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The Evaluation of Daily Urban System in the City of Rasht

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1 ABSTRACT

Developments of transportation system and asphalt roads network during the recent years, has been resulted in simple and quick accessibility toward Rasht city. Along with unique placement of population centers in this region, these developments have led to modern urban communicational systems between central city and these population centers. It considers that lots of daily traffics are flowing as "home-work-home" so that major structural changes have been arisen in communications and interaction among them. After evaluating and surveying daily urban system of Rasht city, it has been concluded that existing traditional planning such as Master Plan of Rasht City do not practically benefit from required function as strong interactions have not been considered among Rasht city and other urban and rural areas located in this region. Thus some suggestions have been proposed, so that all areas affected by this daily urban system may be controlled by a unified planning and urban management as well and also they may be managed and planned as an integrated complex in all cities whose populations are not as much as metropolises' but they have functions beyond a city.

2 INTRODUCTION

Generally, central region of Guilan province is a smooth and flat plain and Rasht city is located in this region so that it benefits from a very suitable condition for trafficking by individuals and vehicles. Short distances along suitable topography led to particular and unique condition for this region so that it exceptionally has linked population centers located in this region together during a gradual process unlike qualitative and quantitative development of asphalted road and considerable increase of vehicles as well. This process arose structural changes in urban system of the considered region. The present research has attempted to evaluate this daily urban system. It shows that function of Rasht city in this system is beyond a central city exerting a metropolitan impact and a strong traffic process in its periphery. Thus, it is significant to present a new definition for such cities in the state urban planning system.

3 METHODOLOGY

The research method is descriptive-analytical and data collected through different recourses. The data have been employed in this research including reports and literature reviews after extracting data, they were classified and organized in forms of maps, images and so on. Finally, data were analyzed as descriptive statistics, inductive test and so on.

4 THEORICAL FRAMEWORK AND DEFINATIONS

Urban system is, generally, "a set of related cities which creates structure of urban settlements system in an area, region, land and world". Urban system is not limited to a physical set of urban settlements but it also includes streams and relations among these settlements. These streams are population, investment, factors of production, ideas, information and innovations. Based on this definition, studying about urban systems which are open systems requires studying on their extensive relations with their surrounding area (Azimi, 2002).

4.1 Daily urban System

This system includes daily commuting (home-work-home), thus hierarchical system is not concluded. This kind of urban system includes a wide range of central city and all its surrounding and rural areas which are daily in relation with them regarding social-spatial or in other word functional issues and it also includes a wider range of urban assembly (Bertangolle et al, 2002). Laan has proposed a distinct classification of multi core urban structure use a classification of daily urban systems in four categories rather than drawing a distinction between mono centric or polycentric urban areas

(1) *Centralised*: these resemble monocentric systems in which morning peak-hour commuting is primarily directed towards the core city of the DUS.

(2) *Decentralised*: many morning commuters are attracted to the suburban parts of the system, where much employment is located.

(3) *Cross commuting*: these structures resemble the classic polycentric region consisting of relatively independent, self-contained development nodes. Suburban commuters tend to work in the suburbs; core-city residents often work in the core city.

(4) *Exchange commuting*: these systems have many reciprocal relationships between the suburbs and the core city. Many suburban commuters work in the city, while many central-city residents work in the suburbs (Laan, 1998).

4.2 Christaller Classic Urban System

The theory of core-periphery considers each geographic system as two spatial subsystems which one of them is dynamic core and the other is periphery centers which are dependant and submissive to the center. Theoreticians assert that these relations exist in intra-region areas and even in continental and global levels. According to this theory two forces are received by periphery from the core; favorable force that involves movement of investment from core to periphery and providing first materials for industries by the core.The consequence of this force is emergence a new core and its peripheries.(Andrew K. Copus 2001; Christaller, W 1933).

4.3 Definitions in Existing Theoretical Texts:

4.3.1   Central City

The largest city within a limited area of an urban system enjoying from a population of at least 200,000 inhabitants according the last census. It has a high economic, social and service integration with at least 2 other cities within its functional area as well. Functional area of a central city is at least 35 km.

4.3.2   Urban system

It is a geographical area that is made up of a central city and at least its 2 surrounding cities and rural areas around them. All surrounding areas have high economic, social and service integration with the central city.

4.3.3   Metropolitan Area

Metropolitan area refers to a large population center comprising a large city and its immediate sphere of influence or several cities and town and areas connected to them so that one or more large cities act as its center. Metropolitan areas usually comprise conurbations (areas constructed near each other) and its surrounding regions which do not have necessarily urban nature but are highly depended on central city regarding employment or business.

