

Limiting the Imbalanced Development of Large Cities by Granting Immediate Accessibility to Amenities in Suburban Region Case Study: Rasht City

Farhad Amiri Fard,

Urban planning Department of Islamic Azad University of Bandaranzali (IAU).

Abstract: Emerging city poles without existence of a proper spatial hierarchy causes serious problem in all over a country. To avoid heterogeneous and unequal development in metropolises, it is necessary to limit their development. As a center for Guilan province, Rasht city is the most populated urban locality in north of Iran which acts as an urban system by its urban and rural centers and suburbs and concerns for sprawl in the future which would disturb regional balances, reflect the necessity of a plan compilation to limit spatial development so that to be suggested as a standard for other regions. So this paper seeks to investigate present problem and compile appropriate aims to remove those problem and organize a harmonic and balanced system on an urban region scale applying appropriate strategy in Rasht metropolis and its suburbs.

Key words: Rasht metropolis, Limitation of development, spatial planning, Regional imbalance, Suburban region, amenities.

INTRODUCTION

During recent decades, fast growth of urbanization in Iran has caused developments over capacity of economic, social and in some cities. Arising from uncontrolled rural migration into major urban centers, this problem brought metropolises such as Tehran, Isfahan, Mashhad, Tabriz, Rasht and Shiraz in Iran spatial extents and subsequently overdevelopment in these metropolises and disability of suburban small cities to compete with metropolises led to regional imbalances in the regions' level. These imbalances could be seen in spatial structure of services, industries, and other activities settlement reinforcing by extensibility of large cities population which attracts more population from suburban small cities and villages day by day. In regional scale in Guilan province, Rasht as a large city has experienced fast growth in population, services and activities settlement in contrast to its suburbs in recent decades and it seems that they would continue faster in present and future. With regard to this problem a fundamental question is whether limiting the imbalanced development of large cities is possible by expanding and granting accessibility to amenities in suburbs. To respond this question affected by various factors, it is needed to identify large cities functional domain toward suburbs in different field which requires its own special methodology based on genetic study of different cities in urban region considering population, services and different types of activities and investigating spatial and physical system in the present condition and different time levels so that after data collecting, analysis takes place in quality and quantity and finally conclude in a rational result, identifying problems and aims and plan strategies compilation.

2. Theoretical Frameworks:

Regional development theories that survey biological communities and their suburban centers based on their interactions, aim to deal with the facts of creation and compilation of major centers and transforming other region to suburbs. Theories of the growth pole and core-periphery have an especial importance in this relation.

Owning a wide range, the growth does not appear everywhere at the same time; it becomes manifest at points or poles of growth, with variable intensity; it spreads through different channels, with variable terminal effects on the whole of the economy (CAMPBELL JOHN 2006). In other words, development and emergence of one pole leads to development permeation to suburban regions thus concerning this matter, basic and developed industries encourage economic growth.

Development involves various dimensions and structural alteration is one of its requirements; it occurs in an environment and this environment has economic, geographic and executive nature so the environment is an arena having impressive forces. Development arises due to interactions of forces in an arena. One of the

basic concepts for growth poles theory is the presence of pioneer industries as a newly-established and extensible industries and the matter of accumulation and savings in economics to generate growth poles. Polarization is limit and could be ceased by different forces. (John B. Parr 1999,1973; Richardson 1973)

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)

Since economic growth is not a matter in regional development in village-city theory, it emphasizes on social development bearing in mind the special human requirements. The theory sometimes associates type of developments to governing economic situation and pinpoint people participation in development and place features. Processing policy in village-city development as a new strategy forms the framework of spatial planning in this theory. The desired development of this non-centralized development theory is depended on agriculture and rural areas. According to the theory of harmonic growth, it is necessary to apply all economic sections equally and to invest in the sections to raise effective requests for the government economic structure balance. Main criticisms for this theory are over consideration to demand factor and ignoring supply, inefficiency in open economies and applicability in closed economies. This theory requires broad participation of government and private sector. In addition identifying this theory requires vast resources therefore it is not applicable in the third world countries due to some problems.

The main consideration is given to development strategy in the third world countries in disharmonic growth theory. The theory asserts that development in the third world countries is depended on the relations of pioneer sectors and other economic sectors. This development is disharmonic at first and is transferred to other economic sectors from pioneer sectors. Development strategies in this theory is selecting several pioneer sectors and then transferring this role to other regions for spatial balance. (V. V. Bhatt 2007)

Based on the central place theory, activities have different levels. In other words, this theory aim to represent a hierarchy system according to population and services of settlements in a space or geographic bed where lower order services find in all centers such as large and small cities even villages and hamlets and high order services find just in cities and larger centers. In this case each services activity has its own population threshold and economic threshold or market range. Based on some principles such as marketing principles, transportation principles and administrative principles, Central place locates in a hierarchy system [Christaller, W 1933]. As a regional spatial structure sample, this theory is subjected to lots of criticism, especially because most of areas contradict hierarchy rules. Shortcomings and failures of this theory are presented briefly as follow:

- Considering services as a basic and principles to form biological communities' development, Central place theory does not deal with other impressive factors such as environmental, local and economic factors.
- According to central place theory, users act rationally and use the nearest center for services activities, however multipurpose trips does not confirm this hypothesis.
- Central place theory argues about the homogeneous dispersion of population, however it is not possible because factors in which population density depended on (climate, soil fertility and ...), are different from place to place.
- This theory has a static view into the relation between the center and its subordinates in an especial time section and it does not consider spatial evolution process in the regions.
- Loss Possibility in hierarchy system would occur by large centers' dominance (especially metropolis) so that at last bring lack of growth in small cities and loses hierarchy system.
- Central place theory uses population criterion to identify central places, however population is not a proper criterion.

