

EFFECTS OF CENTRALIZATION IN SMALL TOWNS ON SPATIAL ORGANIZATION OF RURAL SETTLEMENT (CASE STUDY: KANG & DEHBAR VILLAGE)

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ABSTRACT: *Centralization on small towns is led to functional changes in rural settlement. These changes are difference between rural settlements based on center city. On the other hand, given structural role of central cities, these cities have parasite influence on affective villages. The methodology of this study is descriptive –analytic and collecting data is done by documents-library. The data are generally gathered from scientific centre libraries like universities, organizations, institutes and research centers such as management and planning organization and internet, official statistics and censuses, urban development plans by consulting engineers, field study and so on. Also, was used from questioner tool.*

KEYWORD: Decentralized, Small Towns, Spatial Organization, Rural Settlement, Debar and Kang Village

INTRODUCTION

Small towns and small town life are sometimes idealized in movies and the media and perhaps in our own memories as well. While actual small towns may not measure up to those imagined places, they do offer a real alternative to life in the big city. This alternative has grown more attractive as the quality of life in many urban areas has declined with congestion, crime, and the rising cost of living. Two other unfavorable aspects of urban life sometimes noted are the “placeless-ness” of many cities, and the reduced status of the individual within large, concentrated populations. “Placeless-ness” describes the phenomenon of clogged, often featureless, multi-lane highways leading past national chain stores and restaurants to reach look-alike residential developments. For these reasons, many people in the South—particularly those from predominantly rural family backgrounds—find small town or rural life increasingly appealing.

Debates on the nature of rural-urban relations hold a prominent position in development theory and planning. Discussions in the 1950s centered on whether towns played parasitic or generative roles in their relations with their rural hinterlands. As originally argued, generative forces of modernization associated with urbanization were hypothesized to outweigh possible parasitic impacts on rural areas (Singer 1964). The Lewis model of economic development widely adopted at the time also accepted the idea that economic growth and modernization required a transfer of surplus from an assumed moribund agricultural sector to urban-industry, thus justifying the appropriation of rural resources, labor and capital by cities in the name of longer term national economic development (Dahms & McComb, 1999). The general policy

prescription derived from the Lewis and related models called for an acceleration of urban-industrial growth and the transition to an urban-based society. The concern raised in many Asian countries up to the 1970s was that levels of urbanization were very low and that the push of rural poverty was causing rural-urban migration to create an involute, distorted urban growth process based on the expansion of low-productivity urban services rather than on the dynamics of industrialization. Whether from a modernization or economic perspective, the prevailing view was that increasing the pace of a more “authentic” pattern of urban-industrial development was needed to compensate for inherent limitations in rural development. From the late 1950s, an opposing view emerged in a new field of regional planning that was built, in part, on core-periphery and spatial polarization models, which observed that in most developing countries the benefits of economic growth increasingly concentrate in one or a few core urban regions. The principal thesis of these models was that the benefits accruing to the core were at the expense of the rural periphery. Cities organized rural areas to serve urban interests, resulting in net capital outflow, brain drain and other resource transfers that lowered rather than raised the potential for rural areas to develop. Cities actively exploited rural areas, with rural poverty and rural-urban migration not emanating from the isolation of rural from urban areas, but rather from the tightening of rural and urban linkages (Stockdale, Findly, & Short, 2000). The further observation that rural areas were often transformed into overly-specialized single-crop or natural resource economies to serve urban-based corporate interest fit into the parallel emergence of dependency (Giordani & Ruta, 2011).

In "Satiran" report of republic Islamic Iran, the indicator of selecting of small town is 5000 – 25000 people (Haris & Tanaka, 2002). The researchers haven't believed about small town boundary. So they have problem (Owusu, 2005:19).

RESEARCH LITERATURE

Spatial organization factors

Organization is discipline between factors of set. The components of spatial organization are:

- Nods: villages, industrial area and etc
- Networks: roads, gas or power lines
- Zones: rivers, jungles, seas, desert

There is thus a need for a new paradigm of spatial development for policy formulation. Such a paradigm would have to overcome a number of major obstacles, including the dichotomization of planning into rural and urban planning bureaus that promote rivalry rather than collaboration and administrative divisions that separate cities from their hinterlands in planning and management at local levels. In addition, mechanistic models of spatial and development processes, most of which focus on urban nodes rather than rural regions, need to be put aside in favor of efforts to include local variations in rural-urban linkages in identifying components of a national spatial system.

By way of exploring how a new paradigm of rural regional development can be constructed from local level research on rural-urban contrast the growth pole concept with an alternative regional network (cluster) concept, the latter of which incorporates rural and village structures

with rural-urban linkages and flows. shows, first, that whereas growth poles have been single-mindedly focused on urban-based manufacturing as the leading sector for regional development, a regional network approach recognizes the multispectral nature of local level development in rural region and acknowledges the role of regional resource endowments and already existing activities rather than limiting the prospects for local development to inducements to decentralize footloose industries from core regions. Building networks allows for a variety of sources of economic growth and does not assume that each will be urban based. Bulk-losing processing and agro-industry, for example, may be more efficiently located near the fields or along major transport routes, including waterways, rather than in cities or towns (Mike Douglass, 1998: 2).

