

INDUSTRIAL ESTATES IN TURKEY

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The rapid industrialisation of Turkey can be attributed, at least partly, to the extensive use of industrial estates as a main modality of development. The paper provides ample evidence to substantiate this claim using all kinds of statistical, economic and financial data. It also tries to evaluate Turkey's experience in this area in terms of its merits, the problems it has created and the lessons that can be derived from it.

1. INTRODUCTION

The manufacturing sector has grown considerably since 1950, but in the late 1980s farming still engaged almost half the labour force. The revenue of the consolidated budget in 1996 was TL2,650 trillion. In 1995, the gross national product (GNP) at current prices was \$170,081 million and per capita income at current prices was \$2759. In 1996, the GNP rate of growth was 7.2% and the gross domestic product (GDP) was 23.9% in industry. According to 1996 values, the domestic Turkish labour force was approximately 23 million. Also, 1,323,486 Turkish citizens were employed abroad and the unemployment rate of Turkey was 6.6% in 1996. In 1995, annual exports were \$21.636 million and annual imports were \$35.709 million. Therefore, the balance of foreign trade was -\$14.073 million. The principal imports are petroleum, machinery, chemicals and pharmaceuticals, fertiliser, iron and steel and transportation equipment; the main exports are textiles, other manufactured goods, fruits and vegetables, cotton, tobacco and wheat. Considerable income is derived from expenditures of tourists in Turkey; in 1995, this income was \$800 million.

The contribution made by the small and medium enterprises (SMEs) to economic growth, job creation and social well-being has become more important in recent years. This trend is likely to continue in the near future. Globalisation, along with the transition to a knowledge-intensive economy driven by technological progress, is changing the operating environment and strategies of business. Economies of scale are becoming less crucial for firm competitiveness and SMEs tend to enjoy an advantage in flexibility, making

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them critical for the ability of the economy to exploit new technologies and develop new products and market niches.

A well-prepared industrial infrastructure is of great importance regarding the prevention of unplanned urbanisation and environmental pollution, the protection of agricultural land areas in developed regions, and the provision of incentives for industry in underdeveloped regions.

In accordance with Law no. 3143, the Ministry of Industry and Commerce is authorised to establish and control small scale industrial estates and industrial zones and allocate credits to them.

A development plan has been drawn up in which priority has been given to Small Scale Industrial Estates and Industrial Zones and the principles and policies on the subject have been developed over 5-year development plans and annual investment programmes.

2. THE ROLE OF SMEs IN TURKEY

2.1. The definition of SMEs in Turkey

An enterprise is considered to be *small* if the number of employees is less than 50, *medium-sized* if the number of employees is more than 50 but less than 150 and, finally, *large* if the number of employees is more than 150. This classification finds its origin in KOSGEB (Small and Medium Industry Development Organisation) and Halkbank who is providing credits for SMEs.

2.2. Role

There are over 1 million enterprises employing about 3.6 million people in Turkey. SMEs account for 99.8% *of the enterprises* and 82% *of the employment*.

The manufacturing sector accounts for 18% of the enterprises and 42% of the employment. There are 198,000 enterprises in the manufacturing industry in Turkey. They account for 1.6 million jobs.

The evaluation of SMEs, based upon the number of enterprises, the employment they offer and the value-added they generate, has shown us that they are of great importance to Turkey from the economic and social points of

view. SMEs account for 99.5% of the total enterprises in the manufacturing sector. Some 61% of total employment in the manufacturing sector are in