Still central place theory has two potential roles in planning:

First: this theory is a context to understand spatial structure of regions which is the first step in every regional analysis and planning.

Second: This theory could be used as a sample for future planning.

One of the major problems in regional planning is lack of a complete and comprehensive theory of regional development. Although course of evolution in regional development theories is required for anatomy and explanation of spatial dimensions, a regional development theory or every planning executive effort in this field should benefit from two basic capabilities for its success:

First dimension related to development explanation in a region from different dimensions of economic and social. In other words a regional development theory should be able to effectively explain the considered development subject in one area.

Second dimension is the theory ability for explanation and anatomy of its considered development spatial dimensions in a region. In other words it should be responsive to how would be the development spatial distribution in a region. To undertake compilation of such a theory or doing such a work in planning process is not a simple work and there are lots of problem to face which are titled in the following:

- Growth versus distribution
- Agricultural development versus industrial development
- Urban development versus rural development
- Investment technology versus user's technology
- Centralization versus decentralization
- Economic, social planning versus physical planning

3- Surveying Natural, Physical, and Activity Features in Guilan Province and Rasht Urban Region:

3-1- Natural Features:

The aim to propose these subjects is to identify the natural location and position of Rasht urban region and on the other hand accessibility to capabilities and capacities of Guilan province and its urban region from spatial and natural aspects and to consider probable effects of these features on physical and spatial administration of urban region to limit Rasht development by its suburban region.

The surface area for Guilan province is 14820 square meters which is 0.9% of the total area of Iran. The province is in the vicinity of new independence Soviet Republics. It is divided into two parts include plain-foothills and mountains, which 49% of it lie in plain-foothills and other 51% in mountains.

According to state segregations, Guilan province owns 35 cities, 22 districts, 95 sub-districts and 2955 villages.

Rasht urban region and its five cities Rasht, Bandar Anzali, Astaneh Ashrafiyeh, Fooman and Somesara are located in plain area where include 30% of total Guilan province surface area. 55.5% of the province's population live in Rasht urban region.

Topography of Guilan province displays Rasht's district segregation into four area: coastal, plain, foothill and mountainous areas. Regarding to the province climate data, it has been divided into two climate areas: humid region where involves thin coastal plain with 500 to 2000 meter in height; and dry and semi-dry area where is located in the south part of the province with annual rainfall about 120 to 320 milliliters and includes the highlands over 2000 meter. The amount of annual rainfall in Guilan is changeable from 2000 millimeter in Bandar Anzali to 381 millimeter in Roodbar. Guilan average temperature fluctuates from 15.2 °C in Astara to 16.6 °C in Lahijan. In Rasht urban region temperature changes is between 15.4 °C in Rasht and 16.1 °C in Bandar Anzali. Considering the amount of rainfall in different regions in Guilan province, its humidity has fluctuation too so that it is between 48 to 79 percent in Roodbar and between 62 to 93 percent in Bandar Anzali where is the most rainy area in Rasht urban region.

Surveying in wind situation about the region demonstrates that prevailing winds blow from North, North East and North West during a year and winds in mountainous area blow from South and South West toward plain.

Population and its changes in different time levels is one of the most significant factors of planning and decision process beside other factors such as economic and... . Guilan province population changes have not met a steady process during recent three decades.

The population growth rate in Guilan Province shows that it was 2.8% from 1976 to 1986. Growth rate changed to 1.2% from 1986 to 1996 and during 1996 to 2006 it decreased about 34%. Growth rate comparison in urban and rural localities shows that they are 5.4, 2.4, and 3.5 percent in urban localities and 1.5, 0.36, and -2.0 percent in rural localities respectively.

Population growth rate in Rasht urban region were 4% between years 1976 to 1986, 1.5% during 1986 to 1996 and 0.59% during 1996 to 2006 while in urban localities of Rasht urban region they were 0.64, -2.3 and -0.85 percent respectively.

The proportion of urbanization in Guilan province has changed from 33.4% in 1976 to 46.8% in 2006. Urbanization rate in Rasht urban region in the observed period were 36.5 and 53.8 percent respectively. In other words percentage of urbanization changes in Guilan province between years 1976 to 2006 was 127.6% and in Rasht urban region was 141.5%.

Rasht urban region population portions from total population of Guilan province between the years 1976 to 2006 were 48.6, 54.6, 55.5 and 56.2 percent respectively. Urban localities proportion in Rasht urban region from Guilan province's urban population during those years were 60.9, 64.1, 65.6, 64.6 percent and Rural localities proportion were 43.6, 48.9, 49.5, 48.8 percent respectively.

Overview in population portion of the cities located in Rasht urban region from total population of urban region reflects that Rasht has had the most population portion in Rasht urban region between the years 1976 to 2006 with 57.5, 54.2, 55.2, 56.8 percents respectively and Astaneh Ashrafiyeh has had the least population portion between those years with 8.8, 9.1, 9.5, 9.1 percents. The important is that all cities in the urban region except Rasht had a decrease rate.

The important matter in rural population portion is that in Rasht urban region, in the period 1976 to 2006, Rasht has had the most rural population by itself having 50.6, 45.7, 45, and 44 percents respectively and Fooman located in the second place.

Overview of literacy in Guilan province shows that literacy percentage reached 75.2% from 50.7% during 1976 to 2006 and in urban region they has been 52.3% and 75.6% so that 62.9% and 81% of those are men and 57.7% and 69.9% are women respectively.

One of the main indicators for population movement is migration stream. Surveying about this indicator illustrates that in total population of Guilan province in 1986, 91.9% were born in the cities of Guilan and 8.1% were immigrants who were born in other region of the country. This figures reached 81.7% and 18.3% in 2006 respectively.

