a passive defense structure against snow avalanches from a general Bayesian framework to a simple analytical model. *Natural Hazards and Earth: System Sciences*, 8, 1067–1081.
5. FEMA. (2003). Risk management series, risk assessment. *FEMA 426*, Retrived from: www.fema.gov.
6. Jalali, G. R., & Pearson Hashemi, S. J. (2007, February). *Nagsh padafand geiramel va modiriyat bohran dar barnamerizi shahri* [The role of passive defense and Crisis Management Planning]. Paper presented at the Third International Conference on Comprehensive Disaster Management Disaster : Tehran University.
7. Othman, A. A. (2016). The role of Nigerian civil defense corps in security administration in Nigeria: Challenges for the 21st century. *Journal of Humanities and Social Science (IOSR-JHSS)*, 21(8), 456-145.
8. Parizady, T., & Hosseini- Amini, H. (2010). [Measures analysis of passive defense in turpentine analytical approach]. *Journal of Urban Management*, 26, 191-202.

9. Raphael, B., & Schwartzb, D. (2006). [Review regional development as a policy for growth with equity: The State of Ceara (Brazil) as a model]. *Journal of Progress in Planning*, 13, 140-155.

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