

## THE DISTRIBUTION OF ELDERLY POPULATION IN TURKEY AND THE FACTORS EFFECTING THIS DISTRIBUTION

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### **Abstract**

In this study, the distribution and amount of elderly population and the shape of distribution are defined by analyzing the data of 957 districts. The characteristics of the cities and regions where the elderly population is dense and the factors influencing this distribution are tried to be explained with reasons and results. The research is based on these questions that are waiting for answers: How is the elderly population is distributed in districts? What is the percentage of males and females in this population group? Which regions are below or above the Turkey average in terms of the distribution of elderly population? What are the characteristics of the places where the elderly population is denser or sparser and what are the factors that cause this situation?

**Keywords:** *Turkey, age group, elderly population.*

**JEL Classification:** N30

### **1. INTRODUCTION**

The old age, defined as “*the period when the physical and mental incompetences become evident in comparison to earlier periods*” by the World Health Organization Psycho geriatrics Science Group, is generally accepted as 65 and over. However, climate, nutrition, the nature of the work, Gender and such numerous factors make it difficult to make a definition applicable in anywhere and anytime. But we can note three basic approaches characterizing the elderly population. These are the chronological age, life cycles and the functional age approaches. Starting with the birth, the “*chronological age*” is the basic criteria used to differentiate the people (Elliot, 1997: 91). Within this approach, the people of 65 and above years of age are accepted as elderly. “*Life cycles*” approach uses a combination generally consisting of physical and social features such as puerility, puberty, early adulthood, adulthood, middle age, late adulthood

and old age. However, the chronological limitation of many life cycles is not clear (Atchley, 1991: 3-7). “*Functional age*” definitions are based on the observable personal characteristics. Physical appearance, mobility, resistance, coordination and mental capacity can be given as examples for such functional features. But, as the most of the people do not have these incompetences at one time, functional age classification is an indefinite process (Altan, 2003: 7).

Knowing the age profile of the population in a place is an important parameter to take into consideration in determining, planning and putting into service/operation any kind of investing activities (Sazak, 2004: 187). From this point of view the **subject** of the study is, “*To define the spatial distribution of the elderly population in Turkey and to determine the factors influencing this distribution*”. The **scope** of the study in terms of location, subject, time and method can be expressed as “*The explanation of the change and development of the elderly population all over Turkey between 1990 and 2010 in terms of quantity and proportion according to the districts with human and economic geography methods*”. As widely known the needs of the people vary according to physiological, economic, social and cultural structures. Besides, some needs can vary according to the age of the people. So, the age factor can affect the needs both as physiological and sociological. Especially in the application projects to create and support the “age friendly habitations” for the people over 65 years of age to maintain their lives within their own environments, knowing the quantity and the distribution of the elderly population will be of great value. According to this, the **goal** of the study is, “*To determine the distribution pattern of the elderly population across the districts in Turkey and to make a descriptive presentation of the factors having influence on this distribution*”. Within the frame of this goal the **hypothesis** of the study can be expressed as, “*The spatial distribution of the elderly population in Turkey has changed to a great extent after 2000. This change, evidently observable especially in the countryside, has cleared the regional differences away*”.

The data used in the study are the statistics obtained from Turkish Statistical Institute (TUİK) and showing the division of the population belonging to 1990-2000-2010 years to narrow-spaced (0-4, 5-9, ...65+) age groups. This data covers all the countrysides and centres of all the districts in Turkey. These statistics, at first divided as countryside and district centres, have been converted into wide-spaced (0-14, 15-64, 65+) population groups and the sex ratios have been calculated. The proportional data on 65+ age group were mapped by using Arc GIS 10.0 drawing programme. Turkey district borders maps (1990-2000-2010) were used as the basic footing and 18 density maps were formed with the elderly

population proportional data belonging to the districts. As for the maps not included in the text, they were used to support the interpretations so that the explanations are true and clear.

