Urban Development Plans and Development of Cities from Physical Dimension (Case Study: Review of Master and Detailed Plan of Hamadan City)

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ABSTRACT
Master planning and master plans pattern affected by western developed countries; enter into third world countries in 1950s and 1960s. In this procedure, master plans pattern was became common as a tool for answering to fast growth of urbanization and as a tool for rehabilitating of cities and modification of traditional cities in more third world countries. Implementation of master detailed plans has had some negative effects and different limitations that some of them relate to the fact and theoretic characteristics of the pattern, mismatch of master plans, country conditions and lack of administrative facilities of them. In addition, it is not forgot that many problems of urbanization and urbanism are related to factors beyond planning and urban management area in most developing countries including Iran, in fact, there is little possibility to success urban plans due to lack of appropriate economic – social infrastructure, high growth of population and wide migration of villagers to the cities, shortage of appropriate rules in using urban lands, civil entities class and public supervision, social instability, professional planning entities class, weakness of environment protection entities and cultural resources, so on. As a result, urbanism has encountered double problems in Iran like some developing countries compared with developed countries of the world the need to its appropriate solution. So, necessity of master and detailed plans review of Hamadan city, evaluation and policies and executive strategies is introduces along obtaining above aim in this descriptive – adaptive and documental research.

INTRODUCTION
The most important factor of 20 century is fast growth of urbanization and emergence of many types and forms of urban residences such as towns, metropolises, urban complex and urban system that changes appearance of city and even land appearance resulting from population explosion due to enter rural migrants to the cities with the aim of obtaining housing and jobs in most developing cities. There are different views related to the knowledge and concept of urbanism in Iran. Some scientists believe that urbanism is a science that addresses all social, economic, political and physical changes of a city and manages and controls existing relations in a city in the form of coordinate system. In the other words, city can be planned or parts of it can be designed (that is, one creates its physical model); but one cannot take responsibility of creating complex phenomenon as the city. Some limit is necessary to do services and urban activities and acting for buildings supply, urban spaces and urban development programs in which one can address doing urban services and planning in the area of these services. Also, another limit is determined for further developments of the city in the future time steps around cities limit that is known as a city limit or shielding limit. In fact, these lands are considered for future development of the city on the other hand, city is a dynamic and open system in which there levels of mechanical, biological and social movement are integrated and related to many types of various macro systems and subsystems. So, the urban planning requires creation of an integrated system from different levels of planning that shows continuity and coordination among upper and down systems. So, it is necessary to note that all intervention system in affairs of the cities is relied on master plans [11]. Today, with being complex the urban problems, increasingly growth of population, diversity and increase of needs and requirements, cities...
cannot rid to form itself through resultant of mentioned factors and continue to their life. Therefore, urban plans are the most basic tools of forming the cities based on order and aforethought program. Necessity of preparing one implementing urban plans, especially structural – strategic plans result from the need for a mechanism to create balance in necessity affairs of spatial and physical discipline. In other words, needs and requirements of urban life are also became more wide, various and necessary in the recent century since closed and semi closed spatial and physical systems in housing complexes are broken due to complex industrial and relational technologies and knowledge development [9]. Considering these conditions it is said that rid the cities is neither possible nor reasonable, because absolute spontaneity sovereignty, especially in big cities has imposed numerous economic and social damages (resulting from physical and spatial disturbance) to the society. Now, although experts and critics of urban planning system in Iran have more criticized preparation mechanism and urban master plans supervision, all emphasized on aforethought and comprehensive necessity of planning presence. Policy makers of urban master plans have felt the necessity from the beginning and emphasized that after comprehensive investigating the city, general principles, spatial, physical and service criteria should be determined to maintain public profits in addition to create physical system of the city. In general, necessity of preparing urban plans is like economic, social and contingency necessity. In economic necessities, concepts such as optimal productivity of land and desired efficiency of service physically and spatially are proposed and in social necessities, concepts such as justice, balance of service distribution, maintenance of public profits and prevention of aggression and violation of individuals to the public and private spaces and areas of others. So, preparing and implementing urban plans generally and structural – strategic plans specially are necessity of more complexes, developed and wide conditions of the life in contemporary cities and also, diversity of needs and requirements resulting from it. Therefore, the use of urban plans is necessary as a regulatory tool of physical environment [15].

**Theoretical Basis of Research:**

Pattern of master planning and master plans, affected by influence of western developed countries; enter into third world countries in 1950s – 1960s, that is, when basis of the pattern had lost its validity in western countries. In this period, many types of economic – social development patterns had applied in third world countries under pressure of global economic and political powers.

In this procedure, master plans pattern had become popular as a tool for answering to the fast growing of urbanization and as a tool for rehabilitating of cities and modification of traditional urbanization in most third world countries [13,1].

