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THE RELATIONSHIP BETWEEN URBANIZATION AND AGRICULTURAL AREAS IN THE AEGEAN REGION OF TURKEY

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Abstract

From the ancient period till now, coastal areas have always been most popular living areas. Coastal zone of Aegean Region, which covers nearly 2800 km from Maritza River to Dalaman Stream, with an area of 130.184 ha, has been in an important situation for the mankind because of its natural and cultural conditions. This zone is facing many problems resulting from population explosion. Suitable climatic conditions, productive agricultural lands, touristic resorts and good working conditions are the main reasons for this explosion. New settlement areas were created to solve the housing needs in the vicinity of cities. During this process usually large natural lands as well as fertile agricultural ones were transformed into an urban land. Therefore agricultural lands have gradually decreased day after day. Unfortunately, these applications effected Meander and Great Meander Basins just like the other basins of the Aegean Coastal zone. The current presentation discusses this situation with case studies from the center of Aydin Province, Soke and Kusadası districts, in the light of studies undertaken during the last decade in these basins.

Introduction

Soil and water have been the most significant factors determining the life styles of human societies since antiquity. As the presence of water constitutes an ideal habitat for agriculture, and thus for the mankind, the most ancient civilisations of human history have emerged, like those in our country, on the water banks. Both climatic conditions as well as coastline facilities are of great importance for our country, which has got an 8333 km. coastline. Along the Aegean Coast line from the Maritza River to the Dalaman Stream, there are especially some agricultural-significant habitats. Both from an agricultural standpoint and because of their rich natural and cultural resources, the tourism potential of these areas has been increasing. Due to the urban settlements in these locations, many problems in agricultural areas have emerged. Especially the District of Kusadası with a settled population of 55.000 and a summer population of some 500.000, is under the oppression of land use planning decisions with no long-term objectives under the disguise of second houses and

tourism. Within the scope of this study, it has been intended to examine the land use planning decisions, especially in agricultural areas, on the basis of product, along side with the demographic changes, in the Province Center and Kusadası and Söke districts of the Province of Aydın on the Aegean Coast line (Figure 1).

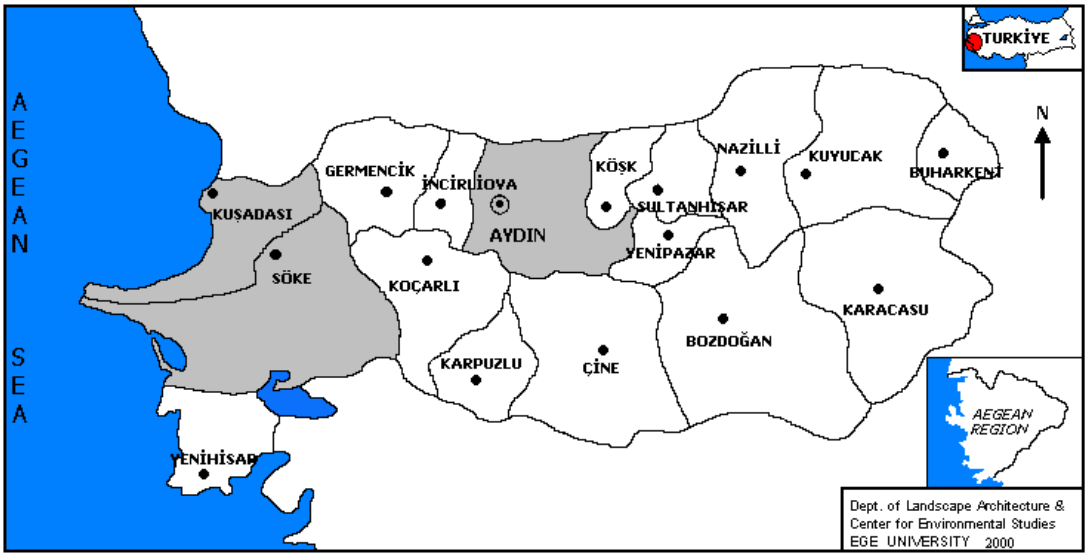

Fig. 1. Study Area

Study area

Aegean Region, one of the seven geographical divisions of the country, covers an area of 75601 km^2, which is roughly 9.28 percent of the total area of Turkey and includes mainly the states of Izmir, Balıkesir, Manisa, Muğla, Aydın, Denizli. The region lies on the coastal area of Aegean Sea and enjoys a typical Mediterranean climate, with four distinct seasons a year, summers being dry and hot, winters mild and rainy. Mean annual temperatures for the summer season range between 21°-30°C and for the winters between 3°-10°C (OZTURK et. al., 1996).