## **2. FINDINGS AND DISCUSSION**

### **2. 1. A General Overview of the Elderly Population in Turkey**

It is clearly followed that through the historical process in our population there has been an evident numerical increase in the parts the elderly population forms. The elderly population has increased 0,2% between 1940-1945, 14% between 1975-1980 and 38% between 2000-2010. But this population group has not had an equal distribution all over the country. In coming out of these regional differences, being in the first place the environmental conditions, various economic, social, cultural features and industrialization and urbanization phenomenon have an effective role. Together with urbanization in Turkey, the life standard in district centres increases, owing to the improvement in nutrition and health conditions the lifespan extends, marriage age increases, fertility rate diminishes, the ratio of the people of 65 and over years of age within the population as a whole increases and so the country population becomes older. The elderly population ratio, which was 3,6% between the 1927-1955 census years was 4,7% in 1980. While there was not an important change in this ratio between 1980-2000, there have been important improvements in the quantity and rate of the elderly population after 2000. The rate of the elderly people within the general population increase to 4,3% in 1990, 5,7% in 2000, and 7,2% in 2010. *“The changes in the elderly ratio of the population are largely affected by the changes in the birth and death rates and the migrations have an effect on these events as well”* (Emiroğlu, 1988: 30).

Because of its cultural structure the Turkish Society has always made the elderly rights the focus of family institution. After the Turks had accepted Islam, they continued to help the old people as a part of their religion. However, the cultural degeneration coming out together with the 2000s when the industrialization and urbanization speed increased commenced a serious communal transformation in Turkish society as well. The problems as to the elderly population comes out evidently with the factors such as the transformation of the family structure into immediate family, the migration from the country to town, the economic conditions becoming difficult, the extension of the towns in an unplanned and unhealthy way, the extension of lifespan etc (DPT, 2007: 83-84).

In our country with the law number 1580 which became valid in 1930 together with the Republic period, after the municipalities were given the responsibility to

harbour the old people, to make and manage elderly houses, boarder elderly institutions were opened under the name of “the needy houses”, “the hospice”, “old people’s home” in different cities. “*Social Services General Directorate*” was founded in 1963 with the 4th article of the law number 225, based on the 17th article of the law 3017 of Health Social Aid Ministry Organization. The first old people’s home, dependent on Health and Social Aid Ministry, was founded in 1966 in Konya, and the second one in Eskişehir (DPT, 2007: 17-18). With the article 61 of 1982 Constitution, the groups included in the realm of social services are clearly defined and with the “*Social Services and Society for the Protection of the Children Law*” number 2828 it is imposed that the activities about the social services are to be carried out in coherence. In different subclauses of the articles 3, 4, 9, 10, 34 and 35 there are sentences on social service applications about the elderly people. “*Head Department of Social Contribution for Old Persons*” was founded based on the general principles stated in the article 4 of the law and (f) subclause of the article 10. Prepared in parallel to the articles 34 and 35, “*Private old people’s home and Elderly Nursery Regulations*” with number 23099 and date 03.09.1997 became valid. And again within the same law frame, “*The Regulations about the Foundation and Running Bases of the Old People’s House to be opened within the Scope of State Institutions and Organizations*” number 19422 was published in the official gazette on 05.04.1987 and became valid. Besides, according to “*T. C. Retirement Fund Law*” number 5434, the service applications for the elderly people are carried out over “*Recovery and Nursing Home*” (DPT, 2007: 18, 22 and 23).

## **2.2. The State of the Elderly Population in Turkey in comparison to the Other Age Ranges and Geographic Regions between 1990-2010**

Between 1990-2010 the ratio of the elderly population range in Turkey within the population as a whole increased from 4,3% to 7,2%. In elderly population groups consisting of a hundred people, the number of the women has always been 10-12 more than the number of the men. Despite of this rapid increase in the elderly population (%<sub>0</sub> 38,6), the ratio of the young population between 0-14 within the population as a whole has decreased -10% (rate of increase %<sub>0</sub> -2,2), and the ratio of the 15-64 range in the working age has increased at the rate of 6,5% and at a slow rate (%<sub>0</sub> 18,4). The fastest increase within the elderly population has been in the district centres with %<sub>0</sub> 51. The elderly population increase in the countrysides of the districts have been only %<sub>0</sub> 22,3. On the other hand, the elderly population ratio in rural population (11%) is more than it is in the county seats (6%) (Table 1). As of the year 2010 while the male population according to the age groups is the majority within young and grown-up population, it shows a

quite a low ratio within the elderly population (43,8%). From this point one can conclude that the women in Turkey live longer than the men. But the explanation of this situation will be possible with another study.