Rondinelli Theory

Decentralization embraces a variety of concepts, the feasibility of which must be carefully analyzed in any particular country before pursuing decentralization policies. Rondinelli and Nellis define decentralization from an administrative perspective as ‘the transfer of responsibility for planning, management, and the raising and allocation of resources from the central government and its agencies to field units of government agencies, subordinate units or levels of government, semi-autonomous public authorities or corporations, area-wide, regional or functional authorities, or nongovernmental private or voluntary organizations’. Decentralization also can be defined as a situation in which public goods and services are provided primarily through the revealed preferences of individuals by market mechanisms. Public choice theorists contend that, under conditions of reasonably free choice, the provision of some public goods is more economically efficient when a large number of local institutions are involved than when only the central government is the provider (Ostrom et al., 1961; Buchanan and Tullock, 1962). A large number of providers offer **citizens** more options and choices. These options can be packaged as different ‘market baskets’ of goods and services that meet the needs of different groups of users. In more advanced economies people can select among local areas providing different combinations of services and facilities by moving to communities with the combination they desire (Tiebout, 1956; Olson, 1965; Ostrom and Ostrom, 1977).

Regional Network Approach

Mike Douglass has been studied the role of town in rural area. Figure 1 shows the relation between city and village .In view of the limitations of growth centers and urban functions in rural development approaches discussed above, rethinking the role of cities in rural regional development raises the question of how to bring rural and urban development potentials and complementarities together in the planning process. A point of departure for addressing this question is to recognize that the functions and roles played by cities in most rural areas are outcomes of interdependencies that have no one-way urban-to-rural causality. Rather, ruralurban relations need to be seen as being mutually reinforcing. These relationships are summarized in figure 1, which shows that for every role of a city, there is a necessary role to be played by its hinterland. As the table indicates, towns in rural regions act as higher-level market centers of agricultural and rural commodities for both regional and extra-regional sales and distribution. Since the town-centered marketing functions cannot exist without significant levels of marketable surpluses being produced in rural areas, it follows that town and countryside are mutually dependent. To expand production rural producers need marketing networks provided by towns and the urban system; but without continued expansion of agriculture and agro-based processing activities, rural towns cannot be expected to grow.

Similarly, intensification of agriculture will necessitate the appearance of shops in towns to supply increasingly sophisticated inputs and repair facilities that a single village cannot economically sustain. Continuing down the list of relationships in Table 1, a major source of growth of rural towns is increasing demand for non-agricultural commodities for rural household consumption. Research has identified this as the single most important factor for the growth of rural towns (Gibb, 1986; Somluckrat, 1990). As in the other relations, the ability of towns to act as consumer convenience centers rests on increasing rural prosperity and rising real incomes not just for a few farmers, but for the majority of rural households.

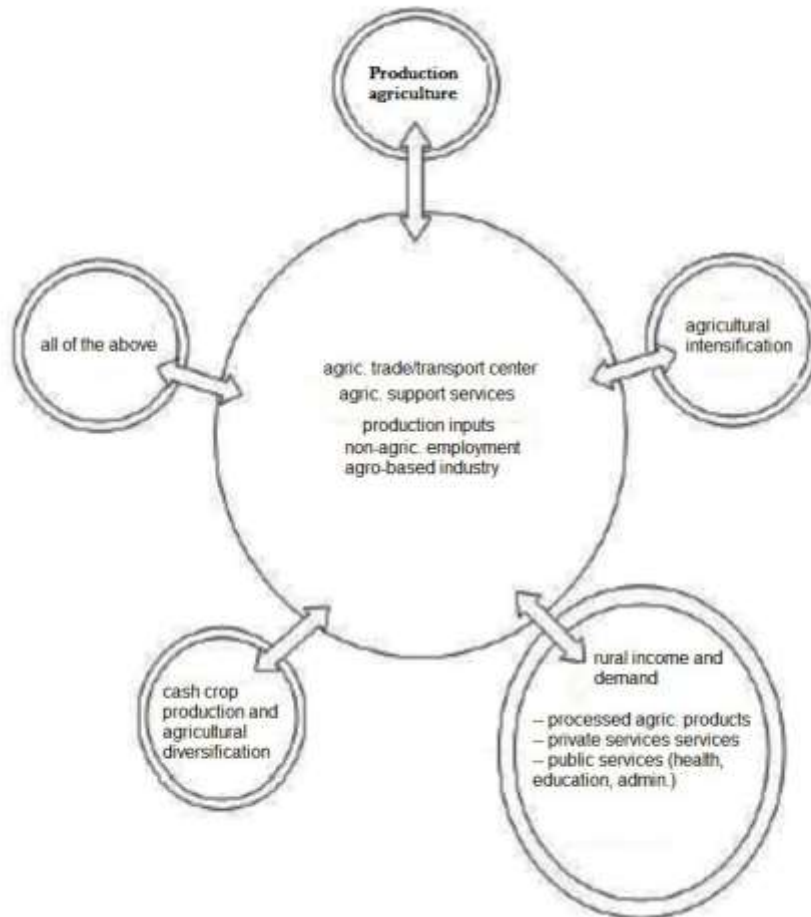


Figure 1 : relation between urban and rural area

Mike douglass studied feature regional network paradigm . they are :

The contrasts between the growth pole and regional cluster paradigms are schematically shown in table 1. The network concept is based on three principal considerations. First, variations in rural-urban linkages are great even among in the hinterland of the same principal town; a clustering villages and towns into a regional unit of development can therefore take advantage of the diversity as well as complementarities among various centers and between each center and its immediate hinterland within a given region. It does not rely on a single center to lead regional growth. Relations among centers are more horizontal, complementary and reciprocal.

Second, such clusters already exist, even if in a rudimentary form. Interaction among villages and towns, rather than being confined to dyadic relationships between village-town pairs, form localized networks with varying degrees of intensity across the region and beyond. Such clusters can be identified and demarcated in the initial instance by using existing flows of goods and people among settlements. In the case of Indonesia, for example, regional networks were identified by using data showing the frequency of bus, truck and automobile movements among settlements (Douglass 1984). The third consideration is that a cluster of well connected and highly interactive rural and urban settlements may be better able than a single growth pole to provide a level of agglomeration and economic diversity to act as an antipode to the growth of core metropolitan regions. Given the reduction of time distances among settlements made possible by modern transportation and communications systems, somewhat dispersed towns and villages can be linked together to form an effective range of daily interaction that would have been impossible in most rural regions only a decade or two ago. A more robust regional economy covering a wider spatial scale than a single town and its hinterland and offering a wider array of economic activities can also more readily weather the vagaries of external price shocks and shifts in demand and resources. Greater potential would also exist to capture upstream and downstream linkages and multiplier effects in the region.