Graphic 1
Evaluation of Turkish Manufacturing Industry

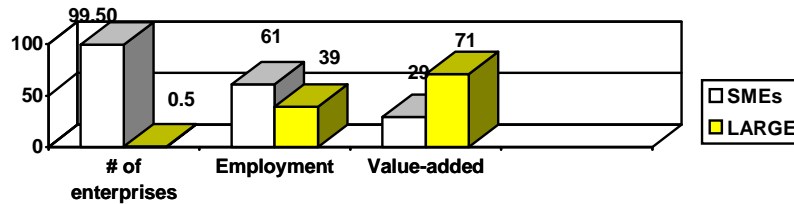


Table 1
Size-Sector Breakdown of the Manufacturing Industry in Turkey

Sector Size		31	32	33	34	35	36	37	38	39
Small	Enterprises	97.6	98.2	99.7	98.1	93.2	96.1	93.2	98.6	99.1
	Employment	43.1	44.0	89.6	46.9	26.3	38.6	17.4	48.9	72.5
	Value-added	27.4	22.0	63.2	17.1	4.2	8.5	7.8	15.1	46.5
Medium	Enterprises	1.4	1.3	0.2	1.3	4.6	2.6	4.3	1.0	0.7
	Employment	12.0	16.9	6.0	16.0	17.8	17.6	11.1	13.6	17.2
	Value-added	27.6	41.0	18.8	22.4	8.8	8.1	12.3	14.5	34.8
SMEs	Enterprises	99.0	99.5	99.5	99.4	97.8	98.7	97.5	99.6	99.8
	Employment	55.1	60.9	95.6	62.9	44.1	56.2	28.5	62.5	89.7
	Value-added	55.0	63.0	82.0	39.5	13	16.6	20.1	29.6	81.3
Large	Enterprises	1.0	0.5	0.1	0.6	2.2	1.3	2.5	0.4	0.2
	Employment	44.9	39.1	4.4	37.1	55.9	43.8	71.5	37.5	10.3
	Value-added	45	37.0	18	60.5	87.0	83.4	79.9	70.4	18.7
Total	Enterprises	100	100	100	100	100	100	100	100	100
	Employment	100	100	100	100	100	100	100	100	100
	Value-added	100	100	100	100	100	100	100	100	100

31: Manufacture of food, beverages and tobacco.

32: Textile, wearing apparel and leather industries.

33: Manufacture of wood and wood products including furniture.

34: Manufacture of paper and paper products, printing and publishing.

35: Manufacture of chemicals and of chemical, petroleum, coal, rubber and plastic products.

36: Manufacture of non-metallic mineral products except for petroleum and coal products.

37: Basic metal industries.

38: Manufacture of fabricated metal products, machinery and equipment, transport equipment, professional and scientific and measuring and controlling equipment.

39: Other manufacturing industries.

SMEs. SMEs play an important role in employment compared to large enterprises. However, their share compared to large enterprises in terms of value-added is very low. SMEs account for 29% of the total value-added in the

manufacturing sector. Large enterprises have a share of 71% in value-added. (Graphic 1)

The size-sector breakdown of the manufacturing sector in Turkey is given in Table 1.

The number of SMEs in the manufacturing sector increased by 0.5% between 1985 and 1990, resulting in an increase by 10% in the total number of employment.

During 1989-1990, small enterprises (10-49 employees) in the manufacturing sector created a 36% increase in value added whereas medium-sized enterprises created 39% and large enterprises 37%.

3. SMALL SCALE INDUSTRIAL ESTATE APPLICATIONS IN TURKEY

The superstructure of small scale industrial estates in which small scale craftsmen and tradesmen engaged in repair works took part has been initiated according to its regional development level, whereas the infrastructure is being initiated completely (100%) by credits from the Ministry of Industry and Commerce.

The interest rate on allocated credits for small scale industrial estates ranges between 25% and 50%, the repayment period is 11 years in total after the end of construction works while the first year is a grace period. (Table 2)

Between 1965 and 1998, 294 small scale industrial estates were constructed and the sanitary employment conditions were fulfilled for 424,000 people in 70,603 workshops. The total allocated credit was \$1,008,000,000.

In the 1999 Investment Program of the Ministry, there are 211 small scale industrial estate projects (38,577 workshops) of which:

- 191 small-scale industrial estate projects (34,600 workshops) are still in progress,
- 20 small-scale industrial estate projects (3,977 workshops) are to be completed in 1999 (Table 3).

With the completion of these projects, 656,000 more people will have better sanitary working conditions. The total cost of these projects is \$580 million. By the end of 1998, \$115 million have been spent for the above-mentioned projects.