Among cities where make Rasht urban region, Bandar Anzali has the highest migrants' proportion. 72.5% of its population was born in the city and 27.5% of them are immigrants while these figures have reached to 69.4 and 30.4% respectively in the period 1986 to 2006. In Rasht these figures are 84.2% and 15.8% in 1986 and 76.1% and 23.9% in 2006 respectively.

Migration stream from villages to cities and from cities to villages in all over Guilan province in 1986 were respectively 79.1% and 20.9%. In Rasht urban region they were 77.3% and 22.7% and in Rasht were 80% and 20%. These figures reached to 74.9% and 25.1% in Guilan province, 75.3% and 24.3% in Rasht urban region and 78.9% and 21.1% in Rasht in 2006.

3-2- Physical Features:

Considering natural location of Guilan province, its cities are divided into two plain and foothill area. All cities in plain area have spatial and physical cohesion so their interactions are high. Regarding this cohesion in the context of these cities, two features could be seen: first line development and the other dispersion inside the context despite urban regions' cohesion. Most of the cities in foothill areas are more cohesive moreover they are also denser in shape and context.

In addition to climate factor, existence and formation of weekly markets have had a fundamental role in Guilan's cities creation. This economic factor causes creation of small and large cities in localities where own a proper communicational status whether in natural or substructure position.

Rasht urban region involves 5 cities which located in plain area. In this region besides Rasht city where has radial cohesion in context and development, with regard to passage of the main communicational axes, other cities are developed lineally. Existence of these axes caused a reciprocal cohesion and relation.

Population planning in cities of Guilan province illustrate that this province has one urban locality with 350 to 700 thousand population, three urban localities with 75 to 150 thousand population, six urban localities with 30 to 75 thousand population, ten urban localities with 10 to 30 thousand population, thirteen urban localities with 5 to 10 population and two urban localities with less than 5 thousand population. However in second population level, it means 150 to 350 thousand population, there is not any urban locality.

Population planning of the cities in Rasht urban region in 2006 demonstrates that in this region Rasht as an urban locality has 350-700 thousand population and also there are two urban localities with population between 75 to 150 thousand people and two urban localities with 30 to 75 thousand people.

Rasht city as a metropolis of Rasht urban region communicates with its surrounding cities via its four axes. It can be supposed three imaginary circles among Rasht city and its surrounding urban region. In the first circle Rasht city is located as a center of urban system with the most population and services. In the second circle, middle urban localities are located like a galaxy in distance of 5 to 10 kilometer from the city, finally in the third circle cities located in higher level from middle and lower level in distance of 20 to 40 kilometer from Rasht.

Rasht city is the inter and intra regional division locality for communicational networks so that one can move from Rasht to East, West, North and South and in fact it is possible to approach all cities in the region.

These cities communicate mainly by 4 major axes: Rasht-Roodbar, Rasht-Lahijan-Roodsar, Rasht-Bandar Anzali-Astara and Rasht-Fooman-Somesara. Communication between Rasht and Tehran, the capital of Iran, is provided by these axes. In addition the only air communication has been located in Rasht city.

Investigation in training services in Guilan province illustrates that the ratio of student to teachers is 25 people. This proportion is 26 and 33 people in Rasht urban region and Rasht city respectively.

Ratios of student to institutes are 159, 181, and 263 people in Guilan province, in Rasht urban region, and in Rasht respectively.

Ratio of student to classroom in the province is 27 people, in Rasht urban region is 28 people and it is 32 in Rasht city.

Surveying in health and therapeutic services have displayed that the ratio of a person to physician in the province is equaled to 1844 people, 1788 in Rasht urban region, and 1134 people in Rasht.

Ratio of a person to hospital bed are 759 people, 861 people and 407 people and Ratio of a person to drugstore are 6190 people, 4751 and 6376 people in Guilan province, in Rasht urban region, and in Rasht city respectively.

Review of the number of services references in Rasht, among cities in Guilan province and Rasht urban region has displayed that there are 12 first class and direct references and 25 second class indirect services references. In other words if services are not provided in one locality, references invade toward Rasht.

Distribution of Commercial higher services illustrates exclusive existence of all 14 types of services activities in Rasht. Bandar Anzali locates in the next level where provides 11 types of higher services and the other 3 types which related to financial, communication & transportation and private & technical aspects are accessible in Rasht exclusively. With regard to provide higher services, Rasht has located in the first level holding point 148 and Bandar Anzali has located in the second level holding point 35 while other city localities have located in the next levels with a high distances between the levels.

Investigation in urban land use planning of Rasht urban region has demonstrated that total urban land in these cities under various usages is 11782 hectare which 58.9% of it is residential, 13.4% is for public amenities, 5.4% is for productive and services usage and 22.4% is for other usage (mainly thoroughfares).

In Rasht this figures are 31.6%, 17.2%, 12.5% and 38.8% for usage observed above respectively.

3-3- Activities Features:

Researches in the distribution of employees in Guilan province according to mainly economic activities has displayed that 51.2% of employees involved in agricultural sector, 13.8% in industry, and 35 % in services in 1996. In 2006 those proportions have changed to 40.2%, 20.8% and 39% in the observed activities respectively.

Employee distribution in Rasht urban region in major economic activities in 1986 and 1996 have been 46.6% & 36.9% in agricultural sector, 15.6% & 22.9% in industrial sector and 36.9% & 40.5% in services sector. In Rasht they have been 36.5%, 29.6% and 45.5% in 2006 respectively.

Surveying in employment and unemployment in active population of Rasht urban region in the period 1976 to 2006 shows that activity rate have been 50.2%, 50.4%, 45.4%, and 41.5%, employment rate in the observed period have been 99.1%, 83.1%, 81.6% and 86.3% and unemployment rate have been 0.9%, 16.6%, 18.4%, 13.7% respectively.