Table 1 : Regional network approach

Settelments	Social – economic relation
<ul style="list-style-type: none"> ❖ Natural environment & source <ul style="list-style-type: none"> • Environment • Basic source ❖ Built environment <ul style="list-style-type: none"> • Village (road , bridge , housing) • City (water , sanitation , connectivity) • Region (power , commercial center) ❖ Spatial system <ul style="list-style-type: none"> • Rural population density • Urbanism levels (number of town , terrefic folw) • Accessing between urban center and rural area • Connectivity • Migration between regional 	<ul style="list-style-type: none"> ❖ Social – cultural and economic relation ❖ Rural economic structure <ul style="list-style-type: none"> • Complex between basic sectors • Distributing of workforce ❖ Producing rural system <ul style="list-style-type: none"> • Distributing land and ownership • Organizations of Production

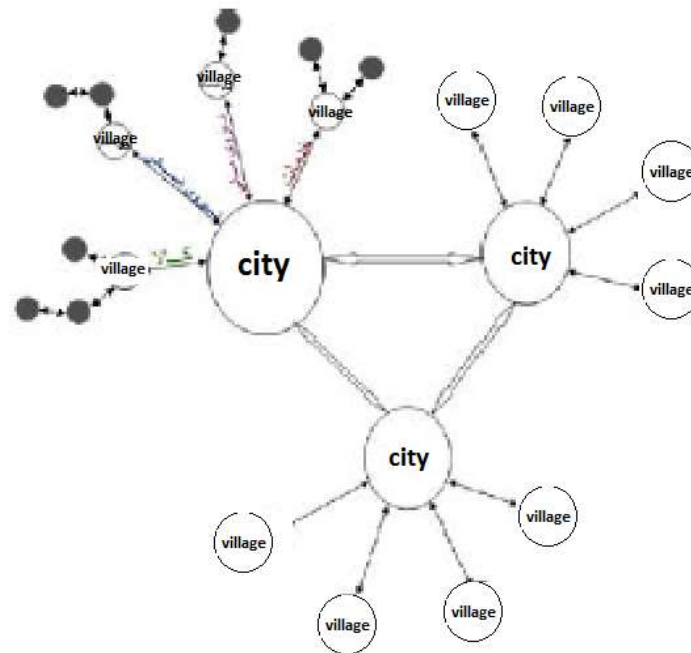


Figure 2 : regional networks

RESEARCH METHOD

This research attempt that answer three question. They are:

- Which elements effect in regional development Torghabeh and Shandiz with the network approach?
- How create balance in Torghabeh and Shandiz by using of network development at the regional level?

The methodology of this study is descriptive –analytic and collecting data is done by documents-library. The data are generally gathered from scientific centre libraries like universities, organizations, institutes and research centers such as management and planning organization and internet, official statistics and censuses, urban development plans by consulting engineers, field study and so on. Also, was used from questioner tool.

Studied Area

"TORQABEH-SHANDIZ" county has been located in west of Mashhad metropolitan .This county is divided into four districts TORQABEH, SHANDIZ, ABARDEH and JAQARGH. "GANG village" are located 23 Km from Mashhad and 16 km from TORQABEH. The village is located on a hillside Binalood. Also, it has beautiful landscape. The fabric of village has historical value. Monuments attract tourism to this village.

"DEHBAR village" has been located 16 kilometers from TORQABEH and 23 kilometers Mashhad. The landscape of village is stair. The fabric of village according to natural shape .