Small scale industrial estates constructed thanks to credits from the Ministry of Industry and Commerce comprise car repair works (39%), metal manufacturing (30%), wood industry (23%) and others (8%).

Table 2
Conditions of Credits, Rate of Interests and Terms of Repayment Given
for the Superstructure of Small Scale Industrial Estates

Developed Areas	Normal Areas		First Priority Development Areas	
	1st Group	2nd Group		
Ministry's support: %50-65	Ministry's support: %55-65	Ministry's support: %60-65	Ministry's support: %70	
Rate of interest: %50	Rate of interest: %40	Rate of interest: %40	Rate of interest: %25	
Terms of Repayment	Terms of Repayment		Terms of Repayment	
(1 year grace period + 10 years)	(1 year grace period + 10 years)		(1 year grace period + 10 years)	
Total: 11 years	Total: 11 years		Total: 15 years	
Name of the Province	Name of the City	Name of the City	Name of the City	
Adana	Aydın	Afyon	Adıyaman	Kilis
Ankara	Balıkesir	Burdur	Ağrı	Malatya
Bursa	Bilecik	Çanakkale (*)	Amasya	Mardin
İstanbul	Bolu	Hatay	Ardahan	Muş
İzmir	Denizli	Kütahya	Artvin	Sinop
Kocaeli	Edirne	Uşak	Bartın	Sivas
Antalya	Eskişehir		Batman	Siirt
	Gaziantep	(*) Islands	Bayburt	Şanlıurfa
	Isparta	(Excluding Bozcaada and	Bingöl	Şırnak
	İçel	Gökçeada)	Bitlis	Tokat
	Kayseri		Ç.Kale (1)	Tunceli
	Kırklareli		Çankırı	Van
	Konya		Çorum	Yozgat
	Manisa		Diyarbakır	Zonguldak
			Elazığ	Osmaniye

Table 2 (continued)
Conditions of Credits, Rate of Interests and Terms of Repayment Given
for the Superstructure of Small Scale Industrial Estates

Developed Areas	Normal Areas		First Priority Development Areas
	First Group	Second Group	
Ministry's support: %50-65	Ministry's support: %55-65	Ministry's support: %60-65	Ministry's support: %70
Rate of interest: %50	Rate of interest: %40	Rate of interest: %40	Rate of interest: %25
Terms of repayment	Terms of Repayment		Terms of Repayment
(1 year grace period + 10 years) Total: 11 years	(1 year grace period + 10 years) Total: 11 years		(1 year grace period + 10 years) Total: 15 years
Name of the Province	Name of the City	Name of the City	Name of the City
	Muğla Sakarya Tekirdağ Yalova		Erzincan Aksaray Erzurum Giresun Gümüşhane Karaman Hakkari Kırıkkale Iğdır Kırşehir Kahramanmaraş Niğde Karabük Ordu Kars Rize Kastamonu Nevşehir Samsun Trabzon (1) Bozcaada And Gökçeada

Table 3
Summary Information on Small Scale Industrial Estates

Project Situation	Number of Projects	Number of Workshops	Employment (People)
A-Projects Completed	294	70.603	424.000
B-1999 Investment Program			
a) Project to be completed in 1999	20	3.977	24.000
b) Projects to be completed after 1999	191	34.600	208.000
c) New projects			
Total	211	38.577	232.000
Grand Total	505	109.180	656.000

Apprenticeship schools included in diverse activity plants offer occupational training for all apprenticeships as a result of the joint action of the Ministry of National Education and the Ministry of Industry and Commerce.

Of the 294 small scale industrial estates completed within the period between 1965 and 1998, 105 estates have private apprenticeship schools and 136 have education centres.

In these estates, it has been mainly aimed to:

- Promote sanitary working conditions and increase productivity,
- Make use of technological developments and facilitate the transformation into medium scale enterprises,
- Provide planned urbanisation and prevent environmental pollution,
- Provide occupational training offered to apprenticeships by the joint action of the Ministry of National Education and the Ministry of Industry and Commerce.