**Table 1.**The proportional (%) division of Turkish Population into wide-spaced age groups

POPULATION		1990			2000			2010		
		0-14	15-64	65 +	0-14	15-64	65 +	0-14	15-64	65 +
Total	T	35	60,7	4,3	29,8	64,5	5,7	25,6	67,2	7,2
	F	34,4	60,8	4,8	29,2	64,5	6,3	25	66,8	8,2
	M	35,5	60,6	3,9	30,5	64,4	5,1	26,2	67,5	6,3
Urban	T	33,2	63,1	3,7	28,9	66,3	4,8	25,2	68,8	6
	F	33,1	62,6	4,3	28,4	66,1	5,5	24,6	68,4	6,9
	M	33,3	63,6	3,1	29,4	66,5	4,1	25,7	69,2	5,1
Rural	T	37,5	57,2	5,3	31,5	61	7,5	27	61,9	11,1
	F	36,2	58,2	5,6	30,7	61,4	7,9	26,3	61,5	12,2
	M	38,8	56,1	5,1	32,4	60,6	7	27,8	62,2	10

The elderly population ratios within Turkish Population differ from region to region. The regions where the elderly population showed high ratios in comparison to the district population in 1990 were; Aegean, Marmara and Black Sea Regions. When it comes to the lowest ones, they belong to Southeastern and East Anatolia Regions. The Black Sea Region which rose towards the top in the list among the littoral zones in 2000, became to be at the top of the list in 2010; while the Mediterranean Region has always kept its place as the fifth after Central Anatolia Region (Özgür, 1999: 165). The urbanization movements at the centres of the districts, the improvements in the health sector, feeding habits, the variety and richness in nutrients, all of which have an effect on this ranking, have affected the lifespan of the elderly population and its ratio within the population in a positive way. On the other hand the negative environmental conditions in the Southeastern and East Anatolia Regions have caused the rural migrations to be exterritorial and so the urbanization speed of the district centres to be low. As this situation has not been able to lift the life standard of the population of the subject regions above the optimum values, the elderly population ratios have not shown an important increase (Table 2).

**Table:2** The Proportional (%) division of the Elderly Population in Turkey with regard to the Geographic Regions (1990-2010)

REGIONS	DISTRICT CENTER									RURAL								
	1990			2000			2010			1990			2000			2010		
	T	K	E	T	K	E	T	K	E	T	K	E	T	K	E	T	K	E
Marmara	4,1	4,8	3,4	5,1	5,9	4,2	5,9	6,8	4,9	6,7	7,4	6	8,6	9,5	7,7	14,7	16,2	13,3
Aegean	4,7	5,5	4	6,2	7,1	5,4	7,6	8,7	6,5	6,4	6,9	5,8	8,7	9,5	7,9	13,2	14,7	11,7
Mediterranean	2,9	3,4	2,5	4,2	4,6	3,8	5,4	6	4,7	4,7	5,1	4,4	6,4	6,7	6	9,3	10,2	8,4
Central Anatolia	3,4	4	3	4,9	5,5	4,3	6,5	7,3	5,6	5,4	5,3	5,4	7,5	7,8	7,3	13,4	14,8	12
Black Sea	3,9	4,6	3,2	5,6	6,3	4,9	7,7	8,9	6,5	6,2	6,4	5,9	10	10,3	9,5	15,1	16,4	13,7
East Anatolia	2,6	3	2,3	3,3	3,8	2,9	4,7	5,4	4	3,8	3,7	3,9	5	5,2	5	6,6	7,2	6
Southeast Anatolia	2,4	2,7	2,1	2,9	3,2	2,6	3,8	4,4	3,2	3,1	3,1	3	3,6	3,8	3,5	5	5,6	4,4