Demographic developments

The Aegean Region with a total population of 8.452.087 covers 13 percent in total population (62.865.574) of Turkey (Figure 2). Our research area, the Province of Aydın, which is located in the Aegean Region, shelters 10.6 percent of the region's population. The gross population is 899.980 and it consists of a city population of 465.087 and a village population of 434.893. The Province of Aydın, which covers 7851 km square with 17 districts and 512 villages, has a population density of 115 per/km^2. While the annual rate of growth is 0.15 percent in Turkey, this ratio is 0.12 percent in the Province of Aydın (Figure 3) (ANONYMOUS, 1999-a).

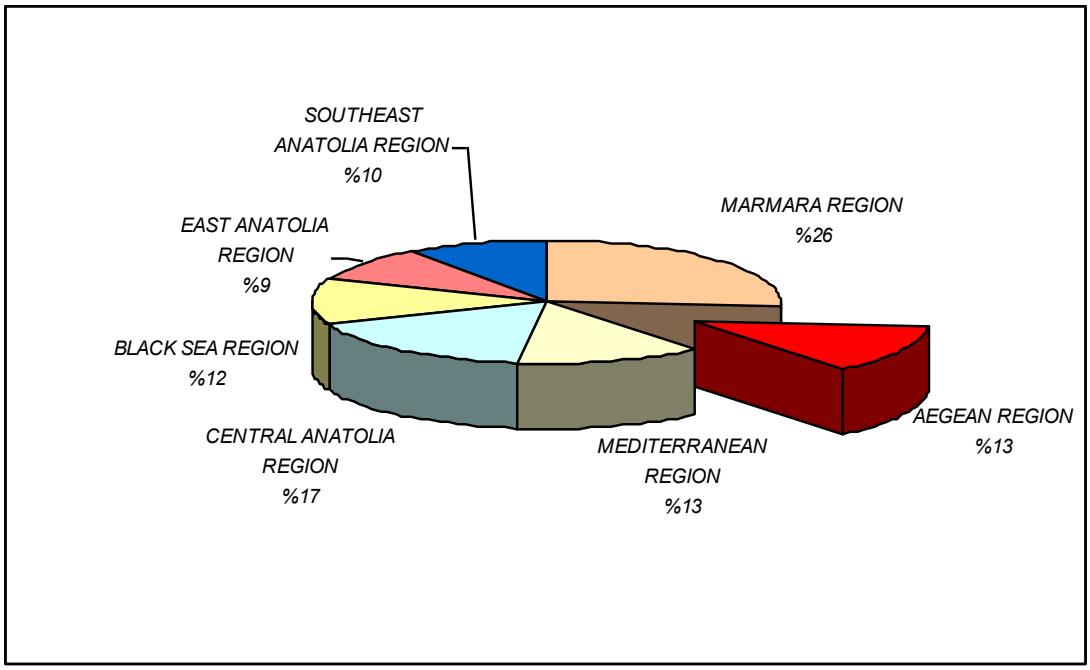

Fig. 2. Ratio of population in portions of regions in Turkey (source: ANONYMOUS, 1999-a)

There seems to be an increase on annual rate of growth in the whole province including Province Center, Kusadası and Soke districts when demographic developments scanned by years (Figure 4). While the annual population increases 0.12 percent in the Province of Aydın, this ratio is 0.31 percent in Kusadası District, 0.23 percent in the Province Centre and 0.6 percent in Soke District. With this percentage Kusadası District has the second fast growing population when the whole province is taken into consideration (ANONYMOUS, 1999a).

