

Farm Corporations as Agropolitan Development in Iran

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Abstract: *This article wants to propose this theory that Farm Corporations are agropolitan development models in Iran. As over-concentrating investments to the urban areas did not lead to a trickledown effect to the rural areas. To the extreme, there are ideas to minimize linkages with the urban economy, and to make the rural areas pursue self-sufficiency by maximizing its potentials. However, against this idea. They argue that rural areas cannot replicate an urban economy, because population concentration is needed to justify the production of various goods and services needed to fulfill the people's needs and wants. Instead, sustainable rural economic growth should be pursued through specializing in the commodities in which the area has comparative advantage. Only a balanced flow can contribute to a healthy rural-urban linkage. These small urban centers play a role as the provider of basic urban services and as the collectors and processors of rural produces. These small urban centers are those agropolitans. Theoretical framework of this article is based on views, theories and perspectives of Rondinelli, Freidmann, Douglass, Pradhan, Saefulhakim, Anwar, Rustiadi, de Jung and Smith. After discussion and analysis of votes, Agropolitan development objective and its criteria are reviewed and summarized. Farm corporations are discussed as a model of industrial and commercial agriculture within typology of farming system in Iran. Agricultural companies Khezri and Islamabad general and specific features, structure and organization and labor as a case study in two dimensions comprised of modern agriculture organization and urban features are discussed and defined as a model of rural-urban balanced development .methodology in this study is based on documentary and field study and element analysis of an agropolitan system.*

Keywords: *Agropolitan, farm corporations, rural-urban development, commercial and industrial agriculture, agropolis.*

The Theoretical Framework of Agropolitan Development

Rural development initiatives are a response to the failure of urban-biased interregional developments (Lipton, 1977). The facts show that over-concentrating investments to the urban areas did not lead to a trickledown effect to the rural areas. To the extreme, there are ideas to minimize linkages with the urban economy, and to make the rural areas pursue self-sufficiency by maximizing its potentials. However, Rondinelli (1985) is against this idea. He argues that rural areas cannot replicate an urban economy, because population concentration is needed to justify the production of various goods and services needed to fulfill the people's needs and wants. Instead, sustainable rural economic growth should be pursued through specializing in the commodities in which the area has comparative advantage. By specializing, rural areas will also increase their market competitiveness. Nevertheless, specialization requires trade activities. Thus, rural areas must enhance their connectivity in the market network in order to bear the fruits of specialization.

Urban areas serve as the main nodes in a market network. Rural area connectivity in a market network will involve the flow of goods, services, people, knowledge and most importantly information. Nevertheless, an imbalanced flow may occur, and rural areas are most likely to be on the losing side for having less bargaining

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power. Only a balanced flow can contribute to a healthy rural-urban linkage. Under such conditions, rural areas can create the necessary value-addition to their commodities, hence earning sufficient income to further advance their possession of knowledge and information that in turn will help develop the local economy.

One way of overcoming the disparity in bargaining power that may disrupt the balance in the structure of rural-urban interaction is through the development of small urban areas or small urban centers. These small urban centers play a role as the provider of basic urban services and as the collectors and processors of rural produces. Rondinelli (1985) supports the idea of small urban center development in strengthening a healthy rural-urban linkage. He argues that there are three main reasons behind the detrimental impacts of existing rural-urban linkages pattern to the rural areas. These are the lack of accessible small urban centers, the inadequate provision of facilities for the rural areas and the isolation between settlements in the rural areas.

Friedmann and Douglass (1975) propose an Agropolitan approach in developing small urban centers. This approach involves the concentration of development programs to a rural area with a population size between 50,000 to 150,000 people. According to Pradhan (2003), the Agropolitan approach is modeled upon Mao Tse Tung's rural development strategy in China, which decentralized the authority for planning and decision making to rural people. In return, the rural people have to bear full responsibility for their respective area development. This approach also relies on careful location decision, which is crucial in enhancing rural access to urban amenities. Indonesia was the first country to fully adopt the Agropolitan approach. The Ministry of Agriculture (MOA) and the Ministry of Public Works (MPW) play the leading roles in the development of Agropolitan Centers. However, there have been various perspectives in defining Agropolitan development. The MOA defines Agropolitan as an agricultural-based town that grows and develops to support the development of agro-business system and commercial activities, which in turn serves, attracts, supports and encourages agro-business development in its surrounding rural hinterland. The MOA definition distinguishes Agropolitan development and an Agropolitan region. Agropolitan region is defined as a system of agricultural-based towns and the surrounding rural producers. The region's boundaries are not drawn according to administrative jurisdiction as instead it is determined based on economies of scale. Thus, the Indonesian MOA defines the development of an Agropolitan region as an agricultural-based economic development in an agro-business region, which is designed and implemented through synergizing various potentials to encourage the development of a competitive agro-business system. The system must be people-based, sustainable, decentralized, performed by the local people with the support of the government (Agropolitan, 2002).

The MOA definitions tend to show that Agropolitan merely involves the development of urban facilities in rural areas. Provision of urban facilities such as electricity, roads, warehouses, markets are considered sufficient to transform rural areas into agricultural-based towns. Having urban facilities is considered as the main precondition for the development of agricultural activities that in turn improves farmers' welfare. This definition is not incorrect; however, it may be oversimplifying the actual process. The original idea of Agropolitan development is a response to urban-biased regional development, hence the focus on strengthening rural-urban linkages. Thus, the relativity of rural region development in connection with the urban areas must be taken into account.

