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Original Article

Innovating A New Idea Namely: Disaster Park (Multi Use Park)

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Abstract

Iran has a long and old history in garden constructing. Therefore, it is introduced as one of the historical stylish countries in this field which is reputed as "Persian garden" in international scale. What obvious is that parks' function in Iranian cities has been always developing and today is considered as main functions in urban and even rural management and planning. I believe that the approach of designing urban parks in Iran requires basic changes, because Iran urban planning system isn't far-sighted enough in the field of the country as being a disaster prone (e.g. seismicity) and as the result it hasn't make an enough sensible relationship between "urban disaster management" and "land use planning".The author believes that urban planners in Iran have to finish traditional use of parks in Iran. This change can be possible through accurate perception of current situation and requires moving toward planning parks with multi usages. The parks which meet the public needs of citizens in normal situation, in disaster conditions has been also used as equipped sites for relief and even temporary accommodation of homeless population. "Disaster park (multi use park)" is a name which has been chosen for this new idea and in fact new parks.

Key words: Disaster management, Park, Multi-use park, Land use planning, Disaster park

INTRODUCTION

Iran is among the few countries who are pioneer in the field of development planning activities. Development planning history in Iran backs to 1948 and show a history of 70 years (Masoumi, 11). Urban plans providence in the modern way began in about 1962. Providing urban development plans, which of course had more physical aspect, first began in the country's minister. Later, Ministry of Development and Housing was established in 1964 and in 1972 also Iran's Supreme Council for Planning and Architecture was established and providing different types of contract master plan became possible (Saeidnia, 19). Since then, hundreds of development plans have been provided for the cities in the country and they have been even revised many times.

The problem is that urban planning in Iran in current situation and compared to its history of 50 years isn't satisfying. Despite passing more than 5 decades from beginning modern urban planning in Iran, that very approach of "master plan" has been dominant and we have lagged behind using modern thoughts and approaches such as "structure plan" or "strategic plan" and "sustainable development" and other new ideas and we lack an Iranian and native approach. Generally speaking, the performance of urban development plans in Iran as well as performance of "Capital Council of Iran Urban Planning and Architecture" is criticized. Capital Council of Iran Urban Planning and Architecture, which is the most expertise and excellent reference for decision making in the field of Iran urbanization and architecture, has centered, dogma and less efficient structure and legal tasks. For example, this council hasn't been able to succeed in giving significant authorities to the provinces in the field of decentralization. It lacks jurist member and so most of its approvals will be violated through protests of citizens and jurisdictions. Some of approvals have obvious contrast with the laws of the country and government and consequently in such condition, urban planning and management also face main challenges.

Different types of plans are provided for Iran urban development nowadays (Consulting Engineers of Sharmand, 18-56). Master plans and detailed plans are

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for the cities with more than 25000 people, urban leading plans are for leading urban development of cities with less than 25000 people, rural leading plans are for rural points, regional plans are for cross city scale and the areas which often include one or some towns, local plans (for a particular area) and subject plans for particular subjects in urban area and empowerment plans of informal settlements and different types of urban damaged area etc. these plans have hierarchical performance and often have some common fields and even quite repetitive similar study items. As an instance, noticing land use is common among all these plans and there was no equal trend about the rate of per capita and classifying the types of uses till 2010 and approving "scrutiny of definitions by the capital planning and architecture council". Therefore, different standards and definitions used to be used in different plans. The types of uses and the rate of per capita were first defined in 2010!

Persian gardens belonged to the owners of a particular social class in previous centuries and common people could not enjoy it and they hadn't also had urban and public performance. Opening the doors of garden for public use and function change from family use to public use in Iran has maximum history of a hundred century and this changing of function is somehow affected by interactions of Iran government and Western countries.

Park use is one of approved uses of this approval by capital council in 31.05.2010 and is one of public uses which is merely created with government or municipal budget (as a public institution). Generally, ownership, maintenance and executing this area of the city for municipality and even Iran government is very expensive so there should be more attention to the use of parks.

It has to be explained that my suggestion for designing and implementing multi-use parks has been previously proposed to the province governor and "province development and planning council" has also approved it and these parks are being designed and implement in some provinces but it hasn't been introduced academically and scientifically in cross-province scale so this paper sought to introduce this idea.