4.3.4   Urban Region

Urban region is urban centers' sphere of influence which is created from total influence sphere of various functions of an urban center. Range and form of an urban region for a particular function are depended on the following factors:

- Closeness of considered settlements to those settlements with the same function, especially settlements with the same size or larger.
- Nature and pattern of existing communication and transportation system and as a result accessibility of surrounding areas to central city.
- Number and size of existing functions in central city.
- Geographic status of central city and physical geography of surrounding areas.

4.4 Classifying Urban System in Iran

Urban system are classified in 3 main groups in Iran:

- While population of central city of an urban system according to the last official census is between 200,000 to 500,000 inhabitants, the urban system is called median urban complex.

- While population of central city of an urban system according to the last official census is between 500,000 to1,000,000 inhabitants, the urban system is called large urban complex.

- While population of central city of an urban system according to the last official census is 1,000,000 inhabitants or more, the urban system is called metropolitan region.

4.5 Background of the Research

Rasht city and the limited area which is presently interacting with it under a daily urban system were considered about more than 30 years ago in studies conducted in the second period of long-term strategy of land preparation in 1977 by Setiran consulting engineers and was called "SEFID RUD URBAN REGION".

"Delimiting an urban region is arbitrary to a large extent. The territory of the present study is lands of Guilan which includes Rasht, Bandar Anzali and Lahijan. Also it includes west of Fouman and Someesara and it is extended near langroud from east as well. Therefore, order of geographic field in the present study is an area which neither is beyond 90 km from east to west nor 45 km from north to south. This area covers approximately a total area of 3300 square kilometers and it is almost conform to divisions of the civil: Rasht city, Bandar Anzali city, rural districts of Tolam and Someesara (from Someesara city), Fouman city except rural districts of Masouleh, Gasht, Ahmad Sar Goorab, Lahijan city except a large part of Siahkal district (rural district of Siahkal, Fararoud) and Shir Jo Posht rural district. As cities located in this area are complementary for each other and due to closeness of the cities, expression of "Urban field" is induced: Rasht: administrative center, Bandar Anzali: Port and tourism center, Fouman: rice farming center and Lahijan: Tea farming center.

In 2008 we studied daily urban system rules in central region of Guilan and its limited areas. Firstly, entry and exit stations of Rasht city that were the major places of entrance and exit for daily passengers were identified for initial field research. Then mentioned stations were referred and data were collected. This stage cleared a general view of limited area of DUS (Daily Urban System). In addition, it showed that to continue research and to complete data it is possible to go directly toward daily passengers' place of employment so that the second stage of the research were conducted through direct refer to some of offices, companies and factories and so on where had daily passengers. By the help of people, some of daily passengers were identified and research was conducted without administrative process.

In the third stage of census in 2006 and based on raised question all villages of Guilan province which provide their basic requirements from a city or other village and finally all villages of Rasht city which introduced Rasht as the first provider city for their basic requirements, considered as DUS region. Based on studies in these three stages, it was clear that DUS region generally includes Shaft, Fouman, Someesara from East, Lahijan. Langroud, Koomleh, Siahkal, and … from West Bandar Anzali, Khoshkebijar and … from North and Sangar, Shaghaji and … from South.

At the end, in order to determine accurate DUS area whose general view was obtained at the end of three previous stages, it was directly referred to likely borders. In this regard, based on obtained experiences from the previous stages and also based on knowledge obtained from the region and also by referring to Islamic Councils of Villages, departure of daily passengers to Rasht or from Rasht were dealt with. Therefore, limited area of DUS region was completely determined at the end of this stage of the research. In the Fig 1, total DUS region is depicted and curves of stimulus accessibility and accessibility to central city based on time limitations, through personal car, in route without traffic and also the starting point were drawn from exit ways of Rasht cities.

DUS region identified in this research covered a total area of approximately five thousand square kilometers. Regarding total area of Guilan province, DUS covered about 36% of total area of it which is more than 1/3 of the province's total area. This is while that, based on obtained population for DUS region which is more than one million people, this region has 73% of total population of Guilan province that is more than 2/3 of the population of Guilan province. Therefore, based on statistic of DUS region and in compare with the province, DUS region has twice as much population as its area. This region has 24 cities which are 50% of total cities of Guilan province. These cities cover 80% of urban population of total population of Guilan province.
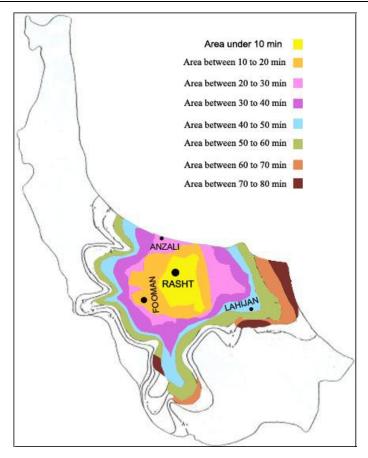
Fig. 1: DUS region and drawing curves of stimulus accessibility on it.