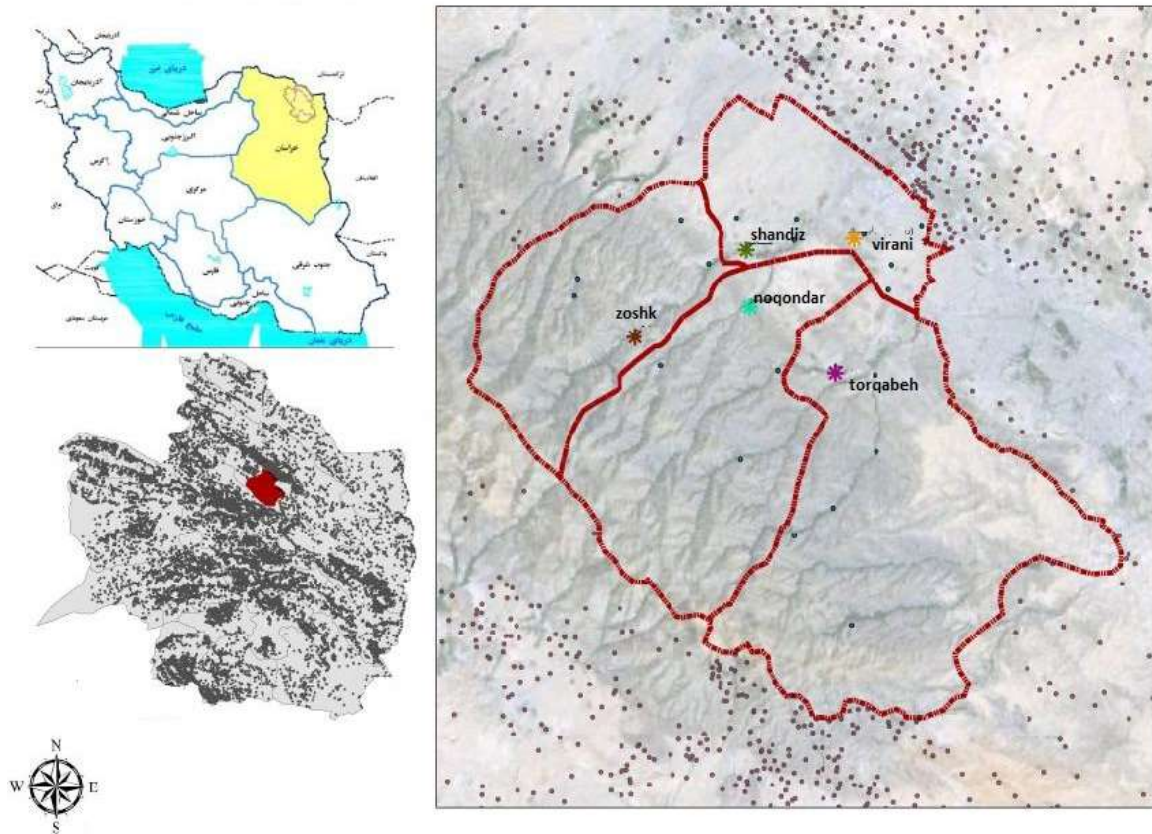


Figure 3: studied area

RESULTS & DISCUSSION

Information and data are classified into three elements of spatial organization. Information about the settlements, in the nodes, information about natural and unnatural on the network, information about geological zone in zone parts, is classified.

Population information of nodes

As mentioned, this information in three periods is as follows (Table 2)

Table .2: Population information

Row	Village name	Population1375	Count of family 1996	Population 2006	Count of family 2006	population 2011	Count of family 2011	growth rate 1986-1996	growth rate 1996-2006	growth rate 2006-2011
1	Torghabe city	9982	2418	1320	3673	16718	5067	1.13	2.83	4.84
2	Kang Village	1192	285	1472	354	799	271	-6.06	2.13	-11.50
3	Dehbar Village	609	154	454	124	328	114	6.35	-2.89	-6.29

The concentration of population for Torghabe ,Shandiz, hesar-e- sorkh and hesar-e- golestan are equivalent to 119.84, 59.25, 30.97, 50.69 .

Education Status

Educational status of the nodes is in the Table3.

Table .3: Number of training units at different levels

Row	Residential Units	Count of elementary school 2011	Count of elementary school 2006	Count of elementary school 1996	Count of Middle School 2011	Count of Middle School 2006	Count of Middle School 1996	Count of High School 2011	Count of High School 2006
1	Torghabeh city	6	7	5	4	3	4	4	1
2	Kang Village	1	2	2	1	2	2	0	0
3	Dehbar Village	1	1	0	1	0	1	0	0

Hygiene status

In 1996, 2006 and 2011, three settlements have health centers. Torghabe city in all three rounds and Dehbar and Kang village in 2011 year have doctors. Notably, Torghabeh city in all three rounds have dentist and Dehbar and Kang village have started its activities since the 2011's.

Service status

During the mentioned years ,Torghabe urban node, had a post office and Cooperative enterprise. Kang village has had post office in these years and in periods of 1996 and 2006 has had cooperative enterprise. In Dehbar village, there was post office in second period and after it has been disabled. Meanwhile this village has had no Cooperative enterprise in three rounds. In the Table 4 indicates the other indicators of services.

Table: 4: Service status

Row	Nodes name	Count of Restaurants 1996	Count of Restaurants 2006	Count of Restaurants 2011	Telecomm unication share 1996	Telecomm unication share 2006	Telecomm unication share 2011	ADSL Status		
								Has been set up and installed	Instal ling now	Not have
1	Torghabe city	15	18	21	2000	5000	8000	✓		
2	Kang village	0	4	0	0	256	512	✓		
3	Dehbar village	0	0	0	0	176	176		✓	

Economic status

The employment's percent of residents nodes in each of the economic sectors (services, agriculture and industry) is in Table5.

Table 5: The economic situation of nodes

Row	settlements	year	1996	2006	2011
		Economic sectors			
1	Torghabe city	services	50/4	72/9	65/4
		industry	38/3	23/7	28/8
		agriculture	10/4	3/3	5/8
2	Kang village	services	5	5	25
		industry	0	0	10
		agriculture	95	95	65
3	Dehbar village	services	20	20	0
		industry	0	0	100
		agriculture	80	80	0

Networks

Networks are classified into two categories: natural and synthetic. The natural networks include rivers, gardens and so on. Artificial or unnatural network includes road network and electricity, gas grids .The Natural network can be seen on Torghabe-shandiz area in figure 4.