4. INDUSTRIAL ZONE APPLICATIONS IN TURKEY

After World War II, developed countries started to construct industrial zones as an incentive to achieve a balanced economic growth and to overcome the differences in development levels between various regions. It was conceived as a physical encouragement for the rise of industry in underdeveloped regions.

During the 1960s, developing countries started to include industrial zones among their industrial policies. Among these were India, Singapore, South Korea, Nigeria and some of the African countries.

In Turkey, the implementation of the project of industrial zones began in 1962. It has always been among the economic programmes that aimed at industrial and regional development.

These zones help organise urbanisation-industrialisation relations and offer comprehensive possibilities of low-cost infrastructure services and easier production, not to speak of the control of environmental pollution caused by industrial enterprises. Furthermore, these zones contribute to the development of the country by providing the necessary environment for the emergence and growth of small and medium scale industrial enterprises.

Industrial zones not only provide the industrialists with cheap industrial lots equipped with the necessary infrastructure, such as transport and communication facilities, they also fit in with the policies on "regional development" and "industrial expansion".

The enterprises constructed in industrial zones are medium scale and dependent on city centres in many ways. They are mostly obliged to be placed inside of or very close to city centres, and start to demand from the city far more than the existing infra-structure can offer by causing, in time, scattered and unplanned development. On the other hand, it is possible to divert urban development in the desired way by controlling the development of industrial establishments and making use of their employment facilities. Organised industrial zones thus can favour urban development in a desired way. They should be regarded as the best way to control the quality of the environment in urban settlements.

Organised industrial zones help urban settlement with due regard to urban planning principles by placing industrial plants out of residential areas and by separating them from the city with the help of green zones. Moving industrial plants that cause serious pollution to areas with expansion capabilities, whose infrastructure has been constructed, and where pollution is being controlled, is a great contribution to increasing the quality of the urban environment.

4.1. Definition of Industrial Zones

According to the definition accepted in the Sixth Five-year Development Plan studies, industrial zones are defined as follows:

"They are industrial zones, organised so as to be allocated and operated for industry within certain standards. For this, a piece of land whose borders are

Table 4
Sector Distribution and Employment in Completed Industrial Zones

	Manufacturing Sectors	No. of Factories	Ratio	Employment
31	Manufacture of food, beverages and tobacco	439	11.6	44.000
32	Textile, wearing apparel and leather industries	1.153	30.5	115.000
33	Manufacture of wood and wood products including furniture	210	5.5	21.000
34	Manufacture of paper and paper products, printing and publishing	92	2.4	9.000
35	Manufacture of chemicals and of chemical, petroleum, coal, rubber and plastic products	409	10.8	41.000
36	Manufacture of non-metallic mineral products except for petroleum and coal products	258	6.8	26.000
37	Basic metal industries	425	11.2	42.000
38	Manufacture of fabricated metal products; machinery and equipment; transport equipment; professional, scientific, measuring and controlling equipment	794	21	80.000
39	Other manufacturing industries	1	0	
	Total	3.781	100	378.800

approved, is equipped with all the necessary infrastructure and social facilities, and then assigned to small and medium scaled industry, excluding heavy industry"[sic].

Among the completed 43 industrial zones, 378,000 employment opportunities have been created. The sectoral distribution in overall OIZs is given in Table 4.

4.2. Legal Framework

Although there is no “white paper” defining the objectives and targets of an SME policy, priority has been given to application of small scale industrial estates and industrial zones after the selection of a development plan and the principles and policies on this subject have been developed over 5-year development plans and annual investment programmes.

By virtue of Law No.3143 on its establishment, the Ministry of Industry and Commerce has been entrusted with the task of establishing, controlling and allocating credit to small scale industrial estates and industrial zones (OIZ) as well as securing co-operation between these estates and zones, and various institutions.

4.3. Financial Resources

The Ministry of Industry and Commerce allocates credits for Industrial zones not only from general budget resources but also from the European Commission Social Development Fund (ECSDF).

The infrastructure construction of 43 industrial zones was completed between 1962 and 1998 with the support of the Ministry of Industry and Commerce. The wastewater treatment plants of 9 industrial zones were constructed and put into operation. The amount of credit allocated was \$384 million while ECSDF credits amounted to \$110 million.

