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Influences Of Planning Decisions And Implementations Upon The Agricultural Lands Of Bursa

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**40th CONGRESS OF THE EUROPEAN REGIONAL SCIENCE ASSOCIATION
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**INFLUENCES OF PLANNING DECISIONS AND IMPLEMENTATIONS UPON
THE AGRICULTURAL LANDS OF BURSA**

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Abstract

Bursa as one of the industrial cities of Turkey, have assumed significant economic roles until today, but in the meantime, the city has encountered the danger of losing its natural and historical values as well as its fertilized agricultural lands parallel to rapid urbanization and industrialization. The excessive concentration of settlements at the historical sites right at the skirts of the mountain (Uluda•), and illegal use of agricultural lands for settlement purposes are the most remarkable phenomenon of the past 30-40 years.

The current structure of Bursa is the result of the developments both inside the City and in Turkey that were reflected upon the City. Various natural, historical, economical and political conditions have amalgamated in a such way to make Bursa attain its present status.

The main purpose of this study is to investigate the negative effect influences of the rapid urbanization on the agricultural lands of Bursa and to evaluate some recommendations as to how these areas could be properly utilized for the benefit of the urban environment.

1. Introduction

Urbanization has been highlighted as one of the most pronounced economic and social problems in all developed and developing countries, and certainly is one of the most peculiar characteristics defining our age. Especially in developing countries, there has been a significant change in the relationship between the physical forms of settlements and the natural environment (Owen, 1991).

Turkey has undergone into a rapid urbanization process after 1950's and after a short while urban population started increasing at a higher rate than the general population increase. Migration to cities has been a few times more than expected, thus, an urbanization that matches with the existing plans could not be attained.

For most of Turkey's cities, the leading factor that attracted immigrants was industrialization. Employment that is created by industrialization and the tendency to utilize urban facilities attract thousands of people to metropolitan cities every year.

Since no realistic and correct plans were produced, and no settlement zones and employment facilities were created for migrating population, illegal settlements were motivated. Also amnesty was granted from time to time for such illegal settlements that in turn further augmented the already speeded-up migrations. Title-deeds were delivered to owners of illegal settlements and eyes were closed against sale of public and treasury lands in shared lots (Ergun, 1995). In time, fields, vineyards, gardens, meadows, pastures and ranches were divided up into lots and lands were pillaged.

In this way, some of Turkey's cities have undergone large scale changes in a short time as a result of such population over-ride. Many cities of Turkey, each of which has a distinct location, natural and historical values and which have been able to protect such properties for centuries, are now to lose such properties one by one since no measure has been taken to prevent the pseudo-urbanization process that they are exposed to.

In this study, the city of Bursa has been selected as a sample for the topic in question. It is because, Bursa is one of the most interesting examples to demonstrate how effective

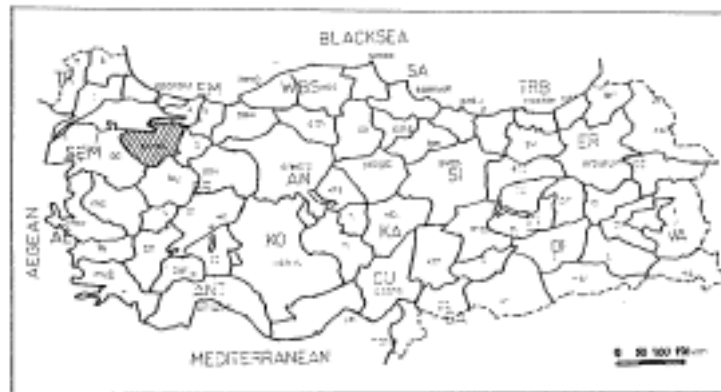
the rapid urbanization has been in changing the agricultural lands of the City causing it to gradually lose its image as "Green Bursa" (Açay, 1996).

The main purpose of this study is to investigate the negative effect influences of the rapid urbanization on the agricultural lands of Bursa and to evaluate some recommendations as to how these areas could be properly utilized for the benefit of the urban environment.