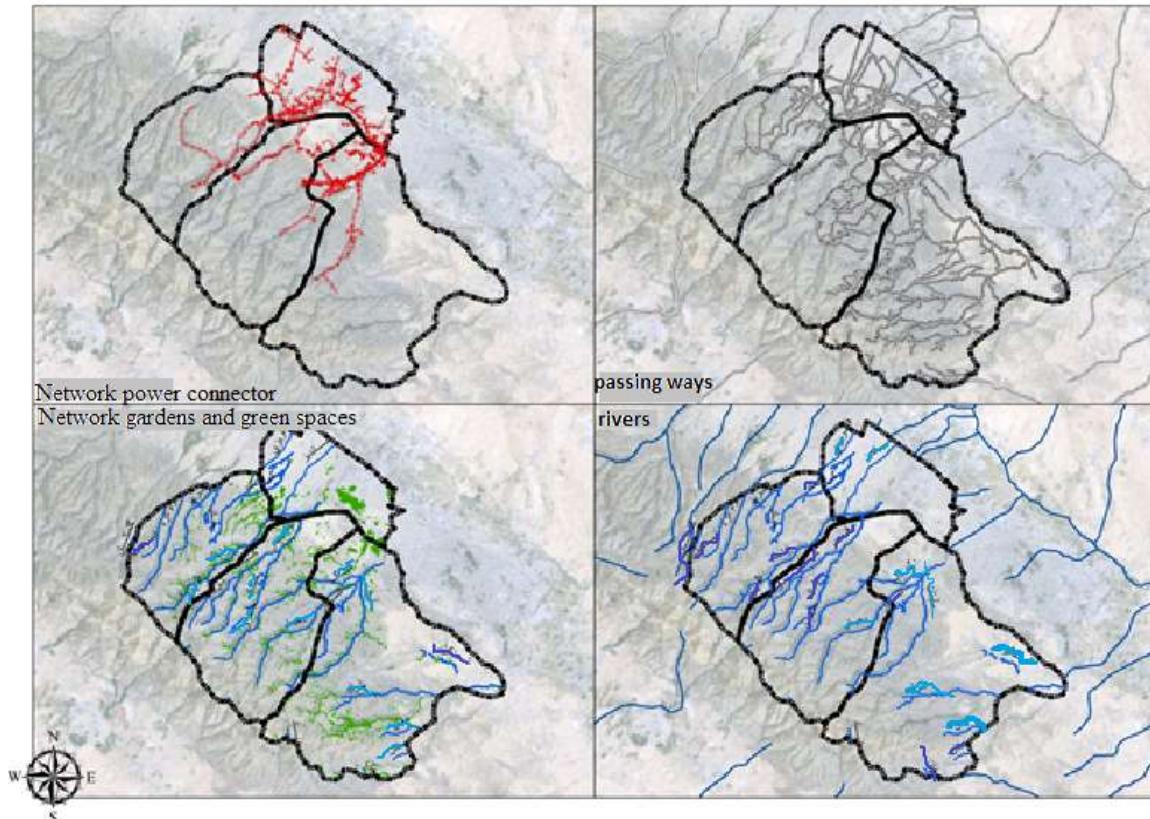


Figure 4: Networks

The infrastructure status

The numbers of power subscribers during the mentioned period have come in Table 6.

Table6: The numbers of households with electricity

The numbers of households with electricity in 1996	The numbers of households with electricity in 2006	The numbers of households with electricity in 2011	Nodes name	Row
2361	3835	6375	Torghabe city	1
9	30	112	Kang Village	2
10	10	144	Dehbar village	3

Gas networks

Gas transmission operations to the Torghabe city have start in 2000. Torghabe in 2001, Shandiz and Noghondar in 2002, Zoshk in 2007 and Vayrani village in 2008 onwards has been gas transmission pipeline.

Telecommunication networks

The following statistics on number of subscribers for telecommunications in the specified time periods have come in Table7.

Table 7: The number of subscriber's telecommunication

Row	Residential Units	The number of subscribers in 1996	The number of subscribers in 2006	The number of subscribers in 2011
1	Torghabe	2000	5000	8000
2	Dehbar	0	176	176
3	Kang	0	256	512

Agro-Ecological Classification

Appropriate area:

Information collected in this section involves soil type, texture of soil and soil unit. Because of the importance of soil at loading applications, proportional applications to each soil type were evaluated. By overlaying the information, the map below (figure 5) which indicates the type of loadable land use across the Torghabe –Shandiz County was obtained.

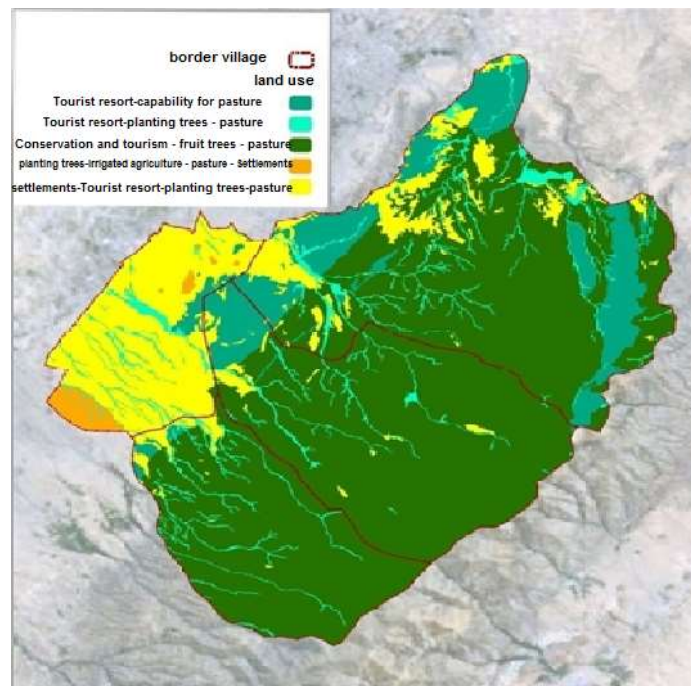


Figure 5: typical land use of Torghabe-Shandiz.

Analysis

At this section, the data collected are divided into two categories: exhibitive and Numerical indicators. in the infrastructure indicators, the percentage of households with electricity,

coverage's type of the streets, the villages have electricity and water and gas have been analyzed. In educational indicators, the number of elementary, secondary and high school per 10 thousand inhabitants have been discussed. In economic indicators, the economic role of knots and percentage of their role, and in service indicators the numbers of restaurants, a rural cooperative and the percentage of households with telephone have been analyzed.