It is important to consider other definitions of Agropolitan development in finding a richer definition. Saefulhakim (2004) defines Agropolitan development by breaking the term into two terms, agro and metropolis. Agro in Latin means a managed land or crop cultivation. Metropolis refers to a central point of various activities. Therefore, Agropolis or Agro-metropolis can be defined as a central point that serves agricultural-based economic centers. The development of Agropolitan can thus be defined as the development of various aspects that support the role of an Agropolis as a service center for a region consisting of agricultural-based economic activity. According to Anwar (2004), Agropolitan regions can be defined as central places that have a hierarchical structure. An Agropolis in particular is referred to as micro urban-villages that can grow and develop due to its function of coordinating the main activities of agro-business main activities. Therefore, an Agropolitan region can be defined as a functional system consisting of one or more agricultural-based urban areas in a particular agricultural region, which is characterized by the existence of a spatial hierarchy for farmers' settlements units. The spatial hierarchy is composed of an Agropolitan center and surrounding production centers.

According to Rustiadi (2004), Agropolitan development is a model that relies on decentralization and urban infrastructure provision in rural areas, all of which lead to urbanization. In this case, urbanization is seen as a positive aspect, in which the rural areas experience transformation towards becoming urban. This in turn helps overcome the diseconomies of scale associated with urban developments, such as excessive migration to the urban areas, pollution, traffic congestions, slums and squatter settlements and resource depletions. Combining the various definitions, we can define the term Agropolitan as follows:

1. An Agropolitan region is a region based on a functional system that consists of one or more agricultural-based urban areas (agropolis) in a particular agricultural producing region, which is in turn characterized by the existence of a functional linkage system and a spatial hierarchy of settlements, productive units and agro-business systems. This region can be created with or without formal planning.
2. An agropolis is a central location that serves the surrounding agricultural-based economic activities centers.
3. Agropolitan development is a rural development approach that features the development of agricultural-based urban areas (Agropolis) as a part of an urban system, with the objective of creating a balanced regional development through a synergetic rural-urban linkage.

The Objective of Agropolitan Development

With reference to the background and definition of the term Agropolitan, we can define the objectives of Agropolitan development within the context of interregional development as follows:

1. Creating balanced rural-urban development;
2. Improving the synergetic rural-urban linkages;
3. Developing the economy and environment of agricultural-based rural settlements;
4. Growth and revitalization of small urban centers;
5. Diversification and widening of income and welfare bases;
6. Realizing an autonomous and self-reliant rural area;
7. Filtering the excessive rural-urban migration (contributes to solving urban social problems);
8. Recovering the natural resources and environment;
9. Developing leading processed agricultural commodities;
10. Providing adequate settlement' infrastructure and facilities to an urban standard;
11. Providing adequate production infrastructure and facilities those are accessible to the local people.

The Criteria of Agropolitan Development

With reference to the definitions and objectives of Agropolitan region development, we can list the criteria in determining the characteristics of an Agropolitan development region as follows:

Agropolitan regions should

1. possesses adequate carrying capacity including suitability of soil and agro-climate,
2. Have leading processed agricultural commodities,
3. The sizes of the area and population should meet the requirement for economies of scale (ideally with a radius of up to 10 km and may consist of villages from one or up to three different sub-districts),
4. Urban settlement infrastructure and facilities,
5. Have production infrastructure and facilities that are accessible to the local people,
6. Contain one or more small scale urban function centers that are integrated functionally with the surrounding agricultural producing areas,
7. Have management systems with adequate autonomy,
8. Have a planned and controlled spatial arrangements system,
9. Enable the development of secondary (manufacturing) and tertiary (services) Sectors,
10. Have strong local community economic institutions,
11. Have adequate access to economic resources for the local people.

Criteria for an Agropolis (Agricultural-Based Urban Growth Center)

1. The center of settlements with the highest accessibility internally (with other areas within the Agropolitan region) and externally (with other urban centers),
2. The center of activities for processing and distribution of farm produce, which is characterized by the concentration of agro-business facilities and institutions.

The Components of Agropolitan Development

According to Rondinelli (1985), the development of Agropolitan systems in rural region is basically directed towards increasing agricultural productivity and sales. This is achieved through supporting the growth of small to medium scale agro-processing industries as well as promoting diversification of economic activities in the market center. These activities must however be organized to construct a synergetic linkage between the urban industries and the rural farms. This linkage involves the provision of facilities, services, farm inputs and accessibility for the rural settlements, particularly in overcoming the high cost of provision per resident due to the sparse population.

Road investments are very important in linking the market center with the region's economic centers. However, since the accessibility of the market center or small urban center from the villages is high, the development of roads linking the market center and the villages need not be at a level that is required for interregional transport. Specific attentions must be paid to the provision of water, housing, health facilities and social services at the small urban center, which are crucial in improving labor productivity.

Off-farm employments and urban amenities must also be available, as they help in discouraging migrations to locations outside the region. According to Anwar (2001), Small urban areas can be developed through the policy of giving attractive economic incentives. The development of small urban areas (metropolitan centers) involves the provision of public facilities, including also, in addition to the above-mentioned amenities, an entertainment center, electricity, financial institutions, educational institutions, open spaces and gardens, waste disposal system and communication systems.