2. Study Area

Bursa is the Provincial Center, located in the south-east of the Sea of Marmara (Fig. 1), fully enriched with both historical and natural values, having a population of the entire province of 1.958.529 as for 1997. The population of the center that is inside the municipal boundaries is 1.066.559 a for the year 1997 (SIS).

Figure 1. Location of Bursa



Bursa has been founded by Prusias, King of Bithynia, in 150 BC; thereafter it was under the sovereignty of Rome for 450 years. Bursa was under the Byzantium administration after the division of Rome and became famous for its thermal springs during this period. In 1326 Bursa was conquered by the Ottoman Empire and has been the capital city of the Ottoman Empire for many years. Bursa which attained today with the city-walls out of Bithynia period, the thermal springs and baths out of Rome and Byzantium periods as well as the baths out of the Ottoman period, thermal springs, inns and bridges has also archaeological and architectural sites with significant sizes and quality.

The population of city center of Bursa Province is in the 4th place in Turkey following • stanbul, Ankara and • zmir. Although the population forecasts made by Turkish State Planning Organization indicated Bursa to become the 4th biggest city in Turkey in the year of 2000 (Report 1), this forecast became reality in 1997 census (Table 1).

Table 1. Population of Turkey's Five Big Cities in Census Years (SIS).

	1955	1960	1965	1970	1975	1980	1985	1990	1997
• stanbul	1268771	1466535	1742978	2132407	2547363	2772708	5475982	6620241	8260438
Ankara	451241	650067	905660	1236152	1701004	1877755	2235035	2559471	2984099
• zmir	296559	360829	411626	520832	636834	757854	1489772	1757414	2081566
Adana	168628	231548	289919	347454	475384	574515	777554	916150	1041509
Bursa	128875	153866	211644	275953	346103	445113	612510	834576	1066559

When the speed in increase in populations for the five big cities are compared, the development of Bursa especially in 1975-1980 period is noticeable (Table 2).

Table 2. The Speed of Urban Population Increase in the Five Big Cities of Turkey (%)*(SIS).

	1950-55	1955-60	1960-65	1965-70	1970-75	1975-80	1980-85	1985-90
• stanbul	5.10	2.89	3.45	3.55	3.55	1.69	13.61	3.79
Ankara	8.94	7.30	6.63	6.38	6.38	1.97	3.48	2.71
• zmir	5.29	3.92	2.63	4.02	4.02	3.47	13.51	3.30
Adana	7.20	6.34	4.49	3.62	6.26	3.78	6.05	3.28
Bursa	4.32	3.54	6.37	5.30	4.53	5.03	6.38	6.18

*Populations that inside the Municipal Boundry

Bursa is today a city of industry and has the 3rd place at the number of workers in industry. It generates 91.25 % of the industrial products. When the economical structure of central Bursa is investigated, it can be seen that big portions of working population are in the industry and service sectors (Table 3).

Table 3: Distribution of Working Population Among Sectors (SIS).

	1970	%	1980	%	1985	%	1990	%
Agriculture	3568	4	1911	1	2754	2	11889	4
Industry	45069	51	67190	49	92097	50	140197	51

Services	40310	45	69422	50	87427	48	121105	45
TOTAL	88947	100	138523	100	182278	100	273191	100

Bursa has an important potential in the agricultural lands in regional scale. 17% of the territory of Bursa is covered with agricultural lands. Bursa Plain with an area of 208 km² has valuable agricultural land and besides vegetables and fruit gardens, industrial crops are also grown here. There are 75980 ha. of 1st grade and 96430 ha. of 2nd grade agricultural lands and the province takes the first place in agricultural production in Turkey. The 5.36 % of Turkey's agricultural production are from Bursa.

The City's developed industrial functions decreased the effects of topography on the City's overall frame. In spite of various measures, the City that continued climbing on Uluda• mountain and Bursa Plain was, so to say, damaged because of illegal settlements and industrialization. The historical and natural values of the City have encountered the great risk of deterioration and demolishing.