Dependency ratio in Rasht urban region has reached to 2.8 from 3 people in the period 1976 to 2006. During 1995 to 2006 activity rate in Rasht has come to 39.9% from 49%, employment rate has come to 86.1% from 81.7% and unemployment has come to 13.9% from 18.3%. Studying about employment in private and public sector in Rasht urban region in the period 1995 to 2006 illustrates an increasing rate in private sector employees from 10.1% to 15.8% and in public sector employees from 20.9% to 26.1%.

4-3- Analysis of Information:

Guilan natural features illustrate two basic points in all over the province: first is actual and potential capability in terms of environmental resources such as: appropriate atmospheric condition, abundance of rainfall, existing groundwater in high level, existence of surface waters resources so that if there is an optimum program, they can be applied for job-creation in combination with other environmental resources such as appropriate soil, fertile lands, forest and tourism potentials.

Second point which is proposed around Guilan province environmental resources is limitation of Guilan extent and disharmony between population and capability of environmental resources in the province. Unbalanced distribution of population, illogical exploitation of resources, ever-increasing forest destruction, lack of limitation in surface water exploitation, not reinforcing the capability of tourism and mines of the province

caused agricultural resources become saturated so that its reinforcement is not possible except by reviving production methods, technical and specialized knowledge.

Review in Rasht urban region location against the entire Guilan province illustrates that although urban region is only 30% of the entire province, it appropriates 55.5% of the province population so that disharmony is latent between natural environment and the amount of population. Hence it would be followed by extra admission of population in urban region especially in Rasht city along with reduction in capability of agricultural economy beside destruction of surface lands which are under cultivation. The results show that urban region in general and Rasht city in particular face problems and straits as follow:

- Unbalance between environmental capability and amount of population
- Even more destruction of agricultural lands and changing them to physical structure
- Not logic and optimum exploitation from water resources
- Absolute attention to agricultural potential and sinking other economic resources into oblivion, affected by Guilan natural environment
- Ecological problems and events included from forests destruction
- Soil erosion and reduction of their capability
- Limitation of agronomic lands in all over the province

1-4-3- Major Environmental Capabilities Are as Follow:

- Enjoying rainfall which could be exploited reasonably for agricultural and industrial operations
- Fertile soil and lands
- Enjoying forest potential which could be exploited toward forest conversion industry
- Appropriate climate for life
- Existence of surface water and groundwater as an effective mechanism in Guilan economic development
- Enjoy of sea and other centralized and semi-centralized tourism and recreational sceneries
- Existence of mineral resources and oil of Caspian sea in Guilan province
- Particular geopolitics features of Guilan province in relation with countries in middle Asia which could be as a strong point in economy of Guilan and Rasht urban region

Population changes in Guilan province during 1976 to 2006 illustrate reduction in population growth rate from 2.8% in 1976s-1986s to 0.34% in 1996s-2006. Although this process had downward trend in urban localities, but the province urban localities have been enjoyed from a high growth rate so that during 1976 to 1986 growth rate of urban population was 5.4% and it was 3.5% during 1996 to 2006. Therefore ratio of the province urban population growth rate to total population of the province has been equaled to 10.3%. A glance at Rasht urban region development shows that while growth rate average of urban region population during 1976 to 2006 has been 2%, it has been 3% for urban localities of Rasht urban region. This problem illustrates the population invasion to urban localities of Rasht urban region.

Comparison of ratio of Guilan urbanization and urban region in different years demonstrates a great difference so that urbanization proportion in 2006 in entire Guilan province has been 46.8% but it has been 53.8% in Rasht urban region, therefore the percentage of changes has estimated 141.5%.

Among cities in Rasht urban region, Rasht has been always enjoyed a particular status and importance in population attraction so that from total population of urban region in 2006 about 67.7% has been resident in Rasht. Although proportion of population admission in all cities in urban region according to proportion of total population in urban region has a downward trend, Rasht has been enjoyed an upward trend.

As an indicator of invasion of suburban localities population to urban localities, the migrants' population demonstrates the importance and status of Rasht against other cities of Guilan province.

Population growth without job-creation and required structure for employment causes social problems which contains results such as inappropriate dwelling, slum-dwelling, unemployment, various social harms and Comparison of Rasht urban region activity rate against Rasht city illustrates low rate of activity in Rasht so that it has been 41.8% in urban region and 39.9% in Rasht in 2006. On the other hand the activity rate demonstrates relative reduction in urban region and in Rasht while this downward trend is more obvious in Rasht.

Dependency ratio and employment rate show similar consequences too. Dependency ratio in Rasht is always higher than urban region. While Rasht has more than 65.7% of urban region population, 54% of employees are owned by this city.

Analogy between Rasht city and Rasht urban region in terms of employees distribution for major economic activities illustrate that 36.9% of employees has worked in agricultural section, 22.9% of them has worked in industrial section and 4.5% of them has worked in services section while in Rasht they have been 36.5%,

29.6% and 49.5% respectively. Relative priority of employment in industrial section in Rasht in compare with Rasht urban region is obvious.

A glance at positioning of industrial units in Rasht urban area in compare with Rasht city shows spatial unbalance positioning of industrial units clearly so that Rasht as a metropolis placed most of industrial activity within itself.

Population planning in cities of Guilan province identifies Rasht as an only city locality with 350-700 thousand population while other cities have population of less than 150 thousand people therefore it illuminates the importance of Rasht city against other cities and emphasizes on limitation of Rasht development through reinforcing peripheral urban localities.

Methods and effective factors to genesis biological settlement such as cities and villages intensify dispersion of spatial and physical structure of settlements and as a result spatial unbalance in superstructures and foundation services.