According to de Jong (1988), the roles that must be played by the small urban Center in promoting rural development are as follows:

1. Center to provide durable and non-durable goods,
2. Center for public and private services,
3. Linkage to the larger markets for rural produces,
4. Supply center for production factors,
5. Center for agro-processing,
6. Center for knowledge and information.

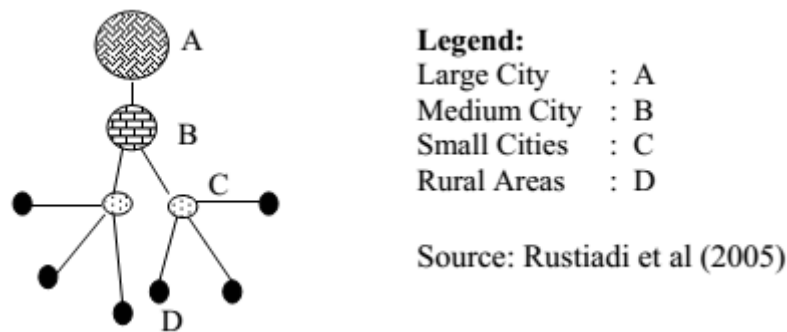
Anwar (2001) argues that the most important role of infrastructure provision in small urban centers is in reducing the disparity between the productivity of farming and non-farm sectors through improving human capital, social capital and technological applications in the surrounding rural hinterland. The development of non-farm sectors can contribute to lower unemployment and better trade balance. This is however largely determined by the ability to promote competitive advantages in the area's main products, which should ideally be benchmarked to fulfill not only national standards, but also international standards. There is thus a need to make use of the area's comparative advantages, which are subject to the ecosystem conditions. Therefore, the provision of infrastructure and agro-business system development must conform to the ecosystem conditions and the local needs. The necessary components of an Agropolitan region are listed in table1.

Table (1): Systems in Agropolitan Region

	Settlement System	Agro-Business System
Main Urban Function Center	Local Activities Center, Clean Water Provision, Wastewater Treatment, Telecommunication, Detailed Spatial Arrangements Plan	Agricultural Market, Supporting Branch for Banks, Farming Support Center, Agro-industry Center, Agropolitan Management Office

Although the existence of small urban center can help promote rural development, another factor that must be taken into account is the spatial pattern that includes the road network within the region and that which links the region and the other cities. According to Smith (1976), the spatial patterns that often put rural areas at the disadvantage are the dendritic, solar and network systems. The solar system is a pattern where a large urban area is directly adjacent to the rural areas. The Network system is a pattern where there is no center of activities. Both these systems are unlikely to appear in an Agropolitan. However, the argument that dendritic system may put rural areas at a disadvantage contradicts the concept of Agropolitan. The dendritic system is a pattern that can be illustrated as shown in Figure 1.1. The argument against a dendritic system is based on the assumption that there must be choices present for economic activities center to forward link their products. However, the Agropolitan concept relies on having one small urban center to serve the rural hinterland efficiently

Figure (1): Dendritic Regional System



The argument that a monopoly of power by one market center may put rural areas at a disadvantage is plausible. Nevertheless, the alternative of having more than one market centers to give choices for rural producers may not be feasible. One way of overcoming this is to improve linkages between the rural producers. This may facilitate the seamless flow of information that is crucial in increasing rural bargaining power, and providing choices for forward linkage. Intervillage transport links can however be developed at a later stage, due to the costs involved and the low necessity at the early stage of an Agropolitan development.

Farm Corporations in the Context of Iran Farming Systems Transformations

There are three types of central farming systems in Iran that some of them include one or several subordinate species as follows:

1. Small scale land farming system,
2. Cooperative farming system:(-Traditional cooperative-Common or joint cooperative-Rural production cooperative),
3. Commercial and industrial farming system (with large scale lands) :(-Informal private units-Farm corporations-Agro business complexes) (Abdullahi, 1998).

These farming systems mentioned above are different from each other not only in the sense of formation and title but also in terms of nature and central elements features Comprised of management organization, information level, technology and development, space, environment, land size and extent, manpower particular, efficiency of resource utilization and production, modern technics and methods, role playing in rural and agriculture development. Farm corporation farming system is a type in which ownership form transforms from traditional to sharing model, that is, owners shift to shareholders, and ownership and management are separated. While executive and technical planning and operations are under central control and integrated management and system, decision making process is basically collective based on its law and regulations.

According to article 1 of farm corporations law, these companies were established in order to facilitate the increase in the per capita income of farmers and to familiarize them with modern techniques and methods in agriculture and livestock breeding, to prevent the break-up or division of farmlands into economically unviable lots, to expand the area under cultivation through reclamation of infertile, uncultivated and waste land, and to broaden the scope of non-agricultural activities and particularly the rural handicraft industries.(farm corporations law,1973). According to farm corporations law, many corporations were established throughout the country from 1973 that Khezri , Islamabad,Nilabad,Golpayegan are the most important of them in Iran.in this research case study is Nimbolok region in south Khorasan province that Khezri and Islamabad farm corporations are located there.