When compared as city and village population in these districts from 1980 to 1997, while the population decreases in villages, it proportionally increases in city of the Province Center (Figure 5). In Kusadası, where the tourism sector is dominant, it is observed that a quite amount of increase in city population and steady increase in village population occurred. The reason of the situation is the second houses and tourist accommodation facilities. There are 429 sites of residents, 32.719 second houses and 130.876 touristic beds. In the agricultural district of Soke, both city and village population has increased gradually.

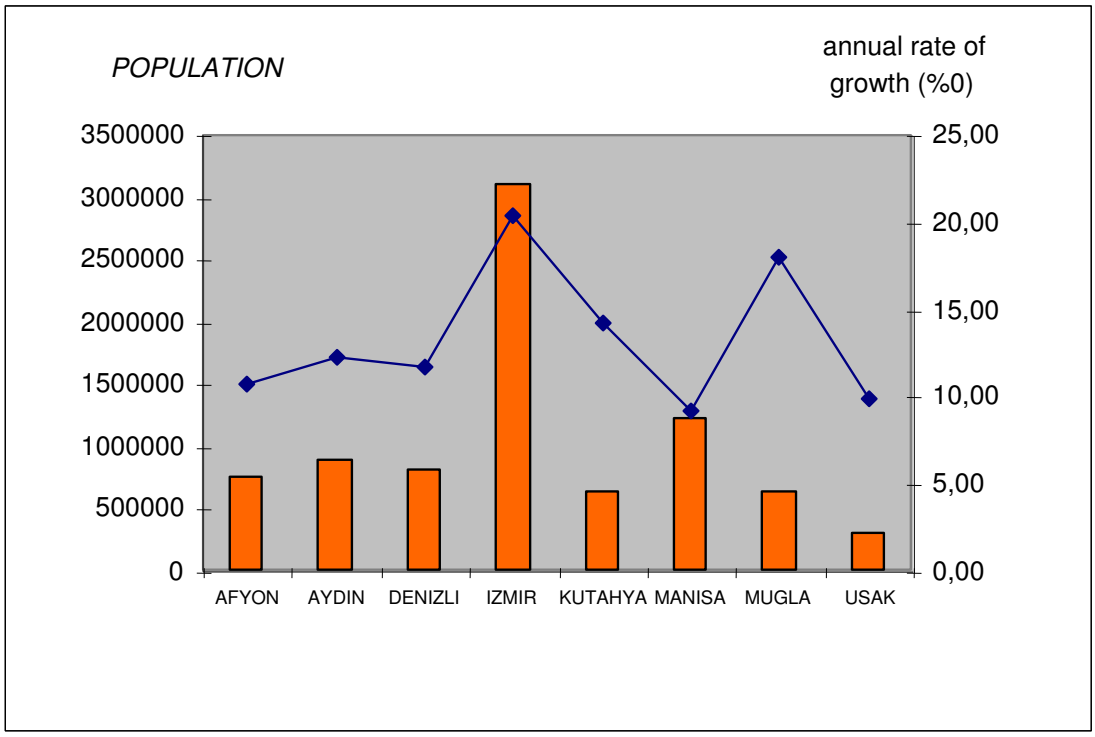

Fig. 3. Population and annual rate of growth in Provinces of Aegean Region (source: ANONYMOUS, 1999a)