A look at Guilan province population scope clarifies the spatial unbalance in population dispersion from 1976 to 2006.

Services positioning system in Rasht urban region and its comparison with Guilan province show spatial unbalance so that Rasht urban region has 58.2% of total subscriber of water in Guilan province and more than 57% of water supply facilities. This unbalance is obvious in residential and commercial section too.

Surveying in Rasht proportion in terms of subscribers of commercial and industrial power clarifies that 47.5% of those subscribers of urban region are belong to Rasht city so it illustrates centralization of commercial and industrial activities in Rasht. Priority of Rasht city against other indicators in contrast with core-peripheries which illustrates lack of urban hierarchy and supportive urban poles is obvious.

Most of major centers for educational services such as higher educational institute have been placed in Rasht city; therefore it has caused more centralization of population in Rasht, so that it has enjoyed of unpleasant position with regard to its periphery points considering educational indicators, but it has satisfactory therapeutic and spare time indicators which is due to centralization of specialists and therapeutic centers in Rasht in counter with periphery points.

Study in Rasht functional scope and its comparison with urban centers has shown that Rasht has been as the most major center for references of peripheral zones and its reasons are centralization of major service, official and political centers in Rasht and lack of cities in the second level and in functional scale parallel with Rasht city.

Investigation in superior service centers in Rasht urban region emphasizes that following centralization of population and activities in Rasht city, most of superior service centers distributed in Rasht and this process reinforces more tendencies of peripheries to Rasht.

Centralization of major service, industrial and other activities centers in Rasht which caused centralization and high population trend in this city, has made Rasht as a major city center over the province and it is not comparable by its surrounded cities in terms of population level so that there are great differences between them. One of the harmful effects of these events is destruction of agricultural lands and Rasht rapid development so that this development is obvious in economic, social, services and other dimensions. Due to existence of agricultural lands and as Rasht population density is increasing every year, this city has been faced fundamental limitation in terms of physical development. On the other hand with regard to migrant's social types which always had a major effect on urban population growth, Rasht sprawl performs as a limitation due to economic capacity and these limitations and other obstacles has provided the requirements of development of major peripheral regions where face problems such as level of services, facilities, house and other urban problems. Therefore limiting Rasht development and strengthening surrounding urban region in a middle level and comparable with Rasht are basic activities.

4. Compilation of the Aims for Rasht Urban Region Spatial Development Planning:

Review in Rasht urban region in terms of origin and destination places and communicational channels which illustrates major center of (Rasht) urban region, middle and second levels centers, consider all as spatial system and communicational links localities and spots that each has various problems by itself so that travel from major center to suburbs level two and three manifests the intensity and weakness of those different problems. The major problems in Rasht urban area which are considered in social, economic, environmental, spatial, physical and communicational dimensions are included different services and their distribution, activity and employment, communicational channels between urban regions and... (table 2).

In the first step, responding to the problems requires aims which are possible to achieve and nature of the problem generated by Rasht urban area spatial development should be brought into consideration, problems

which illustrate unbalance among different urban regions and exist in every of those cities and are related with the economic, social, spatial and physical affairs.

Generally relation among problems is based on two or multi lateral connection, in other words resolving a problem or its genesis is effective in resolving and genesis of other problem. Therefore compiled aims for problems are enjoyed from several features based on bilateral or multilateral relations. On the other hand to resolve a problem, it is needed to achieve several aims which the most major compiled aims are: controlling population growth, decrease in unemployment, balancing services system, creating production and industrial activities, strengthening and developing communicational channels and (table 3)

5. Strategy Compilation of Rasht Urban Region Spatial Development Plan:

Compiling strategy of Rasht urban region spatial development plan requires selecting different options and investigation in weak points and strong points and their likely effects on future development of urban region. So based on provided surveys four option are obtained. In the following we have considered their effects on Rasht urban region spatial development:

1.5. Various Scenarios & Selecting Superior Option:

Considering obtained conclusions, to compile strategy of Rasht urban region spatial development plan four option could be proposed and studied:

First option: developing and equipping Rasht peripheral urban region

Second option: Resolving limit development and growth in Rasht suburban regions

Third option: Resolving problems in suburban regions through developing services of Rasht city

Fourth option: Harmonic & balanced developing and equipping Rasht city and peripheral urban and rural region.

First Option: Developing and Equipping Rasht Peripheral Urban Region:

With regard to this option, compiling strategy of Rasht urban region spatial development plan causes type of disharmonic in the future development procedure. Although it is clear that problems an difficulty of Rasht peripheral urban area would be removed to some extent, but with regard to the population potential, problems of Rasht city would continue as before.

Second Option: Resolving Limit Development and Growth in Rasht Suburban Regions:

Operating the plan base on this option, in addition of increasing unbalance in present condition, will lead to over growth and development in Rasht city in long term and practically include in spatial unbalance.

Third Option: Resolving Problems in Suburban Regions Through Developing Services of Rasht City:

As Rasht city enjoys of higher development level in contrast with periphery urban region in the present situation, more services development and equipping without partial movement of those development to peripheral regions attracts more population to Rasht city and lead to lack of genesis of new urban localities and even growth limitation and accessibility to the present cities.

Fourth Option: Harmonic & Balanced Developing and Equipping Rasht City and Peripheral Urban and Rural Region:

Compilation of strategy of Rasht urban region spatial development plan with regard to fourth option which is based upon harmonic developing and equipping of Rasht city and peripheral urban and rural region lead to spatial balance in Rasht urban region which is according to a activity and services hierarchy system. In this system, planning in every peripheral region and even in Rasht city in its well-proportioned place get services to peripheral regions and on the other hand strengthens counter-communication between urban and rural localities of urban region. Compiled strategies have lead to two general development filed: services and communicational channels.