### 2.3 The Distribution and Density of the Elderly Population in Turkey with regard to the Districts between 1990-2010

The elderly population ration at the rural areas in Turkey shows an evident parallelism in 1990 and 2000 distribution maps. However, 2010 distribution map is quite different. It is important that the elderly population ratios in East and Southeastern Regions and a large part of the Salt Lake site in Central Anatolia in 1990 and 2000 maps were under 4%. Besides we can claim that the elderly population ratio in the Middle Black Sea and Central Anatolia regions is between 4-10%. Then in other areas of the country the rural elderly population constitutes various density regions between 10-32%. The subject regions are Eastern Black Sea, the upward parts of Kızılırmak, Otlukbeli-Mercan Mountains part of Euphrates, around Kastamonu-Sinop in West Black Sea, the west Thrace, South Marmara, the mid sides of Central West Anatolia with Menteşe vicinity, Göller vicinity and Sultan Mountains rural field in Antalya (Table 3, Figure 1).

**Table 3.** The primary Districts where the elderly population in the Countryside of Turkey has the highest ratio (1990-2010)

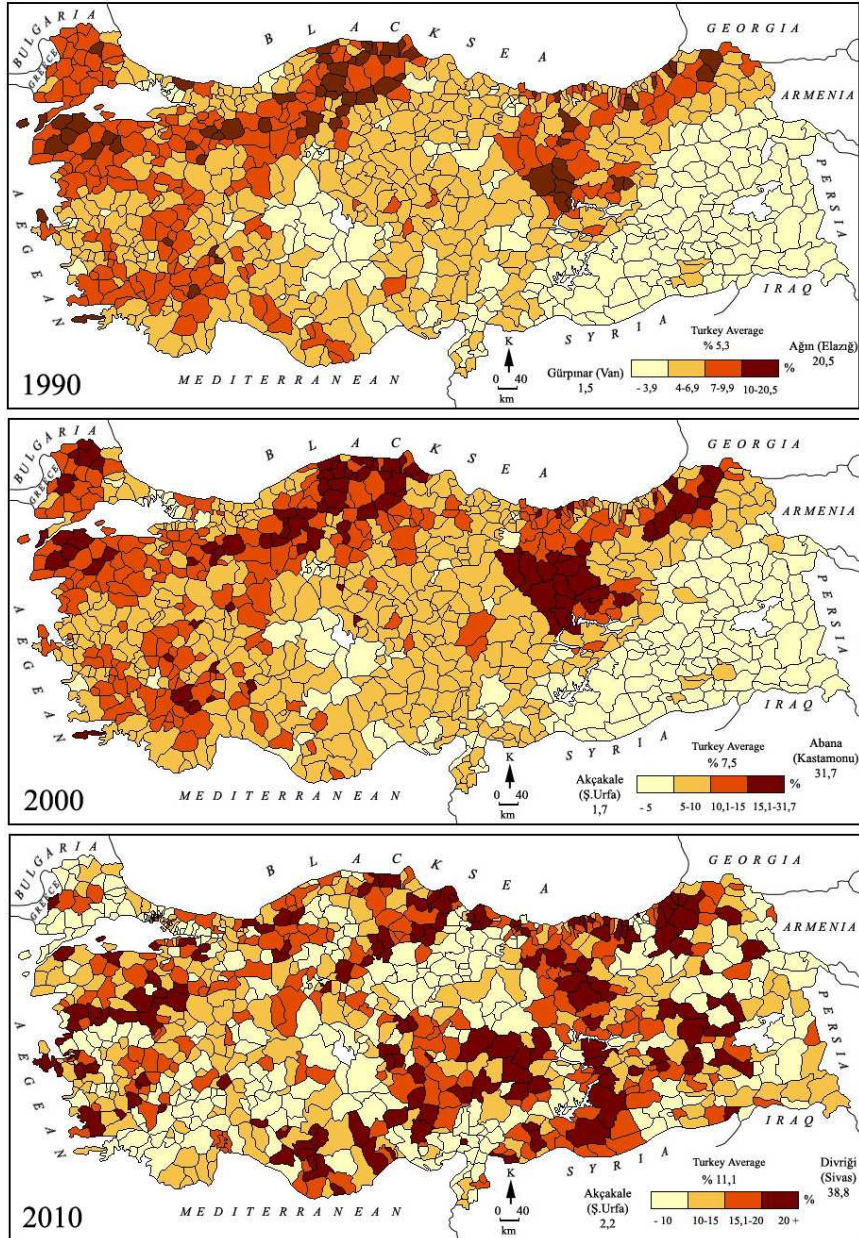
1990		2000		2010	
Districts	%	Districts	%	Districts	%
Ağın (Elazığ)	20,5	Abana (Kastamonu)	31,6	Divriği (Sivas)	38,8
Abana (Kastamonu)	19,5	Pınarbaşı (Kastamonu)	29,5	Ağın (Elazığ)	38,3
Kemaliye (Erzincan)	18	Ağın (Elazığ)	28,3	Kemaliye (Erzincan)	38,2
Korgun (Çankırı)	15,7	Çatalzeytin (Kastamonu)	27	Pınarbaşı (Kastamonu)	38,2
Şavşat (Artvin)	15,4	Hemşin (Rize)	26,8	Bayramören (Çankırı)	35,6
Saraydüzü (Sinop)	14,8	Kemaliye (Erzincan)	26,8	Gölova (Sivas)	35,5
Karaburun (İzmir)	14,3	Gölova (Sivas)	26,6	Kızılcahamam (Ankara)	35,1
Seben (Bolu)	14	Korgun (Çankırı)	26,5	Saraydüzü (Sinop)	35,1
Gölpazarı (Bilecik)	13,7	Divriği (Sivas)	25,9	Hemşin (Rize)	35,1
Çatalzeytin (Kastamonu)	13,5	Bozkurt (Kastamonu)	25,6	Ovacık (Karabük)	34,7
Dağça (Muğla)	13,5	Kemah (Erzincan)	25,5	Gölpazarı (Bilecik)	34,5
Ilgaz (Çankırı)	13,2	Saraydüzü (Sinop)	25,4	Kemah (Erzincan)	34,3
Atabey (Isparta)	13	Yayladere (Bingöl)	24	Korgun (Çankırı)	34,2