Notably, all of the measures that introduced above have been studied in three periods of 1996, 2006 and 2011. Whole position indicators mentioned in this Section, gives the rate of development per year and settlement. In the following figures, these developments of Kang and Dehbar villages In comparison with effective small town (Torghabe) have been shown.

Development process for settlement's node of Kang

The development of kang villages is very different from the Torghabe town. It should be noted that development in the countryside Kang is not due to increased facilities and infrastructure, but also due to a negative growth rate in these years in rural population. It means that the rural population is low and the facilities were too much for the remaining population. In the following images, aerial photos of Kang village during period of 2005 to 2014 are observed (figure 6):

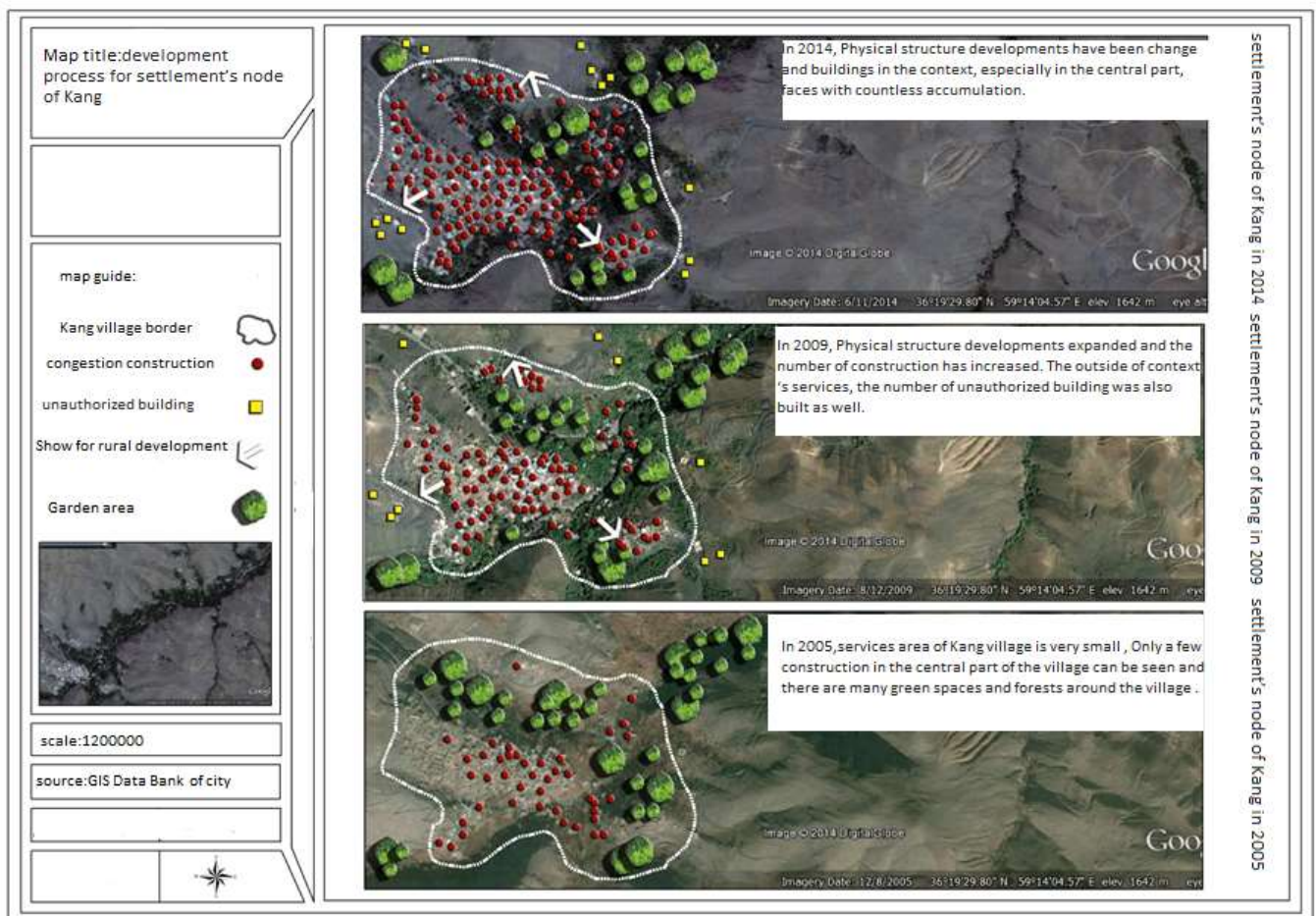


Figure 6: Development process for settlement's node of Kang

In 2005, services area of Kang village is very small, only a few construction in the central part of the village can be seen and there are many green spaces and forests around the village. In 2009, Physical structure developments expanded and the number of construction has increased. The outside of context's services, the number of unauthorized building was also built as well. In 2014, Physical structure developments have been change and buildings in the context, especially in the central part, faces with countless accumulation. Generally it can be concluded that the Kang village faced many changes during the 10 years and expanded the range of services.

Physical structure changes of Kang village associated with the natural area

Natural areas changes of Kang village are displayed across the three period 2005 to 2014 in fig7. As it can be seen in aerial photos that vayrani village had natural area in 2005 and no can be seen villa in this village.

In 2009, the number of villas built in the area that allows arrival cars and people to the natural zones and causing harm to the environment. According to aerial photos, the number of villas built in the heart of pastures has increased in 2014.

By continuing villa in the heart of pastures due to population growth and a reduction in annual rainfall, these ranges have been subjected to serious damage. With continued villa building in the heart of pastures with regard to population growth and annual rainfall, these pastures have been subjected to serious damage.

According to the aerial photo below, land use of these areas was changing from garden to garden-villa.