3. Agricultural Lands of Bursa (Bursa Plain)

The location , the climate, the natural springs, the thermal springs and the fact that the areas except the settlement zones are covered with vegetables and fruit trees as well as the skirts of the Uluda• mountain that are covered with forests are the natural advantages of the City.

Bursa Plain has an important agricultural potential due to its climate and soil. The eastern side of the plain, which was a moor until the 1950's has been used first as a meadow and pasture after the moor has been dried; thereafter this area has been covered with mulberry trees, especially due to the activities related with silkworm growth. As artificial silk industry was activated during the 1960's, the mulberry trees have been replaced with peach trees because they were not economical. Besides fruit growth, especially peach, pear and apple gardens, vegetable growth is also common.

A significant part of the products grown here is used as raw material in the food industry, which concentrates in the province.

4. Influences of Planning Decisions and Implementations Upon the Agricultural Lands of Bursa

The changes occurred in land use of Bursa from the past up to now, have been evaluated by the investigation of rapid urbanization process and plans introduced at various dates together with their implementations on the City.

- **Master Plan 1924 :** The first study on zone planning in Bursa was made by Carl Lörcher, German Citizen, but the plan was not implemented.
- **Master Plan 1940:** In 1938, Prost, a French-man, started studies on zone planning, which was implemented to a great extend. Among the important decisions taken were disposing of unfertilized land of Bursa Plain for settlement and improvement of old settlement zones.

Implementations in the Period 1940-1960

At 1940-1960 period, the Industrial Zone in the north, where state investments were located was deemed suitable for improvement due to its housing and service interaction. In 1950's, immigrants from Bulgaria were settled at that zone. In 1950's the process of building blocks of apartments started, and it was observed that tendency was to expand towards the agricultural lands because of suitability and size of the land.

- **Master Plan 1960 (scale:1/4000) :** Piccinato designed the zoning plan 1960 and defined Bursa as "a city of which the economy is based on agriculture and hand-works, a city magnificent with its city and country agricultural lands" and his plan was a plan that targeted improvement and modernization of the city, whereby preserving the city's existing characteristics (Report 2).

Implementations in the Period 1960 – 1975

As from the year 1960, population of Bursa, both in the center and in the province started increasing at a noticeable rate. It first caught the overall population increase rate of Turkey, and then overpassed it.

Starting from 1960, impacts of General Economic Policies that were implemented as a result of the changes in Bursa Industry have been notable.

Factors such as being located on the crossing point of transport axes connecting three big cities of Turkey (• stanbul, Ankara and • zmir) as well as being located in the near vicinity of other industrial cities within the region, the appropriateness of the topography, abundance and variety of agricultural products facilitated establishment of Food Processing Industries and the Furniture Industries selected Bursa due to the availability of forest products in the region, Bursa was suggested to establish Organized Industrial Zone (Batkan, 1996).

After 1960's, a significant development was observed in production of semi-finished products and investment goods, besides consumable goods, at Bursa manufacturing sector. Particularly, increased land prices due to continued investments in such cities as • stanbul and Kocaeli since 1950's have been effective in attracting investments to Bursa.

The employment that was created by the Organized Industrial Zone and the immigrations resulting therefrom led to a noticeable increase at population until 1970. In 1950, rate of domestic migration to Bursa was 7.7%. Between 1950 and 1980, it almost tripled, reaching at 21.5%. That increase was realized after 1975 in particular, when Bursa was converted into an important industrial district.

The city population almost doubled within a short period of decade, and settlement rushed towards the agricultural lands.

- **Zoning Plan 1976 – (scale:1/25000)** : In the Zoning Plan 1976, Bursa is no more the city that has been defined by Piccinato, it now is a city where industrial activities have concentrated and the illegal settlement due to the rapid increase of population has found place rapidly, even in the Bursa Plain. In this plan, the main idea was to protect the agricultural lands, whereby the sections to be protected were indicated. The Zoning Plan 1976 motivated the City's development at east-west direction.

Ankara-• zmir Highway was shifted to further north, thus becoming a sort of border for northern development.