![Comprehensive Plan in Third World cities](image)

**Fig. 1:** Comprehensive Plan in Third World cities.

George Chadwick English theorist and researcher is experienced expert who has conducted large studies about urban planning in developing countries. Theory is referred as the importance of the investigation in sub points and its basic findings. Economic activities in developing countries are done in two different levels and two different circuits [11,12].

Urban society has specific complexity and different elements are effective in it. But, master plan pattern is a reasonable and belonging method and has conflict with reality. Economic and social programs are given very less attention in these plans, so, in most cases they are not fulfilled [10].

Planning process in master and detailed plan is defined as an ideal goal setting with long – term horizon, but it is more effective in step by step planning and has better conductivity that is a criterion of strategic plans [11].

According to U.N. studies, preparation and implementation of traditional master plans system are ineffective in most cases and led to fail in many third world countries. These plans were usually ambitious and unreal [11].

**Some reasons of the failure are as follow:**

One of the basic barriers of urban development plans research in third world countries is the presence of problems relates to the land use manner. In general, high shortage and expensiveness of the land in third world countries are one of the important barriers of the urban development and improvement. In many countries such as India, Nigeria, Morocco, Iraq, Mexico, so on, urban plans are failed due to the ownership problems and land economy [11].
Developed countries

Developing countries

Fig. 2: Economic activity in developing countries and developed.

Fig. 3: Priority planning based on the current status development plan:

Fig. 4: The planning process in a comprehensive and detailed plan and strategic plans.

Fig. 5: The reasons for the failure of traditional comprehensive plans.
In background of development plans in Iran with respect to the public changes of Iran in new periods, three basic stages are recognized in changes of the urbanization and urbanism of the country. That are outlined in the form of following flow chart [3]:

Fig. 7: Three basic steps in transformation the country urbanity and urbanism.

After coup d’état 28, Mordad, 1953 and comprehensive influence of American government in policy and economy of Iran, master planning pattern, affected by common patterns in America, had large influenced in the country.

Fig. 8: Comprehensive planning.

However, urban development pattern affected by U.S.A. was a function of western economic – social pattern that relied on the integration of the national market in global market and endogenous growth and emphasis on the quantitative criteria [11].

Fig. 9: Comprehensive and detailed plans process.

After Islamic Revolution, in service explanation of the same preparation of master plans, reforms and changes, although not in content but in the method and preparation stages and its approval, are conducted and as the civil development plans, influence and detailed area of cities had find legal and executive aspect. Implementation of detailed master plans has accompanied by some negative effects and different limitations that
some of them are related to the effect and theoretical features of the pattern, some to the mismatch of the master plans, conditions of the country and lack their executive possibilities. In addition, it is not forgot that in developing countries and including Iran, many problems of urbanization and urbanism are related to the factors beyond planning area and urban management. In fact, there is little possibility for success of the urban plans due to the lack of appropriate economic – social infrastructures, high growth of population and large migration of villagers to the cities, lack of appropriate rules in the use of urban lands, class of civil entities and public supervision, social instability, class of planning professional entities, weakness of environmental protection entities and cultural resources and so on. As a result, urbanism in Iran like most of the developing countries has encountered with double problems compared to the developed countries in the world that needs to its appropriate strategies. In the view of some experts and officials of the country urbanism, common master – detailed pattern in itself has not basic defect, but, their limitation and problems are resulted from weakness of executive and supervisory possibilities and machinery, so, one can answer to the problems of the country urbanism by changing and reforming some methods and reinforcement of entities and executive regulations. But, this way of attitude to the issue is contrary to all experiences and new theories of urbanism in the world. These theories, with respect to the complex and dynamic nature of the city, have some limitations which not introduce precise and comprehensive understanding of all city life and its changes [11].

**Fig. 10:** Comprehensive and detailed plans problems and issues.

**Methodology:**

Necessity of reviewing master and detailed plans of Hamadan city, evaluation, policies and executive strategies are proposed along obtaining the aim of descriptive – adaptive and documental research. In the research, first, development plans features such as master and detailed plans and structural – strategic pattern are extracted from specialized and reasonable texts of the country and then, investigated by document – library studies such as scientific – research books and articles, governmental organizations and organs such as Hamadan governor’s office information detailed plan of Hamadan city, statistical yearbook of Hamadan province, and field conceptions, commission regulations of Article 5 and doing interview based on case, conformity of the features and perspectives of Hamadan city development.