Research Area (Nimbolok Sub-district)

Scope of research is only two agriculture-based towns in Nimbolok Sub-district of Ghaen district in south Khorasan province. This province has 11 districts, 25 sub-districts and 28 cities. Ghaen district has 3 sub-districts namely central district, Nimbolok and Sedeh with 2 cities namely Khezri and Islamabad (another name: Khezri farm corporation and Islamabad farm corporation).The total population of Nimbolok sub- district is 20000 who are settled in 2 mentioned cities and 37 villages that are distributed across the sub-district. Based on census data

2007, number of villages with inhabitant in the sub-district is 29 villages. Nimbolok is one of the most important agriculture and economical poles in the region.

Table (2): Total population in rural regions of Nimbolok sub-district

No.	Village	Number of Household	Male	Female	Total Population
1	KHORMONJ	98	161	157	318
2	KHOSHKAN	71	137	138	275
3	KORGHAND	675	1174	1254	2428
4	GEZENESHK	134	265	279	544
5	KHONJ	68	93	116	209
6	DAREHBAZ	68	130	127	257
7	KALATEHSARI	143	230	246	476
8	ASFIAN	8	15	18	33
9	BINABAJ	171	274	295	569
10	SAGHOORI	23	43	40	83
11	KHONKOOK	13	21	23	44
12	ALIZANGI	29	54	47	101
13	FATHABAD	47	90	93	183
14	FEIZABAD	26	55	58	113
15	GEZEDMOON	20	48	44	92
16	MALEKABAD	6	15	12	27
17	JANMIRZA	28	54	64	118
18	CHAH JAMALI	9	20	21	41
19	CHAH DAHANEH	5	9	10	19
20	ROJENAK	20	37	42	79
21	SHIRMAGHZE PAEEN	4	5	8	13
22	ABASSABAD	36	70	69	139
23	GERIMONJ	220	385	422	807
24	BENRAG	31	36	45	81
25	TABLAN	26	32	32	64
26	KHOOG	75	135	156	291
27	DEHESHK	367	621	643	1264
28	BOSKABAD	118	184	209	393
29	KARESHK	94	127	129	256
TOTAL		2633			9317

Source: Author's summary based on Nimbolok Sub-district statistical yearbook 2007

On the basis of table 2, near to 50 percent of sub-district population are inhabited in rural areas and the rest, other 50 percent, in two cities comprising of Khezri and Islamabad. The average number of persons per Household in rural population is near to 3.5. population sex ratio in the region shows it is so far from of regular sex ratio and in some cases is very low and only in Malekabad, Alizangi, Gezedmoon and Saghoori villages is more than 105 and in the rest of rural areas, other 25 villages, is lower than usual. While it shows high mortality ratio male population, it is a sign of emigration. The most important of centres of immigrants' attraction are also these two cities.

Table (3): To give priority to the city where is the place to purchase inhabitants' basic needs

NO	QUESTION	RESPONSE		CITY					
		YES	NO	KHEZRI		GHAEN		GONABAD	
1	DO THE MOST INHABITANTS PURCHASE THEIR BASIC NEEDS IN THIS VILLAGE?	9	20						
2	DO INHABITANTS IN OTHER VILLAGES COME TO THIS VILLAGE TO PURCHASE THEIR BASIC NSSDS?	7	2	FIRST CITY	SECOND CITY	FIRST CITY	SECOND CITY	FIRST CITY	SECOND CITY
3	DO THIS VILLAGE, S INHABITANTS GO TO THE CITY TO PURCHASE THEIR BASIC NEEDS?	29	0	15	10	13	6	1	8

Source: Author's summary based on Nimbolok Sub-district statistical yearbook 2007

Based on information, in table 3, most inhabitants of rural areas in this region expressed that they can't provide the most of their basic needs and necessarily do it out of their own village. All inhabitants of 29 villages mentioned said they purchase their basic needs in a city that inhabitants of 15 villages do it in the Khezri farm corporation city as the first city and the rest (10 villages) selected it as the second. some people who selected Ghaen was because of its central location as a district and necessarily major part of administrative affairs relate to the Ghaen central district and even some cases who noted Gonabad city, it was because of old rural-urban relations between the part of region villages to this city. That is very clear that Khezri city is as central marketplace to provide commodities and services for the rural people.

Table (4): Welfare services centers in rural regions of Nimbolok sub-district

Welfare system	NUMBER OF VILLAGES
AGRICULTURE SERVICE CENTRE	0
RURAL COOPERATIVE	12
GAS PIPING	0
CLEAN WATER	15
PHARMACY	1
PHYSICIAN	2
HEALTH& TREATMENT CENTER	1
HOME CARE CENTRE	10
Nurse's Aide	3
VETERINARIAN	1
POST BOX	0
POST OFFICE	0
TELEPHON OFFICE	22
INTERNET	1
PUBLIC TRANSPORT	10
MAGAZINE, NEWSPAPER	1
BAKERY	5
MEAT SHOP	3
COFFEE SHOP	0
BANK	0
AGRICULTURE MACHINERY REPAIR SHOP	0

Source: Author's summary based on Nimbolok Sub-district statistical yearbook 2007

Analyzing welfare services centers in accordance with table 4, we will realize that low level of governmental and urban services and programs comprising lack of agriculture services centers in none of hinterland rural areas ,very low level of health care and treatment services such as health and treatment centers, physician, veterinarian, nurse's aide and lack of communication services like internet access, post office, magazine and newspaper and the shortage of commercial and trade services consists of grocery shop , agriculture technical services ,repair shop, input services, banks and credit and financial associations, agriculture machinery repair workshop in attention to the major occupation of most villagers that is agriculture and husbandry, these people can provide all their basic needs both in services relating to agriculture and husbandry and related technical services and in necessary commercial and urban services and education programs , clothing and foods in khezri and Islamabad farm corporation cities and also some people's needs and wants to governmental services too.