2010 rural distribution map reflecting the final situation has gained an interesting tissue. What is found to be interesting about the event is that a usual distribution pattern cannot be followed on the map. It is as if the regional differences in the countryside disappeared. The density regions which were in the coast and central parts in former periods have spread towards the East. The mountainous and rough areas of the country are at the same time the places where the elderly population is the densest. This distribution pattern can be seen almost all over the country. These secluded fields where the elderly population in rural is under 10% have a distribution depending upon hydrography, relief and certain morphographic features: Thrace, Yunt-Simav Mountains zone, Menteşe vicinity, Göller vicinity, around Salt Lake, the mid parts of West Black Sea, Up and Middle Kızılırmak

areas, Canik Mountains vicinity, Tercan-Iğdır gulley (Aras valley), Up Murat Water Basin, the east and south of Lake Van and Mardin verge. The rural areas apart from these regions are important density fields where the elderly population ratios have a distribution between 10-39%. The common features of these areas are that; they are the rural places where the migration from the rural to the town is dense, where those who attend these migrations are mostly from the age of working and where the elderly population who continue to work in the rural or who are at the period of retirement become evident (Table 3, Figure 1).

When we study the urban distribution map belonging to 1990: what stands out is that in the parts of the East Anatolia apart from the west of East Anatolia and Ardahan plato and Southeastern Anatolia Region county seats the elderly population ratios are under 3%. Besides it is seen that in Bozok Plato in the Central Anatolia, Uzunyayla Plato, the west and South of Salt Lake, Ankara and the county seats around it, too, the elderly population ratios are under 3%. Together with this in the Mediterranean Region especially in the county seats around Adana the elderly population ratios are under 3%, too. However, the density regions where the elderly population ratios in county seats are 6-13% take attention. Among the subject regions, the East Black Sea, Kastamonu-Sinop region and Bolu Mountains vicinity; the Thrace and South Marmara Region in Marmara; Aydın Mountains and Bozdağlar Vicinity, Menteşe Vicinity, Central West Anatolia in the Aegean Region, Eskişehir and Niğde-Nevşehir-Kayseri vicinity in Central Anatolia, the west of the Euphrates and Karasu-Aras vicinity in the East Anatolia can be counted (Table 4, Figure 2).

Figure 1. The Distribution of 65 + Age Group Population in Rural Areas in Turkey (1990-2000-2010)



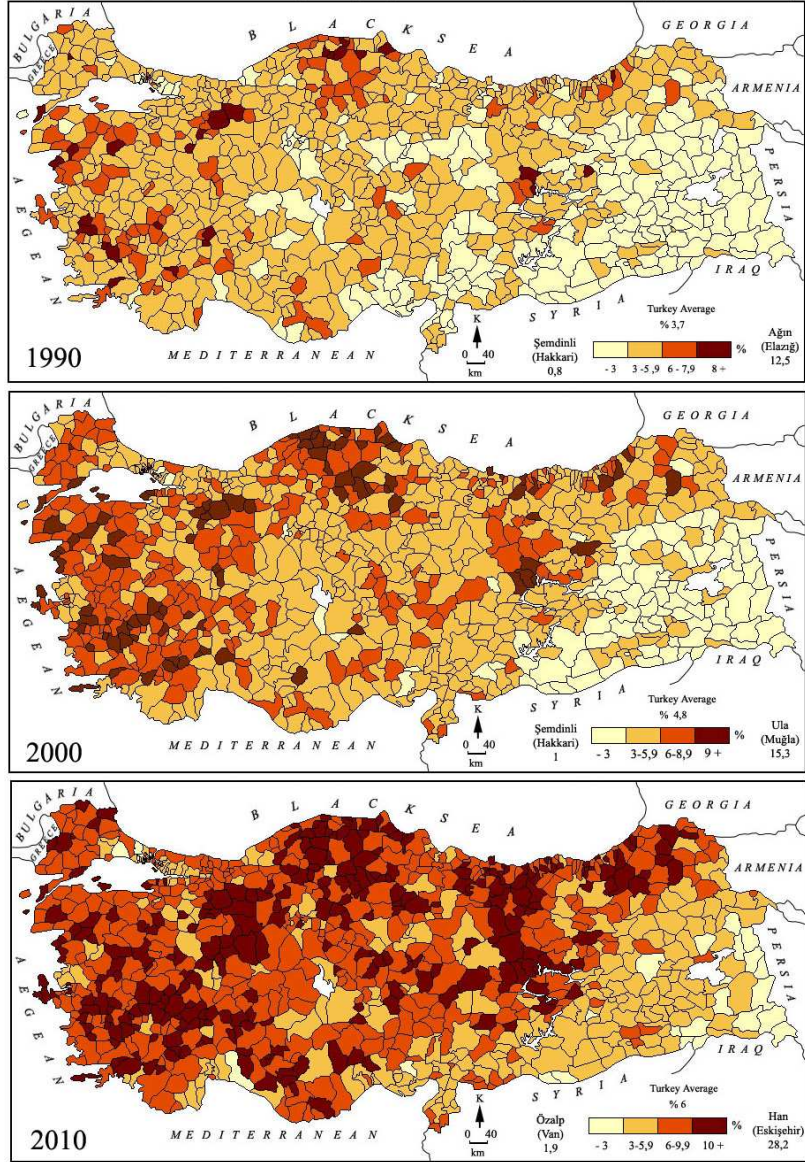


**Table 4.** The Primary Districts where the Elderly Population Ratios in Turkey County Seats are the highest (1990-2010).