**Research Findings:**

Hamadan city is located in longitude 48° and 31’ of East and latitude of 34° and 48’ of the worth and in height 1850 m from the sea level. City settlement on a foothill plane has given specific morphologic feature to the city. In other worlds, development directions and city networks are done following the slope and/or
conformity with the environment. In general, slope of Hamadan city is from south to north and based on slope of Alvand foots. In 1928 RIC, Germany karl Frisch prepared a map with new and master plan of new Hamadan urbanism that central square is branched by a circle with radius 80 m and six streets, each with the width of 30 m and with equal intervals with angle of 60° from it in six directions. Most main passages of the city are formed radial and circular inclined to the same main square. This form of networking has created some changes in the city that in between, one can refer to "Hegmataneh Hill" (historical site) of the city which is divided into two parts using Ekbatan Street, and old bazaar of the city is also divided into three parts. Construction of the square and three radial streets is completed during 1930 – 1937 and three other streets are completed in 1958 – 1946 and construction of second ring street which is parallel to the square circle is started from that time, old structure of the city was also concentrated previously and bazaar complex, mosque and other elements of the city have existed in a space and concentrated. It is like many other cities with the difference that main passages are observed convergent and in East – West direction. And selection of the main square of the city is done very proper as a main center for the city, because when replacing centrality of the city, many valuable contexts would be destroyed and the city appearance would be changed. In early Pahlavi II, urban growth is due to the growth of villagers who migrate to the city for finding better job with decline of agricultural production. In the period, the city is slowly developed along new built streets and continues to its growth and development in traffic between old methods of living and production and economic – social changes resulting from conditions of World War II end and internal and external competitions. This story is continued until end of coup d’etat of Mordad 28. In ear after coup d’état, we encounter with profit – oriented system that is created due to the goods circulation and capital in lack of production cycle which formed the city to a place of wealth as the result of the increase of the oil ownership profit and consequently, enter of foreign products, which cause the large and strange increase of migration growth, especially in the decade of 50. Many far and near lands to the city are used as the exchangeable goods in urban development. Increase of citizen population and construction of different housing neighborhoods around the first ring and social physical differentiation of these neighborhoods and formation of two subjective concepts of uptown and down town and also closing embryo of complex urban problems such as suburbia in the section. 1953 is known as a section of contrasts process in the world and appearance of social – economic growth of Iranian society which its works and manifestations are appeared in next periods. First works of government director programs started by a program titled "land reforms" are recognized in census of 1966, and this year is coincident with doing the first master plan of Hamadan city. Increase of oil price in global market started in 1974, master and detailed plan started by consulting engineers of Marjan in 1966 and exercised in 1973 are among actions which had significant effect on the city appearance. In 1983 consulting engineers of Mozhda were responsible of preparing development and development plan of the city. New plan had complied with the previous rings and has created new rings of an urban structure and organization [4].

Fig. 11: Hamadan city.

Town – building phenomenon is appeared in Hamadan for the first time after revolution by increasing emigration speed from village to the city, especially after the revolution and followed by increase of citizen population and their need to urban housing and many towns around the city were appeared and in this period, low – income families who had not ability to being absorb in the city economy had adopted suburbia and large housing suburbs of suburbanites were quickly formed in the focuses capable of suburbia around the city under
the influence of emigrations after revolution. If basic works of government reformatory programs started in 1961 to 1976 are not obvious is because that Hamadan attractions were not competitive with other cities for attracting labor forces. Increasing income resulting from oil and its concentration in cities has exactly created such attraction for smaller cities including Hamadan. Only half of all non – born of Hamadan city have immigrated to this city before 1976 [5].

Fig. 12: Process historical development of Hamadan City.

Effects of such changes are recognized from settlement of immigrants in the city and in different neighborhoods whether from extent and size or structural bases of Hamadan city. Decade 70 onwards with finishing gradually inflammation of the society and formation of gradual peace obtaining from finishing the war and after ending fast quantitative growth period of the city, partial attention to the qualitative growth of the city alongside controlled quantitative growth is considered in this time [6].

Investigating maps from 1966 to date suggests that urban development is complied with a quite radial structure during 1956 – 1976, but after mentioned period and especially after revolution of urbanization and physical extension of the city do not all owe urban management to think of preparing urbanism plans and mostly, developments were done brokenly and out of form and basic structure of the (radial) city [3]. First stage of first master plan of Hamadan city was approved by supreme council of the city in Khordad and second stage of it was approved in Dey. Second master plan of the city was approved under the title of master plan of Mozhd in and its detailed plan was approved in 1989 and third master plan of the Hamadan city under the title of ‘devise and design’ was approved by supreme council for urbanism and architecture in 2005 and was executed in 2006 as briefly shown in following Table [8]:

Table 1: Evolution of comprehensive and detailed plans of Hamadan.