MAIN OBJECTIVES OF THIS PAPER

Proposing a modern idea and introducing "multi-use park or disaster park" and explaining the necessity of creating such parks in Iran are the main objectives of this study, the idea which believes that park performances as a national wealth isn't flexible enough in Iran and to use parks better, this study tries to use multi-use performance which is simultaneously as park as well as disaster management site. In this case, total regulations of designing have been also investigated which will be shown as follows.

DIVISION OF DIFFERENT APPLICATIONS IN IRAN

According to Act of 31.05.2010, Iran capital urbanization and architecture council, the uses can be classified into 20 types: residential, research, educational, administrative and disciplinary, commercial-service, sport, medical care, cultural-artistic, par, religious, urban equipment, urban utilities, transportation and storage, military, gardens and agriculture, historical, natural, distance (such as gas pipeline distance), recreational and finally industrial (Iran capital architecture and urbanization council, 833). Minimum and maximum per capita have been defined for each one of these uses. Permitted activities in each use have been also determined. According to this classification, parks inside cities divide to three main type; a) neighborhood park b) regional park and c) main park of the city. Totally 8 square meters of per capita have been also determined for each citizen. In another word, a thousand-hectare city with the population of a hundred thousand people should have at least 80 hectare parks in different points of the city that includes almost 8% of whole area of city area.

DIVISION OF DIFFERENT TYPES OF GARDENS IN IRAN

There are very various classifications for different types of parks. This division depends on research or management attitude and activity. Above all, parks have particular and major performances as well. In another word each park is planned, designed and implemented for a particular use. Therefore, parks can be classified to different types in terms of performance diameter, area, the type of vegetation, user target population. Wild parks, Luna Park, research and educational parks, public parks, urban parks, neighborhood parks, regional parks, national parks, botanical parks, forest parks and so on are of different types of classifications (Saeidnia, Ahmad 51-57).

MAIN CHALLENGES OF DISASTER MANAGEMENT IN IRAN

Some of main challenges about disaster management in Iran are as follows:

The youth of disaster management issue in Iran. Disaster management in Iran is a new issue and the history of

teaching it in Iran universities doesn't date back to more than two decades. Disaster management formation chart in the body of government has got better organization only in recent decade. Creation of "capital council of Iran disaster management" as well as "disaster management organization of the country" were approved in 15/01/2008. According to this low, Ministry of Interior is the main core of disaster management in the country. Although it has taken big steps in this field recently, there is a long path till reaching maturity and requires more effort of all ministries and executive systems.

Lack of developed programs for crisis management in geographical eras and different provinces

Disaster prone of a major part of the country. For example, some of digits which have been obtained from the findings of Dr. Morteza Jafari and Dr. Alireza Sedaghat, the researchers of Iran natural disaster research center, in a project namely "earthquake and the effects caused by that, management project and reducing disasters risk taking- 2015", are mentioned in following lines, notice them:

Islamic republic of Iran has an area of one million and 648 thousands square meters. Due to geographical situation and particular status of Iran tectonic, this country is continuously exposed to tectonic tensions which lead to earthquake and other dangers caused by that.

A huge part of Iran is located in zoning very high and high relative risk of earthquake.

Two cases of disasters accompanying with death of more than 10 thousand people have been occurred within 1990 to 2015 in Iran which are related to the earthquakes of Roodbar-Manjil and Bam.

Within 2000 to 2015, 83 earthquakes of more than 4 Richter have been reported in Iran that have led to the death of 62860 people and injuring more than 80078 people that most of these damages are related to the earthquakes of Bam, Zarand, Varzaghan, Silakhour in Lorestan and Bushehr. For example, in Bam earthquake, more than 75600 residential units were followed by more than 85% destruction which was equal to 32.7-million-dollar economic damage.

Based on General Census of Population and Housing 2011, Iran population is 75149669 in which almost 71.4% in urban areas and 28.5% live in rural points. Considering the map of zoning earthquake danger in Iran, almost 93% of whole country population is located in the zone with relative seismic risk of high and very high.

In investigating 10 first populated cities of the country (Tehran, Mashhad, Isfahan, Karaj, Tabriz, Shiraz, Ahvaz, Qom, Kermanshah and Oromia) which consist about 40% of urban population of the country, 86.3% of population are exposed to high and very high risk.