In the 1999 Investment Program of the said Ministry, there exists 197 industrial zone projects. Their infrastructure project cost is \$702 million. \$138 million have been spent so far for the still continuing projects. The total allocated credit amount for these projects in 1999 is \$33.2 million while \$2.5 million is of ECSDF credits.

4.4. Steps to be Taken in order to Establish an Organised Industrial Zone

- Proposal of the related province.
- Inclusion of the project in the investment plan by the State Planning Organisation.
- Establishment of a Managing Committee which will be responsible for the construction of the industrial zone.
- Completion of the preliminary studies by the Ministry.
- Selection of the land by "the Commission of Land Selection" in co-operation with the Ministry.
- Preparation of the geological and geo-technical reports about the selected land. Preparation of the feasibility report by the Managing Committee.
- Completion of the expropriation by the Province Administration or the Land Office after the selection has been approved by the State Planning Organisation.
- Preparation of the application plans belonging to the infrastructure and social facilities.

- Preparation of the tender contract portfolio.

4.5. Role of the Public and Private Sectors

Industrial zones are established under the control of Managing Committees. These committees whose chairman is the governor are composed of one or more institutions given below, depending on the approval of the Ministry:

- * Province Administration,
- * Chamber of Industry,
- * Chamber of Commerce,
- * Chamber of Industry and Commerce,
- * Municipalities (in case the zone is within municipality borders),
- * Entrepreneur Associations or co-operatives.

The size of industrial plots in industrial zones varies between 3000 sq. m. and 70,000 sq. m. These plots are sold to industrialists at the cost of the land plus the cost of the infrastructure and no profit is surcharged.

4.6. Industrial Zone Infrastructure Support

The Ministry of Industry and Commerce, depending on the development level of the regions, provides 90-99% of the infrastructure cost (see Table 5).

4.6.1. Developed areas

In these areas, the credit ratio is 90% while the terms of repayment are 9 years with a grace period of 2 years. The rate of interest is 50%.

4.6.2. Normal areas

In these areas, the credit ratio is 95% while the repayment period is 11 years with a grace period of 3 years. The rate of interest is 40%.

4.6.3. First priority development areas

In these areas, the credit ratio is 99% while the repayment period is 15 years with a grace period of 5 years. The rate of interest is 25%.

An advance payment of 10-25% of the cost of the industrial plot is required. The rest of the debt is paid over 4 -10 years in 6-monthly instalments.

Table 5
Conditions of Credits, Rate of Interests and Terms of Repayment Given for Infrastructure of Organised Industrial Zones and Allocation of Plots and Plots' Sale Conditions

Developed Areas	Normal Areas		First Priority Development Areas	
	First Group	Second Group		
Ministry's support: %90 Rate of interest: %50 Terms of Repayment	Ministry's support: %95 Rate of interest: %40 Terms of Repayment		Ministry's support: %99 Rate of interest: %25 Terms of Repayment	
(2 years grace period + 7 years) Total: 9 years	(3 years grace period + 8 years) Total: 11 years		(5 years grace period + 10 years) Total: 15 years	
Name of the Province	Name of the City	Name of the City	Name of the City	
Adana Ankara Bursa İstanbul İzmir Kocaeli Antalya	Aydin Balıkesir Bilecik Bolu Denizli Edirne Eskişehir Gaziantep Isparta İçel Kayseri Kırklareli Konya Manisa Muğla Sakarya Tekirdağ	Afyon Burdur Çanakkale (*) Hatay Kütahya Uşak (*) Islands (Excluding Bozcaada And Gökçeada)	Adiyaman Ağrı Amasya Ardahan Artvin Bartın Batman Bayburt Bingöl Bitlis Ç.Kale (1) Çankiri Çorum Diyarbakir Elazığ Erzincan Erzurum	Kilis Malatya Mardin Muş Sınop Sivas Sırt Şanlıurfa Şirnak Tokat Tunceli Van Yozgat Zonguldak Osmaniye Aksaray Giresun