<table>
<thead>
<tr>
<th>Start Year</th>
<th>Consultant</th>
<th>Name of plans</th>
<th>Row</th>
</tr>
</thead>
<tbody>
<tr>
<td>1968</td>
<td>Marjan</td>
<td>Marjan Master Plan</td>
<td>1</td>
</tr>
<tr>
<td>1988</td>
<td>Mozhd et al.</td>
<td>Mozhd Master Plan</td>
<td>2</td>
</tr>
<tr>
<td>1989</td>
<td>Mozhd et al.</td>
<td>Mozhd Detailed plan</td>
<td>3</td>
</tr>
<tr>
<td>2005</td>
<td>Tarh &amp; Tadvin</td>
<td>Tarh &amp; Tadvin Detailed plan</td>
<td>4</td>
</tr>
</tbody>
</table>

At present, Hamadan has 548378 populations and social indexes as explained in below Table:

Table 2: Hamadan social indicators during the past decades (Statistical Center of Iran, 2011).

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>548378</td>
<td>473149</td>
<td>395141</td>
<td>271545</td>
<td>165785</td>
<td>124167</td>
<td>99909</td>
<td>Total population</td>
</tr>
<tr>
<td>276933</td>
<td>238121</td>
<td>200369</td>
<td>141991</td>
<td>87717</td>
<td>65912</td>
<td>50426</td>
<td>Man</td>
</tr>
<tr>
<td>271745</td>
<td>235028</td>
<td>194772</td>
<td>130434</td>
<td>78067</td>
<td>58255</td>
<td>49483</td>
<td>Woman</td>
</tr>
<tr>
<td>102</td>
<td>101</td>
<td>103</td>
<td>108</td>
<td>112.4</td>
<td>113</td>
<td>102</td>
<td>Sex ratio</td>
</tr>
</tbody>
</table>
Feasibility of detailed plan was of Hamadan city compared to existing situation is summarized in the below table:

**Table 3: Amount implementation land use detailed plans of Hamadan, in comparison with the status quo.**

<table>
<thead>
<tr>
<th>Detailed plan proposal</th>
<th>2010-2005 Estimated on the basis of licenses issued</th>
<th>2012-2011 Estimated on the basis of licenses issued</th>
<th>Area</th>
<th>Percent</th>
<th>Area</th>
<th>Percent</th>
<th>Area</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>4106672</td>
<td>3790476</td>
<td>93.5</td>
<td>96.9</td>
<td>19894270</td>
<td>60.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Services</td>
<td>284515</td>
<td>121377</td>
<td>6.5</td>
<td>3.1</td>
<td>12889230</td>
<td>39.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4391187</td>
<td>3911853</td>
<td>100</td>
<td>100</td>
<td>32783500</td>
<td>100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In general, factors and reasons of Hamadan detailed and master plan ineffectiveness and need to review the plan are summarized in following cases:

1. Being metropolitan of Hamadan city and need to prepare new detailed plan as a document of metropolis according to station and needs of a metropolis (urban complex plan).
2. Changing number of stories and building density and thereby, population density with respect to the regulation of 2011 of detailed plan commission (Article 5).
3. Major changes in population and structural density and lack of tangible change of service uses and reduction of per capita.
4. Noncompliance of (new) master plan of traffic of Hamadan city with detailed plan
5. High changes in detailed plan by regulations of use change in commission of Article 15 from service uses to housing and commercial
6. Non – presence of appropriate height and density zoning
7. Presence of illegal constructions in the city limit and adhered to the city limit (Faghireh)
8. Lack of spatial distribution of facilities and services and its fitness with population resident in the different regions of the city (lack of justice in the city).
9. Horizon finish of Hamadan detailed plan
10. Non – considering the slope and height difference in Hamadan city that one city is mountainous and high slope [7].

**Fig. 13: Suggested Strategies.**
Conclusion:

With respect to the mentioned factors in the research, results show that master plan review and detailed plan of Hamadan city is a necessity and this review should be done with proper planning and management to be able to create coordinate and integrated relationship between uses and urban sustainable development. The fact is that preparation of the development plans is not conducted based on problems of the region and pattern of plans is a copy and the same for all cities. With respect to the physical, social and cultural conditions and other related problems, development plan should be studied and conducted. With respect to the technical and specialized conditions and decision making system and approval stages and other problems, plan should be done considering superior documents and existing conditions and perspective of the city. It should be note that we should planned today built city based on haves for a city free of existing situation problems and with reasonable ideals and use maximum strength of the private sector. Title of the plan challenges us, but we should only know where we are and in what conditions and where we should arrive at and plan based on this know ledges. Finally, makers’ recommendations are briefly introduced in below chart along arriving at the aim of the research.

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REFERENCES