Khezri and Islamabad Farm corporations as two Modern Agriculture Poles in the Region

One of the agricultural problems and obstacles in Iran is breaking up and scattering the lands that prevents probability the context of mass and commercial production, because it doesn't take place suitable and adaptable mechanization and irrigation efficiency and productivity of production factors in these lots basis of the criteria production economy is very low. Indices of a modern agriculture are, therefore, consists of:

1. agriculture technical infrastructures and construction affaires comprising soil and water projects and operations such as, lands reconstruction and consolidation, infrastructures and construction for providing water, channeling, piping, draining, pump and pumpage stations, pressurized irrigation system, and so on,....(scarcity of water and shortage of water resources is crucial in Iran ,therefor performing these projects in agriculture units is a main element in production development and promoting commercial and modern agriculture).

2. possibility of applying mechanization principles and modern suitable machinery according to sustainable agriculture in direction of the increase production and income and infrastructures related such as repairing systems, maintenance and services as well as machinery hangar and specialist manpower.
3. Applying technical knowledge about hybrid seeds, micro- fertilizers, and biological technology in direction of qualitative and quantitative increase by professional manpower.
4. Developing collective farming systems to gather and consolidate small size and scattered lots and extend participation and grouping farmers in attention to water resources crisis and shortage of financial resources and limited patronage.
5. existing vertical and horizontal evolutionary systems both in direction of production vertical chains like: from pre-cultivation stage to post-harvest stage specially existing agriculture processing industries, storing and technical warehouses and constructions, sorting and grading industries, and in direction of horizontal evolutionary chains such as: developing industrial husbandry, fisheries units and so on to decrease investment risk and management in agriculture district and necessity of the increase investing stream in agriculture.
6. To go to the production of organic and healthy produces according to nutrition standards with the least of source consumption and maximizing trade production.
7. professional management on scarce resources with applying information and knowledge system by educated and specialist people

Based on above mentioned indices and signs and documents provided in following tables, generally farm corporations and particularly Khezri and Islamabad farm corporations in a gradual and historical process and many years sustainability in accordance with conditions of Iran rural society are the best models of profitable and commercial agriculture.

Islamabad commercial and industrial agriculture indices

This company is in the area that is located in dry and semi-dry climate and with intensity of rain fall in range of 150 to 180mm/hr. The most temperature is 39 and and the least -18 centigrade degree. The lands of this corporation basis of province resources maps are 2, 4 and 3, 4. In some parts of lands Soil texture is very heavy and in some others is salty. All the company lands are drinking of 21 wells with nominal capacities of 750 lit/s and because of drought with real capacity of 510lit/sec. the number of corporation's shareholders are 481 and careers personnel are 73 Position of Islam Abad city and its surrounding Farm Corporation integrated lands.



Table (5): Soil and water resources and cultivation areas

Cultivation lands	Wheat and barley (cereal)	Sugar beet	Forage corn	Deep well		Irrigation channel		piping	Under pressure systems	Hydrofix systems
				Total capacity	number	capacity	length			
3000 ha	900 ha	400 ha	20 ha	510 Lit/s	21	300 Lit/s	78000 m	29800 m	60 ha	25 ha

Source: Author's summary based on corporation annual report, 2013

Table (6): Machinery and technology and industrial cow keeping and aviculture

Heavy tractors	Heavy machinery	Agriculture machinery	Transport machinery	Industrial cow keeping products and capacity				Industrial aviculture	
				Animal fertilizer	Surplus heifer	meat	milk	capacity	Capacity and type
26 set	5 set	35	11	500 truck	25	75000 kg	1435000 kg	500	50000 for meat

Source: Author's summary based on corporation annual report, 2013

Table (7): Technical stores and installations and buildings

Technical warehouse	Nonperson inhabitant homes	bakery	Guest house	Machinery hangar	weighing machine	Winnowing site for cereal grains
2000 m ²	117 set	1	2	1000 m ²	1 (with 60 ton capacity)	With 5000 ton capacity

Source: Author's summary based on corporation annual report, 2013

Khezri Commercial and Industrial Agriculture Indices

This company has plants, industrial units, constructions and installations, processing and packing industries and so on consists of:

1. winnowing and packing plant of cereal seeds,
2. dairy processing plant,
3. animal food plant,
4. milk gathering site,
5. industrial cow keeping unit,
6. 6-industrial husbandry unit,
7. industrial poultry unit,
8. technical storing warehouses for agriculture products,
9. transportation unit,
10. repairing workshop unit,
11. telecommunication unit,
12. agriculture machinery and mechanization unit,
13. Agricultural Extension and Education unit.