In populated cities of the country, the residents of Tehran, Karaj and Tabriz with almost 15% of total population of the country live in zone of very high relative risk on the fault or close to that.

In investigating distribution of infrastructures and industries, it is also seen that about 33% of whole country industries are located in Tehran province, 13% in Alborz and 6 percent in East Azarbaijan.

The existence of 72000 hectares of rusty texture in 498 cities of the country and residential of 25% of urban population in this part of the country have led to increase the rate of vulnerability during earthquake and the consequences caused by that (Jafari, Morteza, Sedaghat, Alireza, 1).

Generally speaking, land ownership, creation and maintenance of parks are very expensive. They aren't usually located well, haven't been fitted for all age groups and especially their best type has some finite functions such as freshening the air, a place for leisure time, recreation, sport, meeting friends and public and creatinine visual beauties. In this regard. According to some of those involved, lack of wide lands and public spaces in the cities during disaster management is one of main limitations. A significant part of communicational network is practically closed due to falling debris and urban textures get impenetrable at earthquake. There is no place for storing food and relief and even disaster management commanding. There isn't the possibility of taking off and landing for air transportation vehicles such as small airplanes and helicopters to be able to carry medicine and injured people and dozens of other problems. The main goal of this paper is introducing a new idea about how urban parks can be used flexibly and mixed.

Abovementioned digits relatively show particular conditions of Iran in terms of being prone of disasters. It also indicates the concentration of industry, population and a part of national wealth and capital in vulnerable parts of the country.

DEFINING DISASTER, EMERGENCY CONDITIONS AND RISK

in article (1) of the law of the country's disaster management organization, approved in 15/01/2008, the

disaster has been defined as: disaster is such a condition which suddenly or uncontrollable occur under the influence of accidents, events and natural and human performances (except the cases in security and social fields) and leads to the difficulty and hardship for a complex or human community and emergency, immediate and extravagant measures are required to eliminate it.

Disaster means a set of disorders in the society which cause some risks or damages that the society in disaster cannot cope with without being helped by external resources (Binkowski, 506). "emergency conditions" mean reducing the ability of the society, group or a person to cope with conditions. In such conditions, society's helps or external helps may be needed (ibid, 506) and also risk means a natural or manmade event which negatively affect human's activity, security or assets (ibid, 506).

DISASTER MANAGEMENT DEFINITION

It is an applied science that through systematic observation of crises and analyzing them seek for tools by which the disasters can be prevented or in case of occurrence, its effects can be reduces, relief and improvement of condition can be rapidly conducted.

Disaster park definition (multi-use park)

Multi-use park is a branch of park and green space use which has multiple uses in terms of designing so that due to its design and implementation, meets the needs of public or expected particular performance in a normal time as park and green space and at disaster and after that (natural and unnatural events), it can be used for disaster management, temporary and emergency accommodation or even managing disaster commanding operations. Some of disaster park performances include temporary accommodation, debris depo, middle station, establishing field hospital, establishing and commanding operational teams of disaster management, healthcare servicing stations as well as maintaining and distributing food among victims.

It has to be noted that disaster park is designed for bad conditions meanwhile it can be also used for milder conditions such as "emergency conditions" and "risk".

EMERGENCY AND TEMPORARY ACCOMMODATION DEFINITION

Displacing damaged population from the disaster place to a safe one is called accommodation in management science. In case by accommodation, one or several weeks are meant, that is called "emergency accommodation and in case by accommodation, we mean within one to several months, that will be defined as temporary accommodation.

THE REASONS FOR CHOOSING MULTI- USE PARKS

Other available uses and buildings in cities can be also use during disaster but to state the reason of choosing park use among other urban ones to apply multi-use, the following reason can be mentioned: a) the important issue is that, according to most of Iran experiences, public buildings are not trusted in terms of strength and perhaps many hospitals, schools and public buildings are vulnerable against earthquake and other disasters and need relief on that time. B) parks have occupied a significant area of city and after residential use and passages, almost the most share of city area is allocated to this use. As the result, it provides more area and better flexibility for urban planners and disaster managers. C) parks have the least hard surface and buildings and usually more than 80% of that includes open space and vegetation therefore, installation and dismantling of the roof, walls and generally temporary structures are easy there. D) it has some capabilities such as debris depo while other uses lack such a feature. E) accessing, entering and exiting parks are usually easier than other uses. F) the capacity of accepting population in parks is more than other uses. G) in almost all cases the parks ownership belongs to government and municipality and all citizens. Therefore, it doesn't have the limitation of getting permission from the owner of private section and ownership problems. H) in some cases such as severe air pollution and increasing temperature, staying in buildings with closed doors and windows isn't recommended (Valadbeigi and Pourheidari, 145) especially that in disasters, temporary structures can be created but dismantling heavy structures and buildings isn't possible easily.