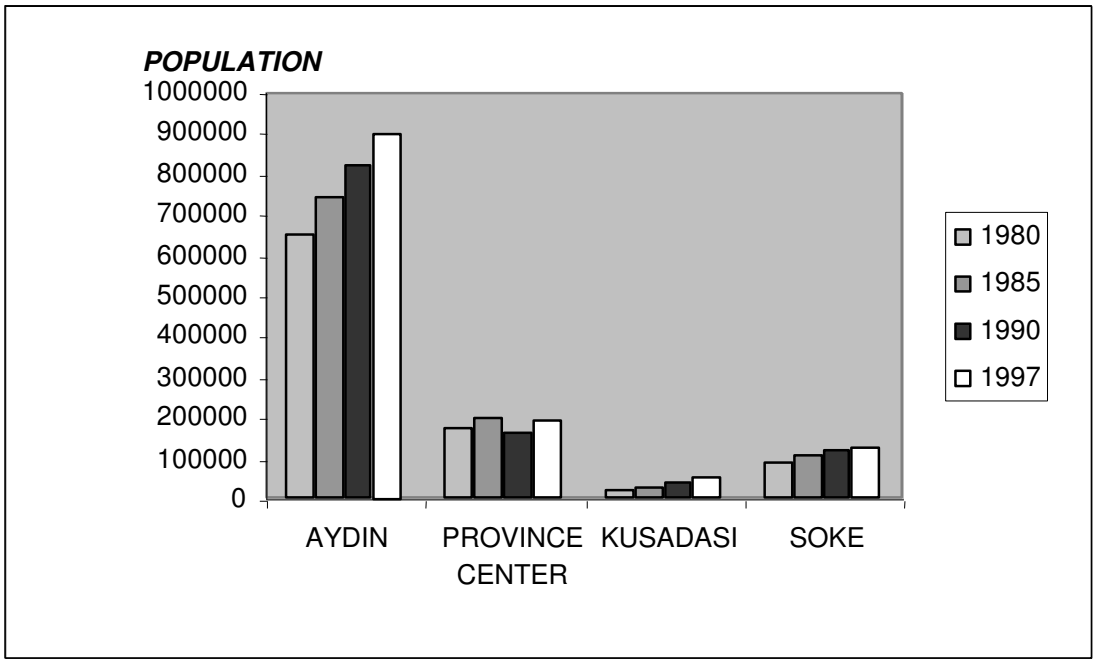

Fig. 4. Demographic developments during 4 c*ensus taken in the Province of Aydın, Province* Centre, Kusadasi and Soke Districts (source: ANONYMOUS, 1981; 1986; 1991; 1999a)