Physical structure changes of Kang village associated with network communication

As can be seen in the map below (figure 7), there is only one main way to access the village, that passed through the garden's edge and little damage is done to the zone. In 2009, two subsidiary ways created in the garden's area to facilitate access to the built villas. Entering cars and people into this area has led to this area to be exposed to serious injury and decreases the extent and quality of them. In 2014, this process continues and traffic through the Villa's area has increased. So rural management should be directed the roads and the traffic passing through the garden area So that they do not destroyed.



Figure 7: Network communication and green areas of Kang village changes during 2005-2014

Exhibitive and Numerical development of Dehbar village were illustrated in figure 8 and figure 9:

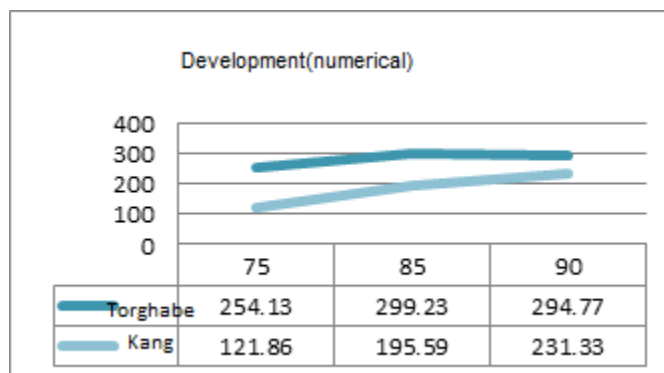


Figure 8: Numerical development Chart of Kang

By rising health indicators developing is greatly increased.

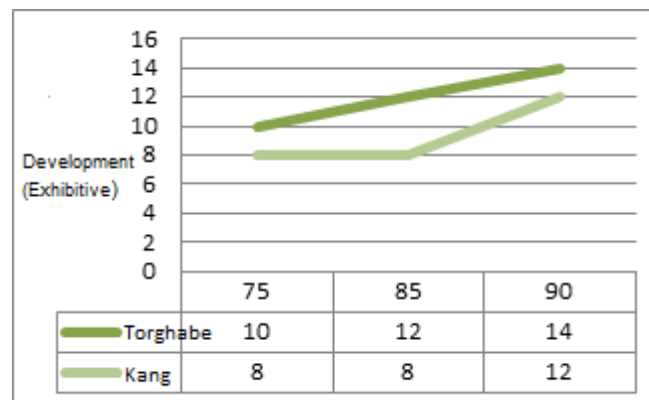


Figure 9: Exhibitive development Chart of Kang

Development process for settlement's node of Dehbar

As seen in the figure 10, Dehbar village is also rising in development. Even at 2011 the development of this village is more than Torghabe . But as mentioned before, because of the criteria for development of Dehbar village indicated by population and growth rate of this village is sharply negative, so high developing number doesn't show real development, but also show empty village of population. Remaining facilities due to low population seems to be enough .however, People have lost their interest to live in the village and migrate to the city. As can be seen in satellite images, Developments during the course of study of Dehbar village has been great. In 2005, the physical structure of this village had little construction and is often villas form. Around the village are covered with vegetation and pastures and forests. This naturally occurring forest has many tall trees native to this region. In 2009, constructions have been more in the physical structure and have been changed villas from to multi-storey buildings. Buildings are gone on the east side and within the area. In addition to the concentration of construction, unauthorized scattered construction around the pastures can be seen and should be overseen by rural management.

In 2014, the physical structure changes within the area are more quickly and manufacturing and construction in the area have already been exceeded. Moreover, in the southern part of area, illegal construction is on the rise. Therefore, it is essential to rural management of the construction and prevents the creation of such buildings in village. In general, Dehbar village during the past ten years has grown rapidly and expanded its service range.



Figure 10: Development process for settlement's node of Dehbar village during 2005-2014

Physical structure changes associated with the natural area of Dehbar village

Natural areas changes of Kang village are displayed across the three period 2005 to 2014 in Figure 11. As it can be seen in aerial photos that Dehbar village had natural area in 2005 and no can be seen villa in this village. In 2009, according to aerial photos below, a dense green zones where there with no Villa. Moreover the size of green zones has increased somewhat. In 2014, the size and concentration of area are not changed and there have been only two numbers villas that had little impact on the volume and size of these areas. by the following figures can be said that during this period of 10 years there haven't been significant changes in the extent of this area.

Physical structure change of Dehbar village associated with network communication

As can be seen in the map below (figure 11), in 2005, there is only one main way to access the village that crossed from edge of the garden area and do not harm to the gardens. During 2009 and 2014, according to population growth and increased traffic on the roads, In addition to existing routes, a subsidiary way created in the middle of gardens, so that moderate traffic. These ways put garden area at risk and the extent and quality of them is reduced.