Table 5 (continued)
Conditions of Credits, Rate of Interests and Terms of Repayment Given for Infrastructure of Organised Industrial Zones and
Allocation of Plots and Plots' Sale Conditions

Developed Areas	Normal Areas		First Priority Development Areas	
	First Group	Second Group		
Ministry's support: %90 Rate of interest: %50 Terms of Repayment	Ministry's support: %95 Rate of interest: %40 Terms of Repayment		Ministry's support: %99 Rate of interest: %25 Terms of Repayment	
(2 years grace period + 7 years) Total: 9 years	(3 years grace period + 8 years) Total: 11 years		(5 years grace period + 10 years) Total: 15 years	
Name of the Province	Name of the City	Name of the City	Name of the City	
	Yalova		G.Hane Karaman Hakkari Kirikkale Iğdir Kirşehir K.Maraş Niğde Karabük Ordu Kars Rize Kastamonu Nevşehir Samsun Trabzon (1) Bozcaada And Gökçeada	
In Allocation of Plots	In Allocation of Plots		In Allocation of Plots	
Advance Payment in terms of 25% of temporary cost of plots	Advance Payment in terms of 20% of temporary cost of the plot		Advance Payment in terms of 10% of temporary cost of the plot	
In Sale of Plots	In Sale of Plots		In Sale of Plots	
Remaining Loan amount through the exact cost (if not calculated, then the temporary cost) paid maximum in 4 years in 8 instalments. However, this period can not exceed the period of repayment of allocated credits.	Remaining Loan amount through the exact cost (if not calculated, then the temporary cost) paid maximum in 6 years in 12 instalments. However, this period can not exceed the period of repayment of allocated credits.		Remaining Loan amount through the exact cost (if not calculated, then the temporary cost) paid maximum in 10 years in 20 instalments. However, this period can not exceed the period of repayment of allocated credits.	

5. THE SITUATION TODAY

43 industrial zones started to function in 1962 on a land of 10,160 hectares. The credit allocated for them was \$384 million. In these zones, 378,000 jobs have been created. Six of these industrial zones have been completed in 25 years, while 37 have been completed in the last 11 years (see Tables 6 and 7).

Table 6
Organised Industrial Zones Completed between 1962 and 1998

Completed between 1962-1996	Starting-Completion Dates	Area (hectares)
Completed between 1966-1983		
Bursa	1962 - 66	150
Erzurum	1974 - 82	100
Eskişehir I	1973 - 83	100
Gaziantep I	1971 - 83	260
Konya I	1971 - 76	150
Manisa I	1971 - 76	150
Total		910
Completed in 1987		
Bilecik I	1977 - 87	150
Bursa-İnegöl	1977 - 87	300
Eskişehir II	1979 - 87	190
Total		640
Completed in 1988		
Çorum	1977 - 88	260
İzmir - Atatürk	1980 - 88	600
Kayseri I	1977 - 88	600
Tekirdağ- Çerkezköy	1975 - 88	440
Total		1900
Completed in 1989		
Ankara	1978 - 89	400
Malatya	1976 - 89	300
Denizli	1976 - 89	400
Total		1100
Completed in 1990		
Bolu	1977 - 90	60
Hatay - İskenderun	1983 - 90	180
Total		240
Completed in 1992		
Adana I	1977 - 92	500
Elazığ I	1985 - 92	100
İstanbul (leather)	1983 - 92	240
Kocaeli-Gebze I	1986 - 92	230
Mardin	1976 - 92	300
Tokat I	1978 - 92	50
Total		1420

Table 6 (continued)
Organised Industrial Zones Completed between 1962 and 1998

Completed in 1993	Starting-Completion Dates	Area (hectares)
Afyon	1981 - 93	275
Burdur	1982 - 93	70
Konya II	1977 - 93	300
Manisa II	1987 - 93	200
Uşak	1985 - 93	360
Total		1205
Completed in 1994		
Antalya	1976 - 94	196
Çankırı	1981 - 94	110
İzmir-Menemen (leather)	1988 - 94	200
Niğde	1984 - 94	261
Samsun	1982 - 94	150
Trabzon	1985 - 94	100
Total		1017
Completed in 1995		
Aydın	1985 - 95	150
Total		150
Completed in 1997		
Denizli-Çardak	1997 - 97	322
Gaziantep II	1987 - 97	500
Mersin-Tarsus I	1986 - 97	100
Yozgat I	1990 - 97	150
Bartın I	1994 - 97	50
Total		1122
Completed in 1997		
Kütahya I	1997 - 97	170
Şanlıurfa	1987 - 97	286
Total		456
Grand Total		10160