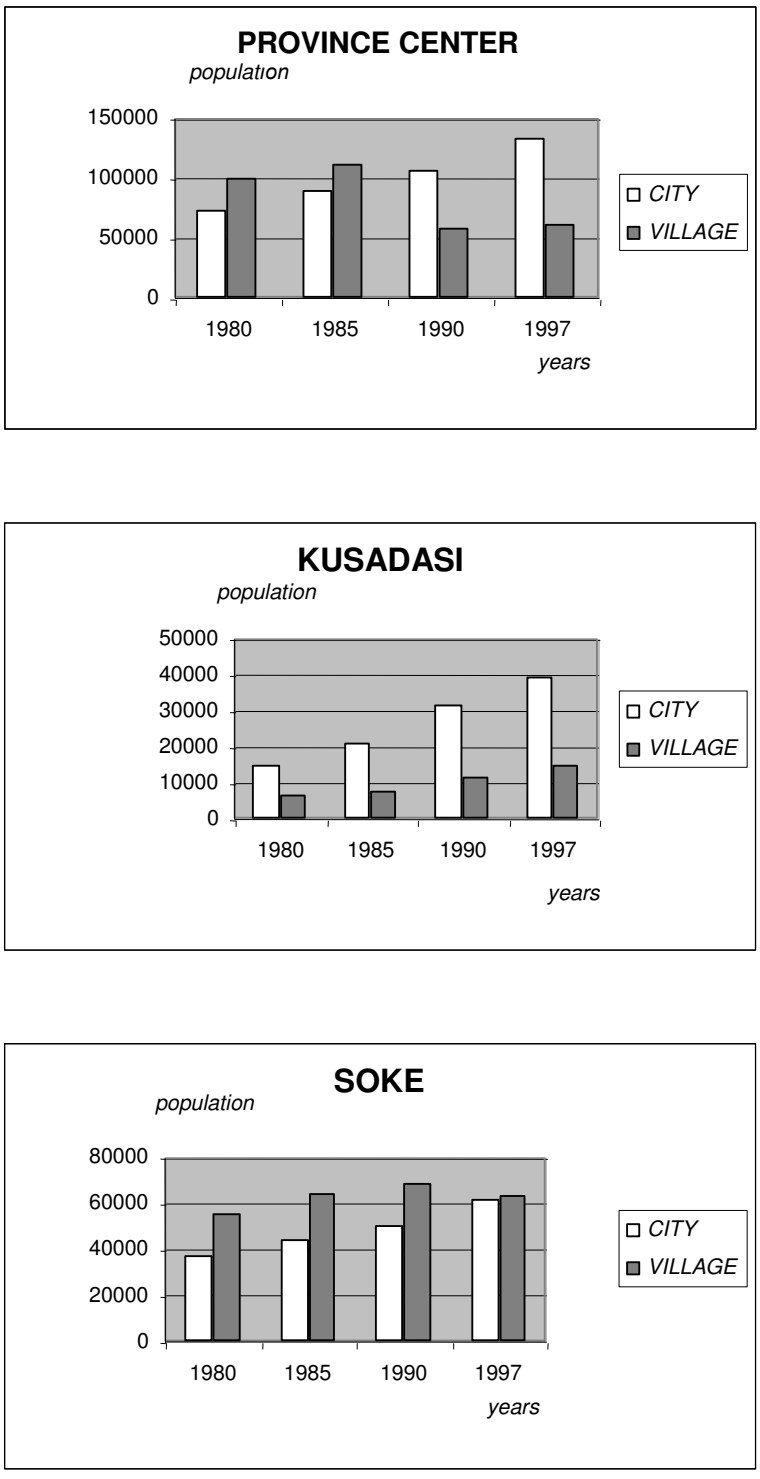

Fig. 5. Demographic developments in Province Center, Kusadası and Soke Districts
(source: ANONYMOUS, 1981; 1986; 1991; 1999a)

Agricultural areas

Out of a total of 78 million hectares of land in Turkey, total agricultural lands cover 34 percent (26.863.506 ha). Total agricultural lands are covered by 87 percent (23.522.315 ha) of cultivated lands, 3 percent (774.563 ha) vegetable gardens, 10 percent (2.566.628 ha) fruit and olive plantations and vineyards (Figure 6). The Province of Aydin covers 1.59 percent of total agricultural lands of Turkey. Total agricultural lands of Aydin Province is covered by 39 percent (427.843 ha) of cultivated lands, 4 percent (17.548 ha) vegetable gardens, 57 percent (243.313 ha) fruit and olive plantations and vineyards (ANONYMOUS, 1999b).