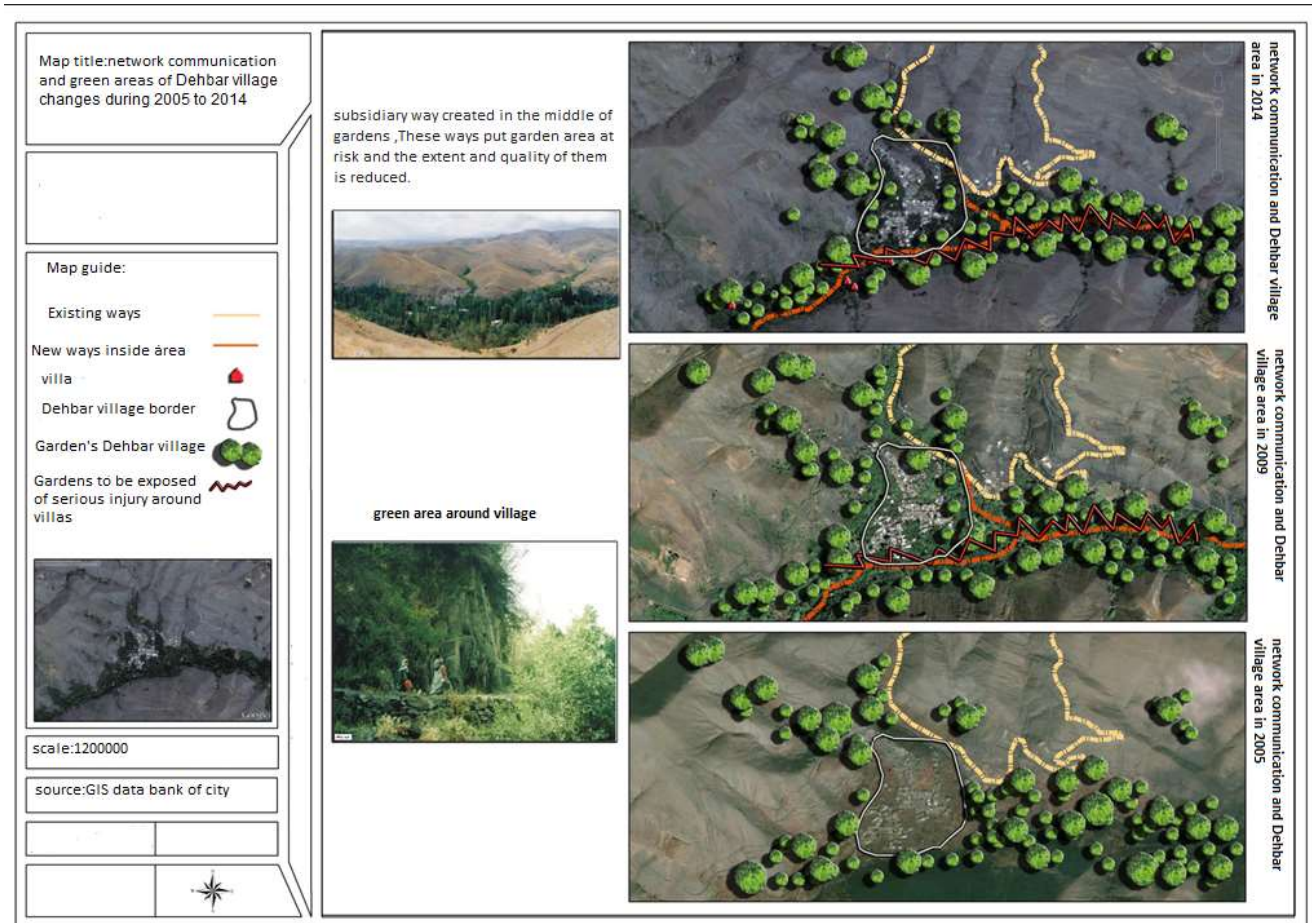


Figure 11: Network communication and green areas of Dehbar village changes during 2005-2014

Exhibitive and Numerical development of Dehbar village were illustrated in figure 12 and figure 13 .

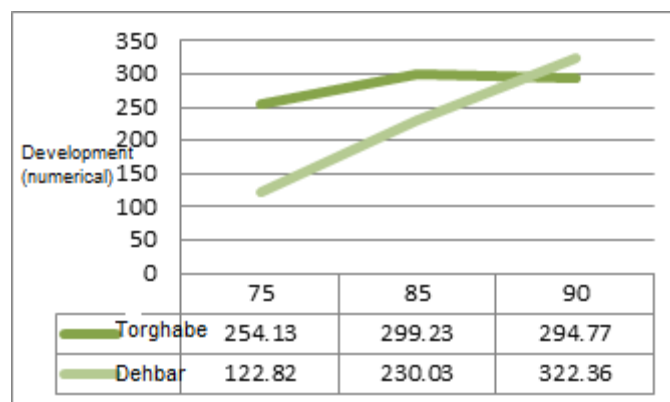


Figure 12: Numerical development Chart of Dehbar village

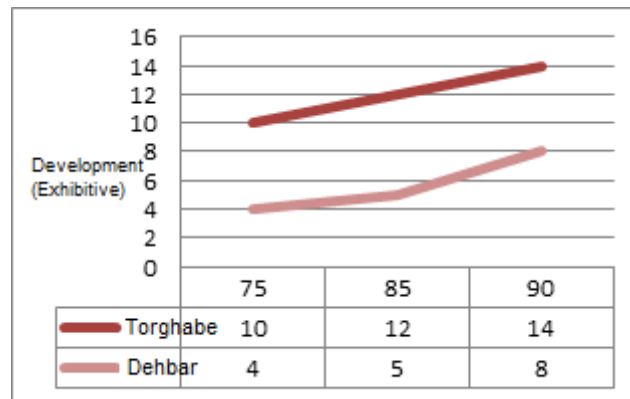


Figure13: Exhibitive development Chart of Dehbar village

CONCLUSION

In Torghabe, these villages i.e. Kang(20 km) and Dehbar (17 km) were Placed in the category of villages far from the cities . These villages are not due to an increase in services, but because of low population show more developed. These villages had a negative growth rate for the two period of time .it is indicate that people who lived in these villages do not want to live in these villages. Thus, according to the figures provided, the rural development placed in fourth grade.

Due to the loss of much population, more efficient solutions should be considered quickly. In this regard, job creation is very important. According to economic role of both villages, Agricultural conversion industries are appropriate. According to solutions that offered by network, the establishment of multi-sectoral activities related to small-scale local resources and capital should be considered .according to tailor and store theory these activities must not capital intensive. The two villages are deprived of proper gas and road infrastructure, so improving the network will certainly help to better develop of these villages.

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