5 COLLECTING DATA AND ANALYSING

5.1 Introducing the Study Area

Guilan province is one of the northern province of Iran with an area of fourteen thousand square kilometers. Its length is 235 kilometer from northwest to southwest and its width varies from 25 to 105 kilometer. Based on the last division of the civil in 2006, Iran has 49 cities, 43 districts, 109 rural district and 2935 villages. Guilan province has 16 cities including: Astaneh Ashrafieh, Amlesh, Bandar Anzali, Talesh, Rasht, Rezvanshahr, Roudbar, Roudsar, Siahkal, Shaft, Soomesara, Fouman, Lahijan, Langroud and Masal. Guilan economy is based on agriculture and it has 253,403 hectares agricultural land so that 198,456 hectares of them are arable land and 54,946 hectares of them are gardens and nurseries.

In order to survey limited area of the considered region and its geographic particulars, it should be said that Guilan province, generally, has two complete different areas (plain areas and mountain areas). If we consider that up to 150 meters height from sea level are plains of Guilan, about 1/3 of total area of Guilan will be plain areas (Fig. 2).

As we described, plains of Guilan (and more cities of Guilan) are almost smooth and flat, it means that they have a very little slope. We could say that slope of the land in all plain areas of Guilan province is approximately less than 1% (Azimi, 2002).

Regarding that, we proposed to survey and evaluate daily urban system of Rasht city and its planning and management and generally surveying these kind of cities, we just study limited areas where this daily urban system is going on and almost all of this limited area is located on plain area of Guilan (only some parts of a few rural districts are located on mountain areas). Limited area of this daily urban system, as it was mentioned above, is a smooth and flat land which has provided a suitable condition for commuting peoples and vehicles. These short distance and suitable topography is by itself a main reason of creation this daily communicational system. As it is clear, this communicational system has been not able (or hardly) to effect mountain areas. Of course, creating and constructing bridges in mountain areas were a great help for communications and transportation systems. However, in fact, this daily system is limited in mountains which surround south, east and west of this smooth and flat land.
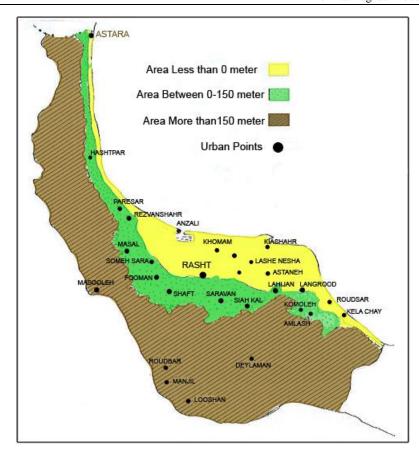
Fig. 2: Urban areas and plain areas of Guilan Province

5.2 Urbanism pattern of Rasht and its interactional region

Generally, based on existing evidences, the study area which had previously pre-industrial economy relying completely on agriculture and running fully by self-reliance followed classic hierarchical system. In fact movement system of people toward applying required facilities and services was hierarchical so that those who were resident in a village or a small city came to more intermediate cities in which they could benefit from higher facilities in compare with their place of residence to meet their basic needs. They also traveled to more important cities to meet their more important and rare needs and they finally traveled directly to central city for specific issues. However, there were two important events from late of 1990s. The first was that qualitative and quantitative daily growth of asphalted road in one hand and increasing personal and public cars which bring quick, inexpensive and simple accessibility to central city which practically transformed existing communicational system to Daily Urban System (DUS) on the other hand. The second event was related to quick growth of rural asphalted roads and also qualitative improvement of asphalted roads and highways construction which increased demands for daily trips to central city. As a result of increasing demands for daily trips to central city, regular commuting service systems to central city and vice versa were arranged so that it assured passengers about daily trips regarding accessibility to vehicle.

Therefore, regarding to the four kinds of Daily Urban System discussed in theoretical principles (Centralized, Decentralized, Cross commuting and Exchange commuting) this system in Rasht daily urban system is a compound of Cross commuting and Exchange commuting which represents interactions among central city and other existing cities and villages in target region in one hand and interactions among suburbs in the other. In fact, modern communications dismantled previous hierarchy and has replaced it by direct and mutual communication between central and other population areas located in this region. Current daily system is not certainly the previous hierarchical system, although it is not completely consistent with a daily urban system. However, this consistency is relative and is integrating day by day. In fact, it does not yet portray a complete real and virtual communicational network but this performance is going toward more integrity and this integration and its performance system are completing day by day to be a very compact and integrated daily system through qualitative and quantitative development of asphalted roads. If we survey curves of stimulus accessibility to central city (Map 4-1), in order to understand better and to analyze daily

urban system in Rasht city, we find that an area which has a distance of less than 30 minutes to Rasht and is almost consistent with Rasht functional area (a 35-km distance), has about 16% of total area of Guilan province measuring 220 km/sq and has more than 50% of total population of Guilan province it means more than 1,200,000 inhabitants whose 70% is city dwellers. It also surrounds 30% of total cities of Rasht. What is obvious is that, all settlements located in this 30-minute area have a unique potential for common economic, social and … performance. Obviously, this area has a powerful interaction with central city and Rasht city is immediate center of urban system of the study area which at least is not considered or performed in urban-regional planning.