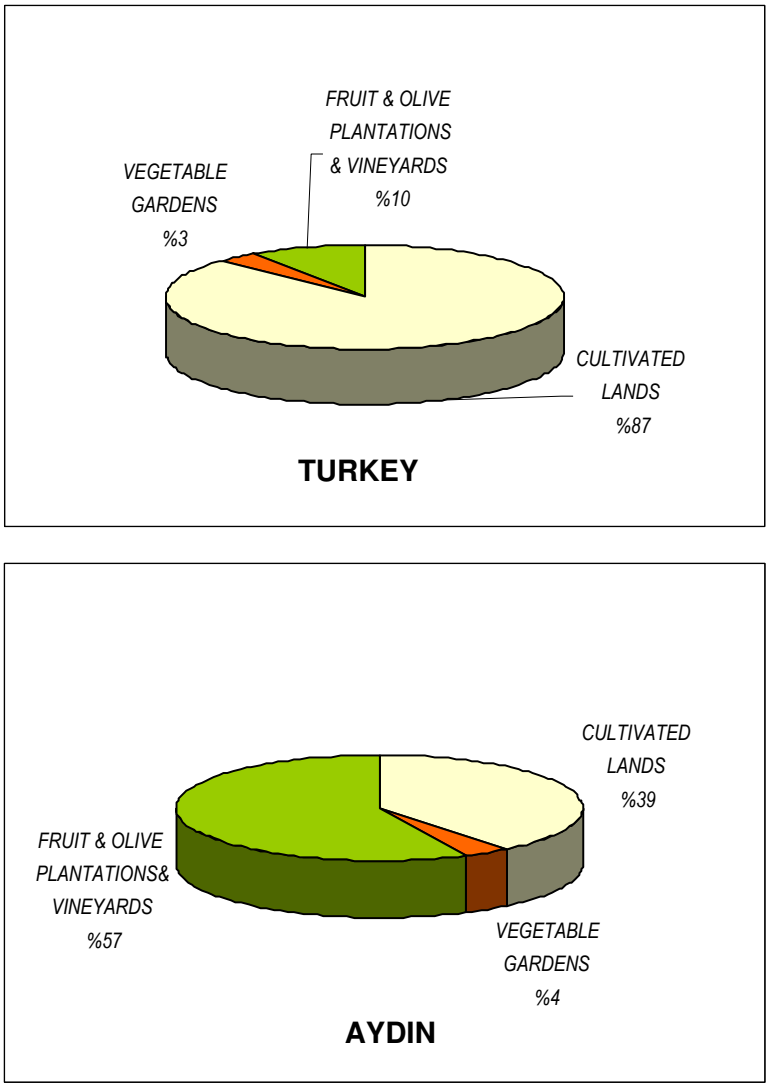

Fig. 6. Agricultural lands of Turkey and the Province of Aydin (source: ANONYMOUS, 1999b)

The Province of Aydin is very rich in the aspect of agricultural production. 51 percent of the total lands of Aydin is covered by agricultural land. The cultivated lands are mostly in Meanders Basin where the climate, soil quality and the irrigation facilities enable the area to be used for intensive agriculture. In these lands cereals, tobacco, cotton, vegetables, citrus fruits, grape, fig and olive are produced. The Province of Aydin is the fourth of turkey for agriculture. Besides the climate and soil conditions, the most important factor for the abundance of agriculture is Great Meander River, which feeds the region (ERDEM et. al., 1999). Especially the Province of Aydin is rich of fruit, olive trees and vineyards with 57 percent of total agricultural lands of province. This ratio shows that 9.5 percent of the olive plantations and vineyards of Turkey are in Aydin Province. Statistical data between 1993-1999 show that the main agricultural products of the Province of Aydin were studied on the examples of Province Center, Kusadası and Soke districts.

The plantation area of fig which is one of the important economical product of Province depending on it's being an export product has not changed since 1993, but the number of fig plants has increased 25.500 more. Production rates change in years (Figure 7). Since 1/5 of the plantations were planted recently, the increase in number of plants has not been reflected into production rates. The tobacco, which was planted on 5 ha in 1993 and 7 ha in 1995, is not likely to be planted anymore (Figure 8). While an increase of 648 ha in the area of cotton farming had occured since 1993, the production rates fluctuated in years depending on the interchangeable planting of cotton and wheat (ANONYMOUS, 1993, 1995, 1997, 1999b).

Soke is one of the agriculturally important districts of Aegean Coast. Cultivated lands cover 60.971 ha of land in total of 130.184 ha. On these lands, cotton primarily, olive, wheat and curuit fruits are farmed intensively. Since the cultivated lands surround the city center, they are very sensitive in the aspect of balance between urbanisation and agriculture. The population of Soke District was 119.750 in 1990; when it raised up to 125.000 in 1997, changes on the coverage of some products in agricultural lands were observed in Figure 8, 9, and 10. 36 ha of land were set aside for vineyards in Soke District. There has not been an important change of production rate in years. In 1999, grape production reached to its peak of last six years. Number of olive plants were 1.590.650 on the land of 22.082 ha in 1993, a decrease of 20.650 plants in 400 ha was observed through the years up to 1999. Tobacco was planted on 7 ha in and there was no more plantation of tobacco since then. Wheat and cotton productions have changed in years because of the interchangeable plantation of these plants just like it has been in the whole province. Cotton and wheat, which are the main products of Aydin Province, are mostly farmed in Soke District (ANONYMOUS, 1993; 1995; 1997;1999b; NURLU et.al., 1998).

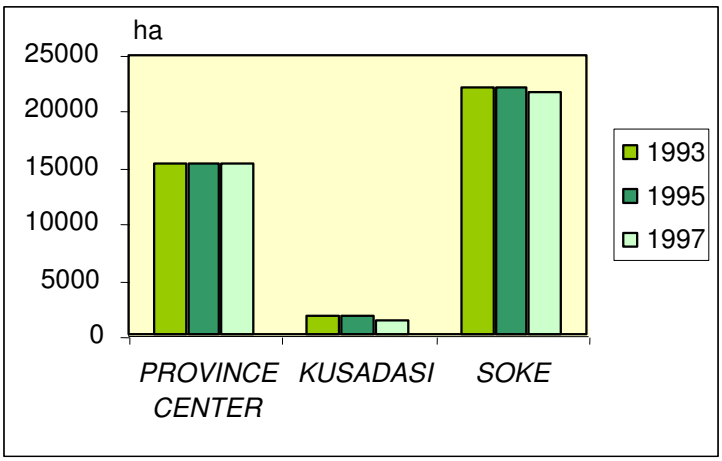

Fig. 7. Land occupied by figs (source: ANONYMOUS, 1993; 1995; 1997; 1999-b)