2-5- Strategies of Services Development in Urban Region:

Considering services potential, urban localities in the present situation and role of each city in terms of settlement position, urban hierarchy system, proportion of effectiveness on peripheral regions and on the other hand population potential and their role in urban system of the region are classified from point of getting services in order to provide and stabilize causes of balancing Rasht urban region spatial system. According to data and mentioned assumptions, cities of Rasht urban region are classified into 3 levels in services level:

Level 1: Among cities of Rasht urban region, Rasht enjoys the maximum service-population potential and on the other hand with regard to political position and position of resting in spatial bed of the region it is the most major urban locality in the present status. This position could be preserved by transferring some urban process to peripheral cities. Level 1 of services center suggested that in services hierarchy system it would responsible for getting services to all over the urban region.

Some of superior services of this city are: high level and professional services in education, health & therapeutic, commercial, official, cultural and religious and other social and economic institutes.

Level 2: Moving from spatial bed in Rasht urban region towards urban localities demonstrates that although these localities do not enjoy from sufficient ability to rival Rasht due to some special location of settlement and position in spatial bed center but they are able to be proper places to decrease rapid growth and even more polarization of Rasht. Therefore to limit Rasht spatial development through peripheral urban region by settlement services, cities such as Bandar Anzali, Fooman and Soomesara are suggested as centers level 2 for getting services where to undertake some service operations of urban regions. These services are: Educational, health and therapeutic, official & commercial, Cultural & religious services and other economic and social institutes which are lower than level 1 services such as: universities, public and semi-specialized hospitals, General Administrations, wholesales and...

Level 3: Service centers level 3 are included urban localities where are small in population and services. Of course they are placed between level one and level two and in the present situation they undertake some service functions. This level also includes rural-district centers and rural localities where have potential to become city in the future. Services level 3 which are responsible for services required in mentioned cities and peripheral villages would be settled in those localities and its role is limited to rural system centers and settlement services such as: district-governor's office, health and therapeutic centers, technical schools, rural services centers, promoting weekly markets, wholesales and mechanized services lower than level 2.

3-5- Strategies of Communicational Channel Development:

Weakness in communicational channel over Rasht city is considerable from two dimensions: the first is insufficient capacity and protection from communicational channel and the other is simplicity in communication between urban localities. Something that should be considered about the second case is that urban region does not have enough capacity of development and new roads construction. Therefore to develop communicational channel between urban regions, it is necessary to proceed following procedures:

Table 1: An outline of natural, physical and activity features in Guilan province and Rasht urban region

Topic	Summation indicators
Natural features	-Surface area of Guilan province: 14820 -The province location: North to Azerbaijan Republic, Caspian Sea, South to Ghazvin, West to Zanjan & Ardebil, East to Mazandaran province -Natural distribution: Plain, foothill-mountainous -Political distribution of Rasht urban region: Consisting five city Bandar Anzali, Astaneh Ashrafieh, Soomesara and Fooman -Rasht urban region's surface area to Guilan province: 30% -Ratio of urban region to the province: 56.2 -The province climate: humid, semi-dry, dry -Annual amount of rainfall: 381-2000 -Average of annual temperature: 16.6 °C -Evaporation rate: 800-1200 milliliter -Prevailing wind: North, North East-North West
Population features	-The province population in 2006: 2,241,894 -Population growth rate in the period 1996-2006: 0.34% - Urban population growth rate in the period 1996-2006: 3.5% -Rural population growth rate: in the period 1996-2006: -2% -Ratio of urbanization in Guilan province in 2006: 46.8% Rasht urban region -Population of Rasht urban region in 2006: 1,259,600 -Population growth rate of total Rasht urban region in the period 1996 to 2006: 0.59% -Urban population growth rate, Rasht city in the period 1999 to 2006: 3% -Rural population growth rate of Rasht urban region in the period 1996 to 2006: 0.85% -Rasht urban region urbanization ratio in 2006: 53.8% -Fluctuation percentage of Rasht urban region population in 2006: 141.5% -Population ratio of Rasht urban region from total population of Guilan province in 2006: 56.2% -The average household in Guilan province in 2006: 4.3 -The average household in Rasht urban region in 2006: 4.2 -Percentage of people born in the cities where census was taken from migrants entered in Rasht urban region in 2006: 41%

Table 1: Continue.