Position of khezri city and its surrounding Farm Corporation integrated lands

Table (8): Soil and water resources and cultivation areas

Cultivable lands	Wheat and barley (cereal)	Sugar beet	Forage corn	Deep well		Channel covering	Lands Reconstruction	piping	Under pressure systems	Industrial feeding pond
				Total capacity	number					
1700 ha	1202 ha	365 ha	20 ha	750 Lit/s	24	50 km	1000 ha	10 km	1unit center pivot	2.5 cubic million meter

Source: Author's summary based on corporation annual report2013

Table (9): Machinery and technology and industrial cow keeping and aviculture

Heavy tractors	Heavy machinery	Agriculture machinery	Transport machinery	Industrial cow keeping products and capacity					Industrial husbandry		
				Animal fertilizer	Cow calf	meat	milk	capacity	wool	lamb	Type and capacity
28 set	6 set	38	15	1000 m3	180	90 ton	1020 ton	740	3 ton	1500	1200 Balochi

Source: Author's summary based on corporation annual report2013

Table (10): Technical stores and installations and buildings

pasteurized milk Production and distribution for the	dairy Production and distribution	Milk gathering center	PET products	Machinery hangar	Water packing plant	Hybrid seed processing unit
14 tons/day	2 tons	1900 tons	3000 bottles/hr.	1000 m2	3500 bottles /hr.	With 8 tons/ hr. capacity

Source: Author's summary based on corporation annual report2013

Table (11): Yields comparison between farm corporations and other lands in Iran

product	South Khorasan province	Khezri farm corporation	Islamabad farm corporation
wheat	2.7tons/ha	3.5tons/ha	4.5tons/ha
barley	2.4tons/ha	4.5tons/ha	5.5tons/ha
Sugarbeet	28tons/ha	32tons/ha	45tons/ha
Forage corn	30tons/ha	36tons/ha	40tons/ha

Source: Author's summary based on corporations and agriculture ministry year report2013

Modern Agriculture Indices Analysis

Tables 5 to 11 show commercial , marketable and modern agriculture indices based on two major components, *management* and *capital*, is suitable for two corporations as agriculture machinery, heavy machinery, heavy tractors, composition of machinery and extension parts is a sign of machinery management and performing suitable mechanization with high degree and capacity in these corporations. This situation in Iran only belongs to these companies. Performing soil and water projects, land reconstruction and consolidation, water providing and reserving programs, pressurized systems in these corporations provide the context to apply good machinery and overcome on water scarcity. Composition of management to capital and investment in the rich infrastructure bed result the products high yields compare to other areas in Iran. (Table 11.) Developmental programs consist of industrial husbandry, cow keeping; poultry in two companies indicate evolutionary and horizontal chains development.

Compounding forage products in cultivation pattern provide the animal foods and producing processed and dairy products from milk in the dairy processing plants exist production surplus value, the milk that already was gathered in milk gathering site. Hybridized seeds production and processing for corporation's shareholders and region, providing milk and dairy products for the region and province, industrial workshops development, forging, welding, technical repair workshops, all of them are good context for career development in the region. As a result, it caused rural emigration to these town centers to serve in context of agriculture activities and related industries. These agriculture-based small towns, Khezri and Islamabad, operate as mediators to balance positive emigration from hinterland and deprived villages to the agriculture developed centers and to prevent emigration to big cities and false careers and ultimately cause positive rural-urban linkage. In addition, based on modern agriculture indices, these two corporations are as higher patterns in promoting agriculture-based economic activities such as cropping, husbandry and agriculture processing industries based on particular work organization and in a historical and social context through spreading social services and making small towns uniquely were sustained and formed by population concentration as agriculture towns.

The Formation of the Khezri and Islam Abad Farm Corporations in the Region

Initiative seed of the said farm corporations located in the Nimbolok region, Khezri and Islamabad agriculture-based small cities, has germinated after the earthquake 1969 with identifying these two points as the formation place of farm corporations namely Shah Abad 1 and Shah Abad 2. Shah Abad 1 with integrating villages comprising of Khezri, Mayam, Deheshk, Bozn Abad, and Shah Abad 2 with emigration of villagers of rural areas consist of Salayani, Asad Abad, gerimonj had been formed. Nowadays that two agriculture production points transformed to only two central cities in Nimbolok sub-district. Under the effect of revolution, transformations in 1979 corporations above said, were disbanded similar to other established farm corporations in the country, but shareholders trying again to form mentioned corporations basis of their requests, they have reestablished them in 1983 namely Khezri and Islamabad. These two cities now are located between Gonabad and Ghaen and adjacent to Mashhad-Zahedan transit road. On the basis of census data in 2007, 29 villages of all permanently have inhabitants and 5 villages seasonal. In terms of roads conditions 13 villages have bituminous roads and the rest earth roads. The present Khezri city firstly has been existed joining with inhabitants and lands of Khezri, Mayam, Deheshk and Bozn Abad villages and the present Islam Abad city to Salayani, Grimonj and Asad Abad villages. Nowadays they are as two agriculture urban centers with urban infrastructures, constructions and markets.