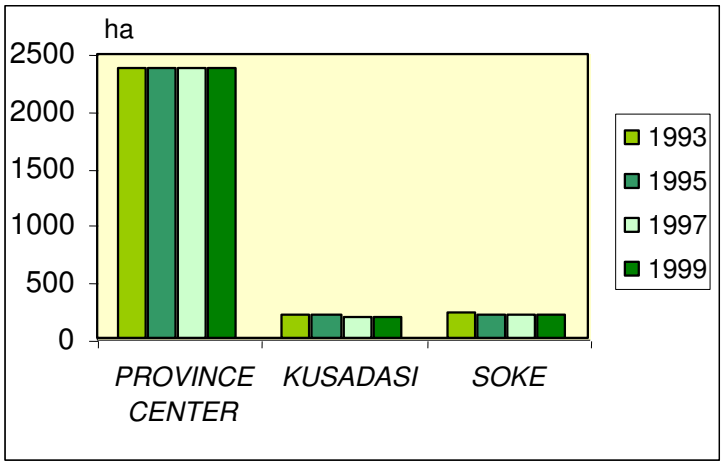

Fig.8. Land occupied by tobacco (source: ANONYMOUS, 1993; 1995; 1997; 1999-b)

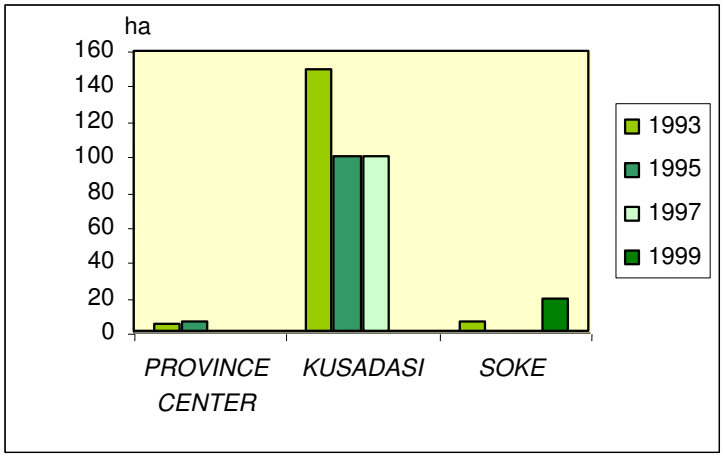

Fig. 9. Land occupied by olive trees (source: ANONYMOUS, 1993; 1995; 1997; 1999-b)

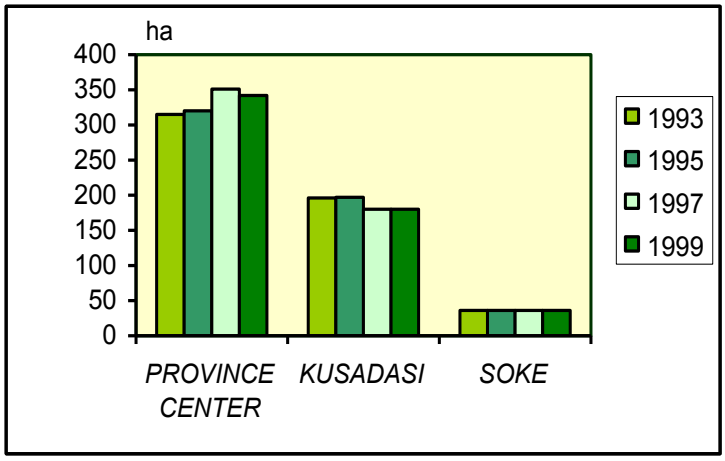

Fig. 10. Land occupied by vineyard (source: ANONYMOUS, 1993; 1995; 1997; 1999-b)