RECOMMENDED GENERAL REGULATIONS FOR LOCATING AND DESIGNING MULTI-USE PARKS

Some of general indicators for designing and creating multi-use parks are recommended as follows:

The approvals of Iran capital urbanization and architecture council and urban development plans discriminate between "green space" and "park". Using both green space and park is recommended by this paper to create and design multi-use park.

Multi-use park is better to be located inside the city (area) or out of city (distance) because the lands of city distance

are usually pure and wide and due to lack of buildings and utilities out of the city, the planners have more and better opportunities in the field of locating.

Multi-use parks in different urban levels (neighborhood unit, neighborhood, community, district, regional, urban and cross-urban) should be located in different urban levels. A logical, management and hierarchical relationship should be defined among different levels so that they complete the performance of each other.

Minimum area of the park and green space which is appropriate for designing and implementing multi-use park is recommended as 2000 square meters for inside the city and 5000 square meters for outside the city.

Such these parks should have proper accessing so that they can be accessed through highway, freeway and main passages and minimum width of passages shouldn't be less than 12 meters.

Multi-use parks location beside rivers, watercourse, gas pipeline, electricity transmission core network and so on should be avoided.

Climate factors should be considered in designing parks.

The type and scale of park performance, the rate of accepting population for temporary and emergency accommodation are determined by disaster management in the ministry of the interior and designing park will be affected by this index.

Communication networks inside the park should be available for relief forces and disaster management so that heavy vehicles can also commute.

Some of recommended components for parks are: helipad, the salon for maintaining food, management building, the utilities of water for drinking and non-drinking water preferably separated from urban drinkable water system for watering and maintain park, the utilities of sewage disposal special for park, toilets and bathrooms in appropriate number with the population which will be accommodated (these services can be mobile or montage), solar system (solar cell panels), providing the electricity of park and … accommodation platforms for people and families as well as visual and auditory notification tools.

The native people and culture should be considered.

Vegetation should be featured as follows: a) lack of using trees with sharp and fragile branches such as willow b) lack of using long trees such as cedar and poplar c) lack of using allergic plants such as oleander and spurge so that the minimum allergy will be for the population and the accumulation of vermin can be also reduced d) lack of using trees having oil gum and combustible materials

Disaster park is for temporary and emergency accommodation during and after disaster therefore, it cannot be expected to cope with or prevent disaster so its main performance should be noticed in designing crisis park.

CONCLUSION AND FINDINGS

What obvious is disaster management is a complicated and systematic issue and in fact disaster management will make no sense without having a master plan. Planning for disaster management has a direct relationship with urban planning and especially applied planning. Multi-use park is the concentration and common point between two issues of disaster management and urban management.

Creating multi-use parks is more expensive for government and urban management than normal parks. This expensiveness will be about 20 to 30 percent but it will be followed with many advantages that the cost of it will be very trivial in long-term compared to citizens' life and property. In normal cases, the utilities and equipment of multi-use parks can be also used for sport, recreation and hobby. Therefore, disaster parks are always functional and they cannot be left without use. Designing and implementing disaster parks is a kind of investment and undoubtedly it will be very useful not only during disaster but also at emergency and risk. The importance of this issue is more flamboyant in cities having rusty textures with narrow passages and big population. Implementing disaster parks isn't limited to inside cities but it has cross-urban performance and located in a way which can give services to several cities simultaneously. To make this idea operational, some prerequisites such as following cases are necessary. A) perceiving the importance of subject by governors and urban managers b) converting this idea to the regulation and obliging its implementation and especially adding disaster park to the approvals of capital council as a new use c) developing some standards and details of designing and implementing by relevant ministry d) embedding this subject as an index in systems of inspection and evaluation of executive systems' performance.

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