	<ul style="list-style-type: none"> -Percentage of people born in other cities in Guilan province from migrants entered into Rasht urban region in 2006: 21.2% -Percentage of people born in other cities in Iran from migrants entered into Rasht urban region in 2006: 26.8%
Physical & activity features	<ul style="list-style-type: none"> -Number of employees in agricultural section in Guilan province in 2006: 40.2% -Number of employees in Industrial section in Guilan province in 2006: 20.8% -Number of employees in Services section in Guilan province in 2006: 39% -Number of employees in agricultural section in Rasht urban region in 2006: 36.9% -Number of employees in Industrial section in Rasht urban region in 2006: 22.9% -Number of employees in Services section in Rasht urban region in 2006: 40.5% -Employment ratio in active population of Rasht urban region in 2006: 86.3% -Unemployment ratio in active population of Rasht urban region in 2006: 13.7% -Dependency ratio of Rasht urban region population in 2006: 2.8% -Employees in private section in Rasht urban region in 2006: 15.8% -Employees in public section in Rasht urban region in 2006: 26.1% -Physical structure of cities: linear development- diffusion into the structure beside urban region coherence -Number of cities in Rasht urban region: 5 cities -Location of Rasht city in urban region and in Guilan: Center of intra and inter urban region
communication	<ul style="list-style-type: none"> -Population planning: The major city in Rasht urban region is Rasht where is located in 350-750 thousand population level and most of the cities in urban region have less than 150 thousand population.
Activity-physical features	<ul style="list-style-type: none"> *Guilan province educational indicators -Ratio of student to teacher: 25 people -Ratio of student to institute: 159 people -Ratio of student to class: 27 people *Rasht urban region educational indicators -Ratio of student to teacher: 26 people -Ratio of student to institute: 181 people -Ratio of student to class: 28 people *Rasht city educational indicators -Ratio of student to teacher: 33 people -Ratio of student to institute: 263 people -Ratio of student to class: 32 people *Guilan province health and therapeutic indicators -Ratio of people to doctor: 1844 people -Ratio of people to hospital bed: 759 people -Ratio of people to drugstore: 6190 people *Rasht urban region health and therapeutic indicators -Ratio of people to doctor: 1788 people -Ratio of people to hospital bed: 861 people -Ratio of people to drugstore: 4751 people *Rasht city health and therapeutic indicators -Ratio of people to doctor: 1134 people -Ratio of people to hospital bed: 407 people -Ratio of people to drugstore: 6376 people
Activity-physical feature	<ul style="list-style-type: none"> *Number of services references to Rasht city -First class & direct reference: 120 cases -Second class & indirect reference: 25 cases -Surface area of cities in Rasht urban region in 2006: 11782 Hectares -Surface area proportion of Rasht urban residential regions in 2006: 58.9% -Surface area of Rasht Public welfare activities in 2006: 13.4% -Surface area proportion of production and services activities in Rasht city in 2006: 5.4% -Other uses: 22.4% -Rasht city surface area: 6443.8 Hectares -Surface area of Rasht city residential regions in 2006: 31.6% -Surface area of Public welfare activities in 2006: 17.2% - Surface area proportion of production and services activities in 2006: 12.5% -Other uses: 38.8%

Table 2: problem of Rasht urban region in terms of general field with regard to origin, destination and communication

Explanation	General fields	Problems
Origin	Social-economic structure	-High population growth included from migration -Migration from villages and cities to Rasht city -Unemployment in Rasht city
	Biologic	-Pollution of rivers -Rivers' uplift water level
	Spaces & Activities	-Shortage of educational environment -Unbalanced distribution of educational environment -Unbalanced distribution of health and therapeutic facilities -Centralization of official & commercial centers -Defying subagency principles between land uses -Shortage of provided green spaces -Destruction of green spaces
Destination	Social-economic structure	-High population growth included from rustic migrants -Unemployment
	Biologic	-Pollution of rivers -Rivers' uplift water level
	Spaces & Activities	-Shortage of educational environment -Shortage of health & therapeutic environment -Unbalanced distribution of health & therapeutic environment -Lack of industrial activities -Defying subagency principles between land uses -Shortage of provided green spaces -Destruction of green spaces
Communicational channel	Channels & communications	Establishment of linear workshop unit along by major paths -Low quality of foundations & superstructures of paths -Industry of Communicational channel -Tangency of inter & outer urban communicational channel inside cities -Creation of traffic tangle - High cost of travelling

Table 3: Aims and strategies for spatial development of Rasht urban region. communication

Level	Filed	Problem	Aims	Strategies	Local	Developmental	Behavioral
Origin	Economic & Social structure	High population growth	Controlling population growth	Balanced distribution of services in cities and villages, observing services hierarchy system	*	*	*
		Migration from villages and cities to Rasht	Controlling migration	Creation job opportunities in cities and villages of Rasht urban region	*	*	
		Unemployment in Rasht	Decreasing unemployment	Identifying potential capabilities for job-creation Creation of economic-industrial foundations which are according to export samples in relation with middle Asia			
	Biologic	Rivers' pollution	Preventing rivers' pollution	Creating health system to domestic, industrial waste disposal & purification	*	*	
		Rivers' uplift water level	Preventing from rivers' overflow	Organizing and identifying rivers' boundary	*	*	*
	Spaces & activities	Inadequacy of educational environment	Providing required educational environment according to population growth	Increasing credits for development plans in educational section			*

Table 3: Continue.

		Unbalanced distribution of educational environment	Controlling unbalanced educational environment	Increasing people participation by proper promotional methods			*
				Locating educational environment according to proper distribution plan of educational environment	*		*
				Hierarchy distribution in educational environment	*		*
		Unbalanced distribution of health & therapeutic facilities	Balancing spatial system of health and therapeutic centers	Proportionate planning to distribute health and therapeutic spaces	*		*
		Centralization of official & commercial centers	Decreasing centralization in official & commercial sections	Observing hierarchy system			*
		Defying subagency principles between land uses	Transferring more official & commercial roles to Rasht suburban region	Changing improper land uses and replace them with proper land uses	*		*
			Observing subagency principles between land uses	Compile & reforming executive rules & standards			*
		Shortage in green spaces	Providing green spaces into standard extent	Locating and creating green spaces	*	*	
				Increasing credits for development plans to develop green space			*
		Destructing green spaces	Preventing from green space destruction	Compiling executive rules and standards			*
				Reinforcing municipalities		*	
Destination	Social & economic structure	Relative urban population growth due to rustics migration	Controlling population growth	Balanced service distribution in villages and observing hierarchy system	*		*
		Unemployment	Decreasing unemployment	Creating job opportunity	*	*	
				Identifying potential capabilities for job creation	*	*	*
				Creating & developing industrial states in Rasht urban regions	*	*	
	Biologic	Rivers' pollution	Prevention g from rivers' pollution	Creating health system and domestic & industrial disposal waste and purifying them	*	*	
		Rivers' uplift water level	Preventing from rivers' overflow	Organizing and identifying rivers' boundary	*	*	*
	Spaces & Activities	Inadequacy of	Providing required educational environment	Increasing credits for development plans in educational section			*
			According to Population Growth				
		Unbalanced distribution of educational environment	Balanced distribution of educational environment	Increasing people participation by proper promotional methods			*

Table 3: Continue.