Urban Dimensions of Farm Corporations

The scientists in different branches of science propose different criteria to differentiate rural area and urban area. The sociologists recognize a city more as concentration place of means of production, assets, needs and requirements that social division labor in which took place. The geographers identify it a view of streets, buildings, constructions that capable urban lifestyle. Historians study city in terms of its antiquity and in opinion of economists the city is a place where their inhabitants' central subsistence is not basis of agriculture. Urban designers see the city as a complex organized set of three key components comprise of physic, conceptions and activity that continuously are changing. But the population of an area is the criterion by demographers for example, identification index of city is 2000 people in France, 5000 in Iran, but it changed throughout the time so that in 1957 was 5000 and in 1967 and 1977 besides 5000 people, to be district centrality was necessary. In 1987 the criteria above said, have been changed and city is a place where has municipality and now 10000 people is important and also having municipality. Urbanity ratio has been increased from 31 percent in 1957 to 71 percent in 2012 and based of these recent criteria, farm corporations' cities Khezri and Islamabad with the population close to 5000 people successively in 1984 and 2005 formally were registered as the city. Besides density population, other criterion is that the Miller identified it for definition of city, that is, the city is the region in which lands largely use for building home more than other production factors especially capital in comparison to the near areas. It also will be described to two other factors more occupation and more production goods and services. Overall, the cities have complex systems for health, water and electricity, land using, housing and transportation system. The city is attraction focus for social, economic, cultural and political interactions in the attraction and influence of its periphery.

The important point in Agropolitan development is that it hasn't any adaptation to usual definitions and criteria related to the big cities and challenges them by creating concept of agriculture-based small cities. Definitions like: ecologically land use is dedicated to the non-agriculture parts, or career conditions of urban field economy has less connection to agriculture activities, or, the urbanity means that more than two thirds labor forces in non-agriculture activities such as housing, trade, service parts and so on, are occupied. What is important basis of objective and practical experiences in the regions that farm corporations were established, this contradiction is in

accordance with Agropolitan development criteria, while there are so many small cities in Iran, such as Daland in Golestan province and Gian in Hamadan province studied by author, despite that basic activities for most of them are agriculture but they are engaged in many urban problems and agriculture occupational and income context is collapsing. Only in light of presence sustainable, functional, technical, legal organization that is the result of farmers' and shareholders' historical, social and experimental interactions, that is, farm corporations, agropolitan development is possible to propose, the model that can would be appropriate for rural-urban development. therefore, khezri and Islamabad cities operate as the interactions focus for sphere of influence of Nimbolok sub-district but because of historical structuring of farm corporations structure that industry development of industry, occupations, services and trade took place based on livestock and agriculture activities and organizing water and soil resources, these cities transformed to the agricultural cities. The following indices and possibilities are implication of differentiation and urban labor division and development of urban services and occupations.

The Most Important of Associations, Possibilities and government services in Khezri

Sheriffdom, Department of Agriculture, Awqaf and Charity, post office, Department of Telecommunications, khezri sub-district general court, khezri dispute resolution council, veterinarian, Water and Wastewater Authority, Department of Education, Power Department, health center, khezri home care, Dashte Bayaz home care, welfare office, police station ,Department of Real Estate Registration, Register Office, Basij field strength, Cultural and Educational Center, emergency center, industrial park. (Khezri municipality report, possibilities and institutions division, 2014)

Educational, university and culture centers

Payam E Noor university, 2 primary schools, 3 middle schools, 2 high schools, 2 colleges, Art and Cultural Center, many magazine and newspaper agents

Social and economic non-government and private institutions

1. Guilds and markets network included:160 guild units like different types of shops ,8 bakeries, machinery& motorcycle repair workshops, previa and interurban restaurants, electrical shops, Fast-food shops, photography, garage and service, real state agency, general bathroom,.....
2. park with good possibilities in the city and pilgrims' rest house in the border city
3. Ghaem cooperative association, 4-gas station, 5-farm corporation office, 6-Payam E Keshavarz Livestock Company, 7-women cooperative, 8- 3mosques, 9-gym, 10-pilgrimage and recreational centers such as: Emamzadeh Abdullah, Pirmardanshah, Bagh e Dahaneh, 11-industrial units like poultry, cow keeping, dairy processing plant, 12-Khorasan and Keyhan newspapers agencies, 13-Theater (khezri municipality report, possibilities and institutions division, 2014).

Banks and credit and financial institutions

Saderat bank (exports bank), Keshavarzi bank (agriculture bank), Melli bank (national bank), Mellat bank (nation bank), Samenolaemeh credit cooperative, Iran insurance agent (Khezri municipality report, possibilities and institutions division, 2014).

Islamabad city

Based on the last population census, Islam Abad city population is 5010 and 1351 households

Table (12): Education institutions of Islam Abad city

Name	Subsets	Number
Bager ol olum Educational Complex	Resalat school of girls,Hejrat school of boys,Zakieh high school of girls	318
Kousar educational complex	Kousar,Hafez,isar,Rezvan schools	530
Barekat technical school	-----	114
Kindergarten	Siadat,Shahid Sadeghi	90
Agriculture faculty	-----	100

Source: Nimbolok municipality website, division of urban institutions and possibilities, 2014

Table (13): Government institutions, financial and credit institutions, religious places

Banks and economic institutions				Government institutions							Religious places			
Farm corporation	Melli bank	Saderat bank	Keshavarzi bank	Marriage registration office	Documents registration office	Gas reliefpost	Agriculture education center	Health center	Emergency	Health care station	Water and waste water center	Extension services center	Fatemieh mosque	City Central mosque

Source: Nimbolok municipality website, division of urban institutions and possibilities, 2014