1990		2000		2010	
Districts	%	Districts	%	Districts	%
Ağın (Elazığ)	12,5	Ula (Muğla)	15,3	Han (Eskişehir)	28,2
Ula (Muğla)	11,8	Karamanlı (Burdur)	14,6	Ağın (Elazığ)	22,2
Bekilli (Denizli)	10,3	Bekilli (Denizli)	13,8	Kızılören (Afyon)	22,2
Ağlı (Kastamonu)	10,3	Baklan (Denizli)	13,8	Hemşin (Rize)	20,9
Karamanlı (Burdur)	9,8	Kemaliye (Erzincan)	13,4	Pehlivan köy (Kırklareli)	20,6
Kemaliye (Erzincan)	9,4	Çamlıhemşin (Rize)	13	Baklan (Denizli)	20,2
Gömeç (Balıkesir)	9,3	Ağın (Elazığ)	12,8	Oğuzlar (Çorum)	20
Yayladere (Bingöl)	8,9	Yenipazar (Aydın)	12,4	Ahırlı (Konya)	19,9
Atabey (Isparta)	8,9	Seben (Bolu)	12	İbradı (Antalya)	19,6
İnhisar (Bilecik)	8,9	Pehlivan köy (Kırklareli)	12,3	Gülyalı (Ordu)	19,6
Bozdoğan (Aydın)	8,9	Güney (Denizli)	11,7	Yenişarbademli (Isparta)	19,3
Hemşin (Rize)	8,9	Kargı (Çorum)	11,6	Hanönü (Kastamonu)	19,2
Havran (Balıkesir)	8,8	Ağlı (Kastamonu)	11,6	Seben (Bolu)	19,1
Hanönü (Kastamonu)	8,8	Gölpazarı (Bilecik)	11,5	Başçiftlik (Tokat)	19

When we study the 2000 and 2010 urban distribution maps, we do not come across a different form from the characteristic, principle and ground in the 1990 distribution map. In the last 20 years, the elderly population has increased. This increase, of course, has increased the ratios of the elderly population in the county seats, too. The increasing ratios have formed evident and dense regions in distribution maps. And the subject regions are not different from the regions pictured in 1990 urban distribution maps. As clearly seen in these areas where the elderly population displays a relatively loose or thick distribution, there are various factors having effect on the distribution and density. These are heat, negative environmental conditions related to downfall conditions, rough and stiff geographical formations, the elevation, the land not suitable for agriculture and irrigation conditions, spring waters, tributaries, environmental conditions like the absence of hydrographical elements such as lake etc being in the first place; the problems about agricultural production, living problems, the presence of big industrial cities such as Ankara, Adana, Mersin and Gaziantep, the worker migrations to metropolitans and alike human and economic factors (Table 4, Figure 2).

Figure 2. The Distribution of 65 + Age Group Population in County Seats in Turkey (1990-2000-2010)



### 3. CONCLUSION

As it is the situation across the globe, as a result of the modernization, the improvements in the medicine and the advance of the life standards, the lifespan has lengthened and there has been an increase in the elderly population in Turkey, as well. Within the process of industrialization and urbanization, the

transformation of the extended family into immediate family, the migration from the rural to urban, the women's entering into the work life, the changes in the traditional culture and values resulted in the old people's losing their former role within the family, and the age becomes to be no more a prestige providing element, and because of the generation gap the nursing of the old people at home comes out to be a great problem. It is crucial to provide the needy elderly people, whose number increases day by day and who are living in a social and economic poverty, with a life in a peaceful home environment, to protect their physical and psychic health, to improve and maintain their social relations, to provide them with a peaceful and safe life in easy circumstances. For this reason the old people's homes were needed in our country. Whereas the regulations to enable the elderly people live in their own environments must be made. So, the needed infrastructure works together with social and legal regulations are to be commenced without delay.

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