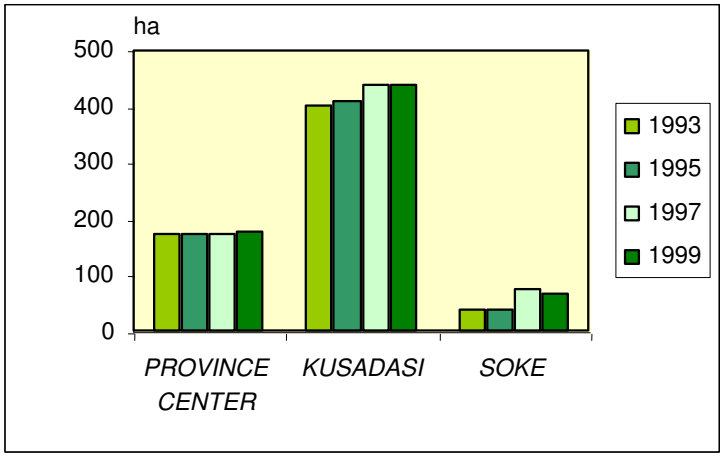

Fig. 11. Land occupied by peaches (source: ANONYMOUS, 1993; 1995; 1997; 1999-b)

While the population of the Kusadası District, which was 43.636 in 1990, raised up to 54.502 in 1997, some changes have also been observed in major products of agricultural areas. The population has increased mainly in the coastal area whereas there has been almost no, or only very little, alteration in the mountain villages. The decrease in the number of the olive trees, which constitute a significant income both for Kusadası District and the whole country, from 500.000 in 1970s to 300.000 today, and of the fig trees from 45.000 to 30.000, are very important. In the last six years, the number of the olive trees has fallen into 300.000 with a 60.000 decrease, and olive trees area has declined to 1526 ha with a 228 ha reduction (Figure 9). However, during these six years, the peach production area had risen to 440 ha with a 40 ha increase, and the number of the trees has amounted to 172.000 with a 20.000

rise. On the other hand, the mandarin area has fallen into 150 ha with a 260 ha decrease, and the production amount has declined approximately to 2800 ton with a 2000 ton reduction (ANONYMOUS, 1993; 1995; 1997; 1999b; ERDEM et. al., 1997).

Discussion and conclusions

Apart from the economic functions of agricultural areas such as production and subsistence, their social functions like ecological structure, fauna and flora protection, and recreation possibility provision should not be disregarded. Some other objectives such as protection of agricultural areas, soil-water balance, climatic stability and protection of biotops are also of significance. Thus, the major global objectives of using these soils are determined as durable productivity, field harvesting and benefitting by means of agricultural area protection.

It is much more necessary to draw nation wide maps of field potential usage especially in our coastal regions. Tourism sector, summerhouses, agricultural product values and national economy should be considered within this scope, and our provinces should be re-evaluated. Unless necessary measures are taken, Soke District will be also negatively affected by an immense immigration demand like Kuşadası.

Especially our coastal towns should be re-considered from the standpoints of autonomous administration and public participation.

Another significant result of our study is the necessity to re-consider the concept of "Agricultural Site". According to the Act of Ancient Remains numbered 1710, sites are defined as "the topographic areas, which are the works of either the co-operation of the mankind with nature, or the nature herself, to be protected and evaluated because of their homogeneity and peculiarity alongside with their historical, aesthetic, scientific, ecological, ethnographic, literary and legendary significance". Thus, the researchers of this study define and propose agricultural areas as sites, that's within the concept of "Agricultural Site".

Although out the world, recent studies have concentrated on the loss of natural sources. Soil and water, as the two indispensable determinants of human survival, constitute the first item in global agenda. On the other hand, when the starvation problems are considered, agricultural soils become more important. It should not also be disregarded that a considerable amount of the agricultural areas is owned by either the underdeveloped on the developing countries. However, these areas could only be protected by the help of the developed countries. Thus, there would be a decrease in the social problems of the world population that might emerge in the future.

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