Table (14): Recreation places of IslamAbad city

Vahdat park	Enghelab garden	Rezvan garden	Moalem garden	Vali e asr garden	Fatemieh park
7000m ²	300 m ²	600 m ²	800 m ²	1200m ²	3000m ²

Source: Nimbolok municipality website, division of urban institutions and possibilities, 2014

Urban Development document of khezri and Islam Abad cities

According to two these cities' development documents, khezri and Islam Abad are the agropolitans with the following roles:

- 1- In attention to khezri position and effect on the region urban networks could cause population distribution and preventing of concentration.[*one agropolitan criterion*]
- 2- This city is playing role to supply social and economic different aspects and functions to the local field and then decrease migration or change their direction from the bigger urban areas and focuses to the smaller areas. [*one agropolitan criterion*]
- 3- Khezri city, playing role central market of rural influence sphere ,with providing different services in this context, is counted as an important motivation in economic reinforcement of periphery rural areas.[*one agropolitan criterion*]
- 4- Enjoying propitious weather and appropriate environmental conditions.[*one agropolitan criterion*]
- 5- Enjoying of appropriate bed for green space development in attention to agricultural, developmental structure of these cities.[*one agropolitan criterion*]
- 6- Existing big farm corporations in the city influence field. [*one agropolitan criterion*] (khezri and Islam Abad municipalities, urban development documents,2012).

The small urban focuses take into account as the first urban cores of rural areas and in the beginning and immediately every type of activities in the focuses affects rural areas, these activities could be positive and cause reinforcing structure of relationships between these points. Necessarily to mention the point, the first and the most important effective part of these interactions particularly structural effect small cities on rural-urban linkages, is the sphere of economic activities in the interim. In this view the major objectives were emphasized as follows:

1. agriculture in the sphere of influence small cities,
2. increasing occupational opportunities in the cities,
3. the orientation of small cities markets in the social and economic development of district,
4. identification of criteria in selecting certain small cities in a district for development plans in attention to rural-urban linkages,
5. identification of the sphere of influence market of small cities on the basis of economy of scale in the market in attention to threshold concept of central place theory,
6. Changing rural economy of the sphere of influence small cities from traditional and subsistence to the marketable agriculture and production for sale (khezri and Islam Abad municipalities, city development documents, 2012).

Summary and Conclusions

Based on the information and discussions provided above in relation to the scientists and theorists views such as Freidmann, Rondinelli and Douglass about agropolitan approach that ultimately led to the creation of agropolitan criteria and objectives , and as well as identification of special features of farm corporations in dimensions: agriculture, soil and water resources, related industries, and also Khezri and Islam Abad agriculture towns with demographic specifications and urban structuring and differentiation, we could deduce that identified criteria for a agropolitan area are in accordance with urban, economic, social, technical and environmental conditions. As an agropolitan area basis of a functional system comprising of agriculture-based urban district or districts is in a certain area with certain agriculture products which could have been existed by formal planning or even without it, cultivation patterns of area influenced by farm corporations including weath, barely, sugar cane, saffron and in some parts livestock that are the same in two mentioned cities and across Nimbolok sub-district, with two systems: 1-settlement system contains Local Activities Center, Clean Water Provision, Wastewater Treatment, Telecommunication, Detailed Spatial Arrangements Plan And ,2- Agro-Business System contains Agricultural Market, Supporting Branch for Banks, Farming Support Center, Agro-industry Center or farm corporation as agro-industry linkage, farm corporation planning center as Agropolitan Management Office, farm corporations towns said with two urban functional systems that above mentioned and with two agropolitan centers namely khezri and Islam Abad that are both formally supported by the government and also structured through a gradual and historical process and in accordance with social and cultural conditions without formal planning, are implications for this theory.

According to another index, agropolitan is a central place which serve to agriculture-oriented economic activities around itself, the specifications that clearly farm corporations studied have been preceded and served in agriculture economy and other economic activities, on the other hand, these companies with objective of existing regional balanced development through synergizing rural-urban linkage, have spread a urban system basis of agriculture, that has been inevitably transformed to agriculture central city in a time period. Other agropolitan development criteria including population equilibrium and fixation between rural areas and other cities, it operates as controller and population fixing focuses in the process of agriculture economy activities that demographic variations has proved the matter.

Economic and technical occupations development in the settlements field of farm corporations shareholders, income diversity and development through different activities in agriculture related industries and related technical and professional occupations, development of processed goods and commodities and produces, development and amendment of natural resources through sustainable agriculture development by biological technology, conservation tillage and machinery, conservation systems of water resources, and so on in technical planning of farm corporations are all indices an agropolitan and theoretical design of this theory is proved

Suggestions for Iran

Based on fulfilled studies in relation to precision dimensions of this theory for rural development of Iran, it suggests:

- 1- A comprehensive study on progressive farm corporations in the country for assessment of different dimensions of this matter in interdisciplinary studies framework
- 2- Fulfilling the Action plan for farm corporations development in the country in framework of regional planning and looking to territorial planning and comprehensive rural development and even beyond that , balanced rural-urban development
- 3- Applying policies making based on informing approaches in macroeconomics policies as if this theory will be basis of national development, all of plans and projects and all institutions policies should be convergent in direction of changing, why that there aren't any approaches or policies on Iran's rural-urban development.

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