Table 7
Present Situation of Industrial Plots in Organised Industrial Zones (OIZ)

Present Situation of OIZ Projects	No of OIZ	Area (hectares)	Number of Plots	Allocated Plots				Plots not Allocated Yet	Employ. Capacity (people)	
				In Production	Under Construction	At Design Stage	Total		In Production	Total
I. Completed between 1962-1998	43	10.160	6.472	3992(3314)	1464(1213)	791(675)	6247(5199)	225	331.000	539.000
II. Existing in the 1997 Investment Program	197	42.575	6.858	560(472)	512(389)	2899(2498)	3971(3362)	2.887	47.000	566.000
A. Projects at Design Stage	45	-	-	-	-	-	-	-	-	-
a) Still Continuing	45	-	-	-	-	-	-	-	-	-
b) New Projects	-	-	-	-	-	-	-	-	-	-
B. Under Construction	143	39.900	6.858	560(472)	512(389)	2899(2498)	3971(3362)	2.887	47.000	566.000
C. At Expropriation Stage	9	2.675	-	-	-	-	-	-	-	-
Grand Total (I+II)	240	52.735	13.330	4552(3786)	1976(1602)	3690(3173)	10218(8561)	3.112	378.000	1105.000

Notes: 1. Numbers in parenthesis indicate factories.
2. It is assumed that each factory in production employs 100 people on average.

The 1999 Investment Programme of the Ministry of Industry and Commerce includes:

- a) 197 industrial zone projects which consist of:
 - * 43 zones under construction, on a land area of 39,900 hectares,
 - * 9 zones at the expropriation stage, on a land area of 4,240 hectares,
 - * 45 zones at the pre-study stage;
- b) 26 treatment plant projects which consist of:
 - * 6 under construction,
 - * 20 whose pre-study is in progress (Table 8).

The size of an industrial zone varies between 60 hectares and 1850 hectares. Some are planned as specialised industrial zones (e.g., 11 in leather, 1 in car spare parts industry, 3 in marble, 1 in chemical products industry).

6. ENVIRONMENTAL INVESTMENTS

In our world, where the burden created by pollution is increasing day by day, environmental awareness and regulations that are being felt effectively make our industrialists accept the fact that they cannot avoid constructing waste water treatment plants.

Since waste water treatment plants do not bring any income and bring excess outcome in the duration of the managing period, industrialists are reluctant to construct them and compel the state to do so.

In only 9 of the completed 43 industrial zones that are important for the prevention of environmental pollution, a waste water treatment plant could have been constructed. Related studies for 26 wastewater treatment plants included in the 1999 investment programme are still in progress.

7. EXPECTED BENEFITS

As mentioned above, there is no "white paper" defining the objectives and targets of an SME policy in Turkey but the construction of OIZ has been mainly aimed to:

- prevent using agricultural areas for industry,

- provide an easy connection between industries, rationalise and increase the profits by the production of complementary and spare parts industries together within the framework of a programme,
- provide healthy, cheap, and reliable infrastructure and social facilities,
- prevent environmental pollution by constructing treatment plants. The best example may be the leather industry zones.