Implementations in the Period 1976 – 1984

During the period 1976-1984, a specific model of housing was developed, on cheap lands and small lots, where settlement was determined by settlers themselves. The settlements in the agricultural lands developed, either illegally or by permits issued through upgrading plans (Batkan, 1996) (Report 3).

- **Master Plan 1984 – (scale:1/5000) :** The Master Plan 1984 (1/5000) is in fact a continued version of the Zoning Plan 1976 and it has been prepared by Bursa Master Plan Office. In this plan, Ankara-• zmir highway was further shifted to north and thus the city was further moved towards the plain. Mass Housing Projects were designed in order to prevent rapid development of squatter houses around Industrial Zones, and Mass Housing Zones were determined and approved in 1984. In consequence, a settlement zone on the agricultural lands, of 965 ha. designed for 258000 inhabitants and the Mass Housing Zone in the west, is the largest one were planned and situated on agricultural land (Report 4).

Implementations in the Period 1984-1990

Bursa ranks second, after Kocaeli, among the provinces that were exposed to domestic migration at the highest rate, between 1960 and 1980. Bursa was much affected by the large scale migration from Bulgaria in 1989 and need for housing increased. That increase in demand led to an expansion towards the agricultural lands, leaving no land inside the city for housing eventually bringing forward the fact of shared-lots and non-planned settlement, since the city had been fully occupied before this migration.

In the west of the agricultural lands, the university campus with 16000 ha. was taken into service and the development of the city in this direction accelerated.

- **Revision In The Period 1990-1995 (scale: 1/25000)**

In the Revised Master Plan of 1990, the main idea was to create planned zones considering the demand. For that purpose, it was decided to design a plan incorporating small lots at Housing Zones, to which demand was high. In the revision of 1990, demand for reconstruction was assessed and efforts were made to control illegal settlements. The Organized Industrial Zone highly expanded inside the agricultural lands, and new mass housing zones were planned (Report 5).

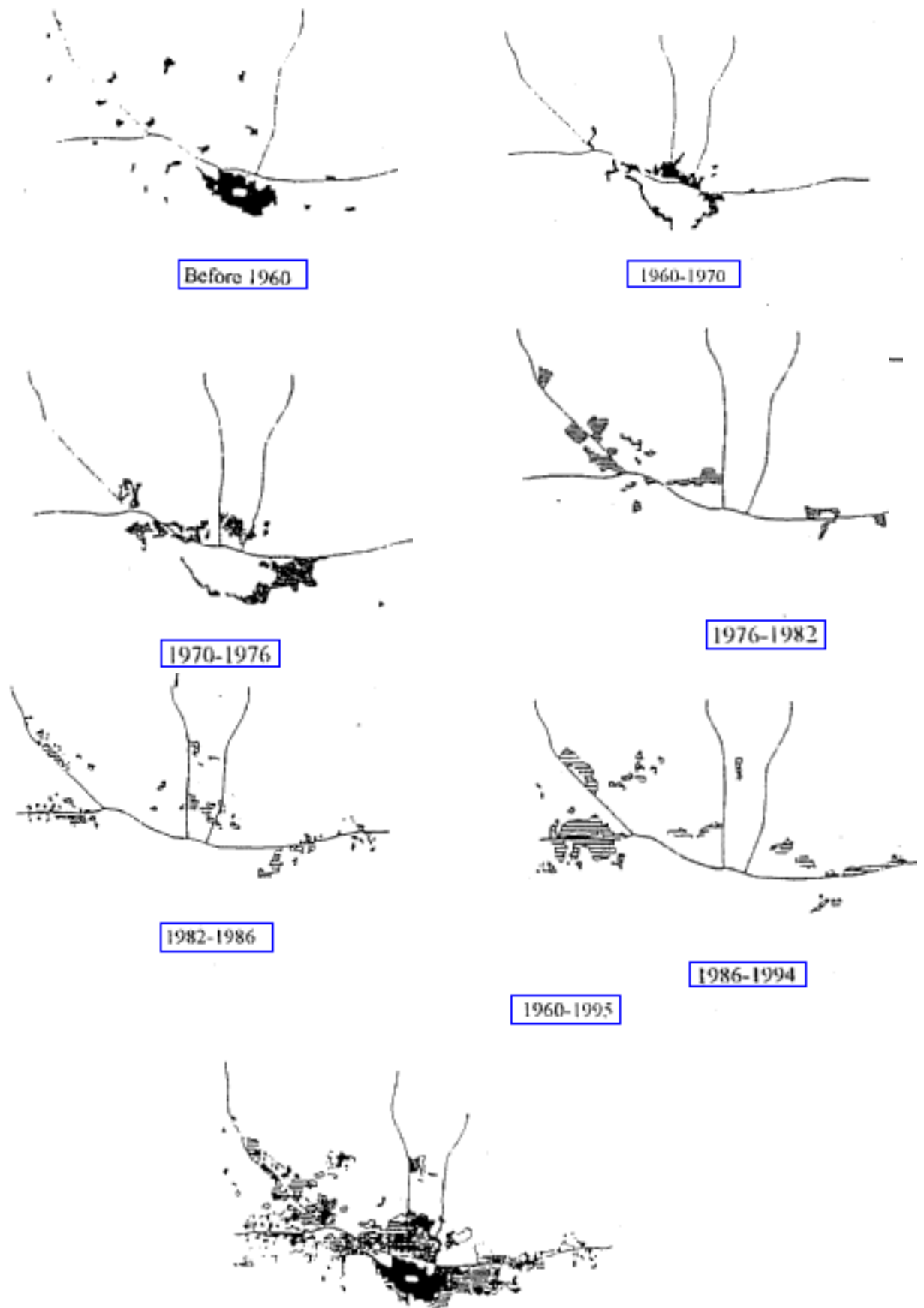
Bursa Metropolitan Municipality was founded in 1987, 28 villages have been covered as quarters and in that way also agricultural land started being occupied and many villages lost their rural properties after being included inside the urban district (Report 6).