				Locating educational environment according to proper distribution plan of those	*		*
				Hierarchy distribution in educational environment	*		*
		Shortage in health and therapeutic centers	Providing health & therapeutic centers	Increasing credits for development plans in health & therapeutic section			*
				Employing specialist staffs			*
				Providing and equipping health and therapeutic environments	*	*	
		Unbalanced distribution of health & therapeutic centers	Balanced distribution of health and therapeutic centers	Proper planning to distribute health and therapeutic centers	*	*	
				Observing hierarchy system			*
		Lack of developing activities	Creating and developing industrial activity	Creating and developing industrial states	*	*	
		Defying subagency principles between land uses	Observing subagency principles between land uses	Changing improper land uses and replace them with proper land uses		*	*
		Shortage in green spaces	Providing green spaces into standard extent	Locating and creating green spaces	*	*	
				Increasing credits for development plans to develop green space			
		Destructing green spaces	Preventing from green space destruction	Compiling executive rules and standards			*
				Reinforcing municipalities			
Communi- cational channels	Communi- cations & channels	Establishing Linear workshop unit along by major roads	Preventing to establish linear workshop	Organizing present and troublesome workshop to construct workshop garage	*	*	*
		Low qualification of roads' foundation & superstructure	Increasing roads' qualification into standard extent	Observing technical principles & standards to construct roads			
				Increasing development credits in road construction			*
		Weakness in communicational channels to spatial distribution	Balancing spatial distribution of communicational roads	Constructing new roads	*		
				Observing hierarchy system in communicational channels		*	
		Tangency in inter & outer urban communicational channel inside cities and Creation of traffic tangle	Removing traffic tangles and prevention from tangency in roads of city centers	Creating in cities' suburbs	*		

Table 3: Continue.

High cost of travelling	Decreasing travel cost	Providing public transportation Planning and organizing public transportation	*
-------------------------	------------------------	--	---

Table 4: measure of importance in the present roads and under construction

Roads	Measure of importance	
	Main road	Side road
Construction & completion of Fooman-Shaft-Saravan road	×	-
Widening & expanding communicational Rasht-Khomam-Bandar Anzali road	×	-
Widening & expanding communicational Rasht-Foomna-Somesara road	×	-
Widening & expanding communicational Rasht-Shaft road	-	×
Widening & expanding communicational Rasht-Astaneh Ashrafiyeh road	×	-
Widening & expanding communicational Khomam-Lashtenesha-Astaneh Ashrafiyeh road	-	×
Development & widening rural roads and their communicational roads with service centers level 2 & 3	-	×
Widening & expanding coastal line road Bandar Anzali-Kiashahr-Astaneh Ashrafiyeh	×	-

Table 5: Currently suggested roles for Rasht urban region roads.

Road	Current role	Suggested role
Fooman-Shaft-Saravan Road	Under construction	Inter Regional, Regional, Zonal
Rasht-Khomam-Bandar Anzali Road	Inter Regional, Regional, Zonal	Keeping present role
Rasht-Fooman-Somesara Road	Zonal	Keeping present role
Rasht-Shaft Road	Zonal	Keeping present role
Rasht-Astaneh Ashrafiyeh Road	Inter Regional, Regional, Zonal	Keeping present role
Khomam-Lashtenesha-Astaneh Ashrafiyeh Road	Zonal	Keeping present role
Bandar Anzali-Kiashahr-Astaneh Ashrafiyeh Road	Zonal	Regional, Zonal
Development & widening rural roads	Rural & urban function	Keeping present role

6. Conclusion:

Planning to limit Rasht city development by granting immediate accessibility to amenities in suburban region with regard to its own conceptual spatial requires economic, social, spatial and physical information from its region. Therefore to provide proper background to compile practical strategies, at first common theories in development was studied and then economic, social, spatial and physical information analyzed. Following those results, 4 scenarios proposed and the superior option to compile plan strategies has been selected.

Considering aims in origin, destination and communicational channels, compiled strategies in this study has been proposed in terms of local distribution and their relations. With regard to their orientation which has local, developmental and behavioral aspects, those strategies could concluded in balanced genesis and distribution of services, identifying capacities and capabilities of job-creation, removing environmental obstacles limitations, genesis of a hierarchy system, improving and developing communicational channel, simplicity in communication, modifying polarization and centralization, increasing credits for economic development and growth and alteration in spatial structures in Rasht urban region.

REFERENCES

- Andrew, K., Copus. 2001. 'From Core-periphery to Polycentric Development: Concepts of Spatial and Aspatial Peripherality', *European Planning studies*, 9(4): 539-552.
- Bhatt. V.V., 2007. 'Theories of Balanced and Unbalanced Growth: A Critical Appraisal', *Kyklos*, 7(4): 612-626.
- Christaller, W., 1933. *Die zentralen Orten in Suddeutschland*, München.
- Calthorpe, Peter, and William Fulton., 2001. 'The Regional City: Planning for the End of Sprawl'. Washington: Island Press.
- CAMPBELL JOHN., 2006. 'A Note on Growth Poles', *Growth and change*, 5(2): 43-45.
- Edwin, S., Mills, W. Bruce Hamilton., 1994. 'Urban Economics' 5th edition. New York :Harpercollins College Div.
- John, B. Parr, 1999. 'Growth-pole Strategies in Regional Economic Planning: A Retrospective View', *Urban Studies*, 36(7): 1195-1215.
- John, B. Parr., 1973. 'Growth poles, regional development, and central place theory', *Regional Science*, 31(1): 173-212.