Table 8
Summary Information on Organised Industrial Zones

Project Situation	Number of Projects	Total Area (Hectares)	Number of Enterprises In Production	Employment (People)
A. Project Completed	43	10.160	3.314	331.000
B. The 1999 Investment Program				
a) Projects to be completed in 1999	11	2.157	51	5.000
b) Projects to be completed after 1999	132	37.743	416	42.000
c) Projects at expropriate stage	9	2.675		
d) Projects at design stage	45			
1) Still continuing	45			
2) New projects				
Total	197	42.575	467	47.000
Grand Total	240	52.735	3.781	378.000

8. ACTUAL IMPACTS

The applications of OIZs can be summarised in three groups:

General industrial zones that are constructed for industrial expansion and regional development: Konya, Kayseri, Gaziantep, Denizli, Eskişehir, Urfa and Kars. The former 6 provinces are the best examples of regional development. These provinces became important industrial centres. These zones helped to develop special sectors like textiles. Craft production with old machinery has changed into clothing, dyeing and manufacturing of the fabrics.

Industrial zones that are constructed for rehabilitation of industrial areas: İzmir-Kemalpaşa, Tekirdağ - Çorlu leather, Bursa- Demirtaş, Karaman industrial areas are being equipped with necessary infrastructure. The environmental problems related to inadequate infrastructure will be minimised.

Industrial zones that are constructed for clustering similar and/or high pollutant sectors in specialised zones: Within the context of clarification of the Marmara Sea Project, the transfer of leather manufacturers from Istanbul-

Kazlıçeşme to the Tuzla Leather Industrial Zone and within the context of clarification of the Gulf of İzmir Project, the transfer of leather manufacturers from Yeşildere to Menemen leather industrial zone have been realised. The leather production by primitive tanneries in inadequate workshops has been transformed into mass production of special leather in modern plants.

Through periodical meetings, Managing Committees discuss and offer solutions for problems in industrial zones. The applications of industrial zones both in different countries and in Turkey have been investigated through technical trips organised by Managing Committees and the Ministry of Industry and Commerce. Consequently, the *collective action* of the industrialists has been established.

The improved *inter-industrial relationship* is also an important impact. A good example may be the Aegean Region Chambers of Industry Association. There is a direct link between all industrial zones in the Aegean region. The problems and solutions have been discussed and the results have been circulated to all industrialists.

9. LESSONS TO BE DERIVED FROM INDUSTRIAL ZONES

The success of an industrial zone basically depends on the following conditions:

- Local authorities and industrialists should be involved in the realisation of the industrial zone.
- Strict communication has to be established within the relevant Ministry and Managing Committees
- Managing Committees should involve people who are engaged in technical and administrative documentation.
- The high economic potential of the investment area, its geographical location, transport, closeness to energy and communication networks.
- In order to prevent speculation, a feasibility report regarding the investment should be prepared by entrepreneurs.
- An industrial master plan has to be prepared for the whole country.

10. CONCLUSION

Industrial structure is a key area for industrial policy. As governments have views on industrial priorities, they will wish the structure of industry to reflect these. Industrial structure can be considered from three points of view: the

composition of output between different branches, the balance between large and small firms, and the scale of production.

The balance between large and small firms is an issue about which many governments in developing countries have expressed concern, and in many countries there are specific programmes for small industry. These typically include: provision for credit, industrial extension and advisory services, management and other forms of training and various measures to develop infrastructure services and industrial zones for the SMEs. In a major bias against small- and medium-sized producers, some observers question the extent to which this declared emphasis on the SMEs has been carried into practice in many countries.

In devising policy regarding SMEs, the benefits that government wishes to derive from them should be made clear. For example, is it because of employment effects, since it is generally assumed that small firms are more labour-intensive than larger firms, or is it because of the natural economic advantages of small firms at certain stages of development? The economic advantages generally discussed include: a transport and distribution cost advantage in local markets where poor transport and infrastructure facilities make it difficult for larger firms to compete; specialisation in developing sub-contracting links with larger firms to produce parts and components efficiently on smaller scales, and sufficient knowledge of local low-income markets to develop products differentiated from those of larger firms.

Within the framework of its industrial zone applications and by the end of the year 2000, the Ministry of Industry and Commerce is also aiming to increase:

- The number of industrial zones from 43 to 120,
- The area of planned industrial areas from 10,160 hectares to 26,000 hectares,
- The number of factories which have started production from 3,781 to 5,000,
- The number of employees in these zones from 378,000 to 500,000.