Although there is a lot of unoccupied land in the planned development areas, the unplanned settlement in the other areas still continues.

5. Changes Occurred in the Agricultural Lands of Bursa

Population of Bursa has been fluctuating since the pre-republican era due to economic and political reasons (Dumont; Georgeon, 1992). The agricultural and industrial policies that were implemented through the historical process, the demographic structure that increasingly changed along with migrations, inefficiency of planning decisions and implementations as well as the rapid urbanization created diversified spatial organizations and an excessive demand for land was created, which in turn caused natural boundaries to lose their effectiveness. Therefore, settlement zones and even squatter housings were increased, thereby enlarging the boundaries of the Municipal zone (Fig. 2).

Figure 2. Bursa 1960-1995



As it can be seen above, all such developments had an influence on the City's macroform and created a basis for a type of city that has nothing to do with the "Green Bursa" image. Bursa got urbanized having all urban functions tangled in one another, whereby its rural areas were spoiled and the city lost its image.

Together with the rapid urbanization, the protection of the valuable agricultural lands in Bursa becomes more difficult. Aerial photographs show that the urban settlement in Bursa has increased at a rate of 110% during the last ten years causing the decrease of agricultural areas.

The most important problem of the agriculture in Bursa is the misuse of agricultural lands which are deemed only as an instrument of profitability.

As a result of the diminished rates of profit due to the implemented agricultural policies, the agricultural lands in the Bursa Plain, for which efforts were made to protect, is getting lower and lower, it became more attractive to use such lands for urban settlement.

While the area covered by buildings were 1925 ha. according to a survey carried out at the end of 1969, it became 7623 ha. in 1980 and 9052 ha. in 1983. This area forms 70% of the total misused agricultural lands (Report 7) (Table 4).