5.3 Suggestions:

5.3.1   <u>New definitions have been proposed for central cities of daily urban system considering existing definitions and current structure of Iran urban planning system:</u>

- While a metropolis is considered as a center of an active daily urban system so that its total population of functional area along with population of the central city is not less than two million inhabitants, the region is considered as a metropolitan region. For example, Tehran will be a metropolitan region because it places unlimited daily trips in one hand and in the other hand, cities of Damavand, Rey, and Karaj are located in this area and the total population of it is approximately nine million inhabitants.

- While population of central city in any urban system according to the last official census is between 500,000 to 1,000,000 inhabitants, the urban system is called large urban complex. If these systems meet the following particulars, they will be considered as urban region:

- If central city of a large urban complex has a population of 750,000 to 1,000,000 inhabitants and is located in distance of 35 km from legal boundary or census boundary of central city (the minimum functional area of a city according to the description), and has at least 2 cities with more than 10,000 inhabitants, it is called urban region.

- If central city of a large urban complex has a population of 500,000 to 750,000 inhabitants and it is located in distance of 35 km from legal boundary or census boundary of central city and has at least 5* cities with more than 10,000 inhabitants, and total population of the 35-km area along with population of central city is not less than 1,000,000 inhabitants, it is called urban region.

It the mentioned above suggestions come to implementation, Rasht city will be subjected in Paragraph 2 of the suggestions because based on census of 2006, Rasht has a population of 550,000 inhabitants and 13 cities are located in its 35-km area which 6 of them has a population of more than 10,000. These six cities are Khomam (12,901 inhabitants), Lashtenesha (10,871 inhabitants), Bandar Anzali (109,687 inhabitants), Astaneh Ashrafieh (36,298 inhabitants), Fouman (27,763 inhabitants) and Someesara (36,522 inhabitants). In addition, total population of this area is more than one million inhabitants. In this case, Rasht and its 35-km area would be an urban region.

*The average number of surrounding cities in functional area of current central cities (2008) in Iran is 5.85.

5.3.2   <u>Obviously, these kinds of urban regions will require a new form of urban planning and management.</u>

In fact, Iran urban planners are faced with metropolitan populations which are settled detachedly and different from what they knew. Therefore, we need an urban management different from management of a usual city or even a metropolis. What is suggested is arranging a responsible system for urban region. This unified urban management could be held as a council including authorities of a central city and other existing population centers in this urban region chairing by the highest executive authority. Planning system of an urban region is in fact a strategy to reach proportional distribution of urban development among different cities and generally parallel growth of all regions. It is obvious that this aim will not be achieved unless total urban region is permanently considered by a system which exclusively concentrates and regards toward this urban region and issues such as all new industrial settlement, projects to determine paths of transport infrastructures and large separation of lands must be consulted. In fact this regional council must firstly deals with studying and ratifying regional plans as a superior project for its urban region so that all comprehensive and directory projects for cities and villages located in the considered region are formed and ratified within

their framework considering particulars of total urban region in order that no existing population system in this urban regions being planned and managed as a single member and separate from its family.

6 CONCLUSION

Authorities, planners and specialist believe that as physical differences between these kinds of cities exerting metropolitan impacts, with other known cities and metropolises in Iran were hidden up to now, urban problems and difficulties of these population centers surpass specialists and planners regarding time and facilities. It is obvious that if this negligence continues, the city and citizens will be subjected to all-embracing damages. This issue, at first, declines citizens' quality of life which is certainly the most important issue for planners and specialists in urban affairs. Therefore, it is required to consider this fact in planning as soon as possible as it seems necessary particularly in the region's spatial arranging and especially in its communicational network and in arranging its settlements and so on. It also may be the purpose of experts and planners. In fact, all planning up to now and in future regardless the revolution taking place and consuming time and money, will be incorrect and we have uselessly have consumed our time and resources as the special condition of this region has not been regarded. For example, all planning arranged for Rasht city and its complementary system, regardless to structural revolution have considered it as a single city while its requirements, facilities and other conditions are completely different in two classical and daily systems so that planning considering classical system will deviate the city far from direct way and finally creation of abundant problem in the future which are glaring by now will lead us to acceptance. It is necessary to propose a new description for planning system of those cities located in centrality of a daily urban system having large commuting (or will be developed in the future) and then a new type of urban and regional management and planning may be considered for them.

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