Table 4. Misused Agricultural Lands in The Bursa Plain

	1.grade	2.grade	3.grade	4.grade	5.grade	6.grade	7.grade	9.grade	TOTAL
1980	1173	2117	14521	328	-	63	550	5	5698
1981	209	152	22	-	-	40	-	-	423
1983	20	421	429	42	-	15	79	-	1006
TOTAL	1402	2690	1903	380	-	118	629	5	9052

The most recent survey carried out by DSI (State Waterworks Authority) in order to determine the misused agricultural lands in the Bursa Plain, has scanned a total project area of 36513 ha. and showed that 9371 ha. was used with objectives out of agriculture.

1273 ha. of these lands is first grade, 3301 ha. is second grade, 2509 ha. is third grade. Depending on this information, 49% of the lands of first grade, 23.3% of the lands of second grade and 34.8% of the lands of third grade is misused.

Peach gardens in Bursa plain are being destroyed due to fact that a hectare of industry is more profitable than a hectare of fruit garden. Industrial buildings are replacing peach gardens especially in places which are closer to the infrastructure and National highways.

In addition to that since the upper part of the agricultural land soil has the character of good brick soil and high quality construction sand will be obtained from the lower part; many permitted and non-permitted brick and sand kilns have been opened in the agricultural lands. Therefore the prices of lands increased, and owners of the agriculture lands have either sold their lands or started to use them for the same purpose. 13 brick-tile facilities in Bursa, six of them in the center, destroy 400 ha. land yearly and water collecting in the excavations cause health problems.

The Bursa Plain, where once many kinds of crops could have been grown, which was covered with various fruit trees, a plain which bewitched the travelers visiting the city, will completely lose its functions, if this process continues any longer.

6. Conclusions

The policies of the central governments and local authorities, the mistakes in planning decisions, problems of application, have put Bursa in its position of today.

It is easily observed at Bursa example that the intervention by the central governments during planning process or thereafter ultimately changed or deviated the target of the zoning plans. It is evident that central government's investment decisions are taken without paying necessary attention to the regional values and not adequately discussed at regional level. These decisions; such as site selection for Organized Industrial Zones, the settlement of the immigrants from Bulgaria at various periods, • stanbul• zmir

Motorway, Bursa Ring Road, the Railway, the Airport and the University, were made and in consequence towns developed haphazardly.

The concentration of the projection population in the city center in the plans made after 1940 caused that the urban concentration increased, land speculations took place, the historical sites within the city was put under pressure and destroyed, illegal settlement took place in the plain in form of shared-lots and the plain was destroyed.

By the planning decisions, it has not been foreseen that settlements that are near to large scale business areas will be effected and developed; and since the areas here have not been allocated for settlement in plans, illegal development took place on agricultural land.

Through the shifting of the Ankara-• zmir Highway towards north in each plan, the illegal settlement on the agricultural lands laying in-between have been legalized by the next plan.

Since plans are not considered at regional level during Zoning planning operations, each town of Bursa develops independently which in turn leads to particularly unplanned industrial developments at sites where population increase is noted.

The local governments which are authorized and responsible for planning and implementation were unable to develop timely radical land policies, that would have ensured saving the public lands, on the contrary their decisions enabled opening of new settlement zones. Reasons such as the fact that the infrastructure, housing, fitting areas of the city did not have enough capacity to satisfy the needs arising from the immigration due to the attractiveness of the Organized Industrial Zone and that the local authority did not meet the necessary precautions and give the necessary service, accelerate the lands to be opened for use in one hand and the increase of the erosion of the natural structure on the other hand.

In order to prevent the natural and historical areas in Bursa and transfer it to the next generations, the use of green areas within the city and the Bursa Plain for settlement must definitely be stopped and they have to be put under protection.

In addition:

- The illegal settlements in the plain and the developments until today have to be emphasized and new plain borders are to be determined.
- Activities which increase the profitability of the region must be planned away from the plain protection border so that the land will not be sold/acquired.
- Alternative sites are to be shown to small and medium scale industries, new industrial establishment is to be prohibited.
- Village planning shall not be made only within settled areas, the developments outside the main settlement area are to be controlled.

However, the present laws and the bureaucratic regulations in Turkey for the prevention of misuse of agricultural lands are insufficient today. Therefore, new laws and bureaucratic regulations are to be issued primarily.

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