

# Annex 14

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*Environmental Impact Assessment  
(EIA) for Cimsa Site Development*

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## **14 Environmental Impact Assessment (EIA) for Cimsa Site Development**

### **14.1 Purpose of the Project**

The Government of Turkey aims to improve the nation's solid waste management system. In February of 1996, the government devised the Study on Appropriate Solid Waste Management Practice to provide guidelines for solid waste management countermeasures. The Study proposes seven pilot projects, of which one entails the preparation of an solid waste management plan at a regional level.

The study designates the greater municipalities of Adana and Mersin, both located within the Mediterranean region of Cukurova as model areas for the regional solid waste management plan, and proposes a regional plan that would cover both cities. However, both greater municipalities discussed each other and decided to prepare the respective solid waste management plan and conduct the feasibility study for the priority project individually.

The solid waste system in both cities is beset with the problems below. To implement the required improvements, the formulation of a solid waste management plan is imperative.

1. Open dumping in the final disposal site or the lack of environmental protection measures has adversely affected the nearby environment. In addition, the final disposal sites are managed inadequately due to the mixed disposal of general and infectious wastes.
2. New final disposal sites are urgently needed as the existing final disposal sites are nearing its full capacity.
3. There is a lack of financial sources necessary to improve the conditions.

Given these conditions, the Government of Turkey requested the assistance of the Government of Japan for the implementation of the "Study on Regional Solid Waste Management for Adana-Mersin in the Republic of Turkey". In response, the Japan International Cooperation Agency (JICA), the agency responsible for extending technical assistance, decided to implement the study in close co-operation with the relevant authorities of the Government of Turkey.

This Environmental Impact Assessment was carried out for the priority project (1999-2005) of Municipal Solid Waste Management including medical waste in Mersin.

### **14.2 Location of the Project Site**

Mersin is situated in the Mediterranean Sea Region and the project site is located approximately 19 km by road from the centre of Mersin City as shown in Figure 14-1 and Figure 14-2.

Facilities for this project are as follows and the locations of each facility are shown in Figure 14-3.

1. Final disposal site for general waste (phase 1, 2 and 3)
2. Medical waste disposal site
3. Sorting plant
4. Compost plant
5. Leachate treatment facility
6. Green buffer zone

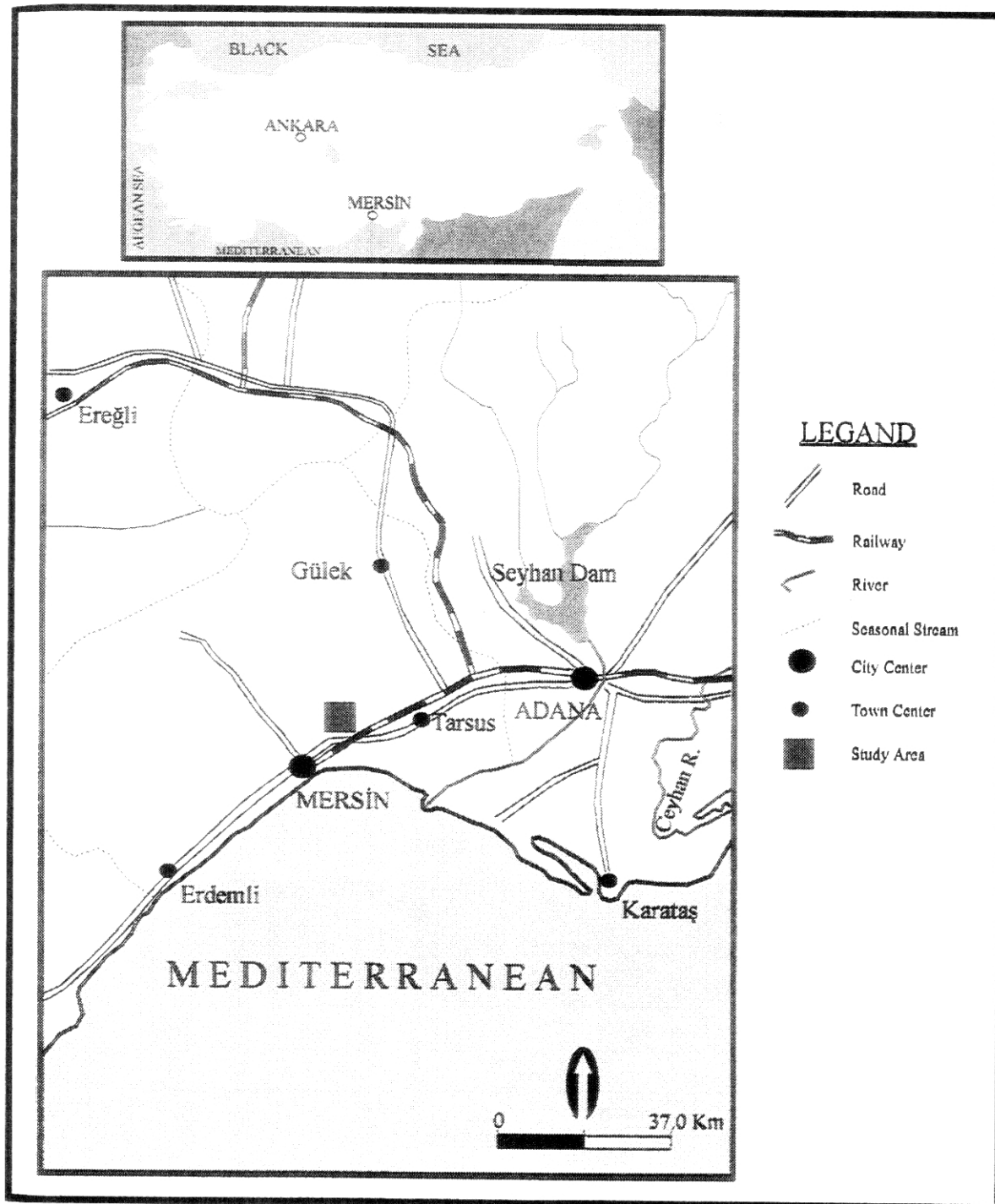


Figure 14-1: Location of the proposed site(1)

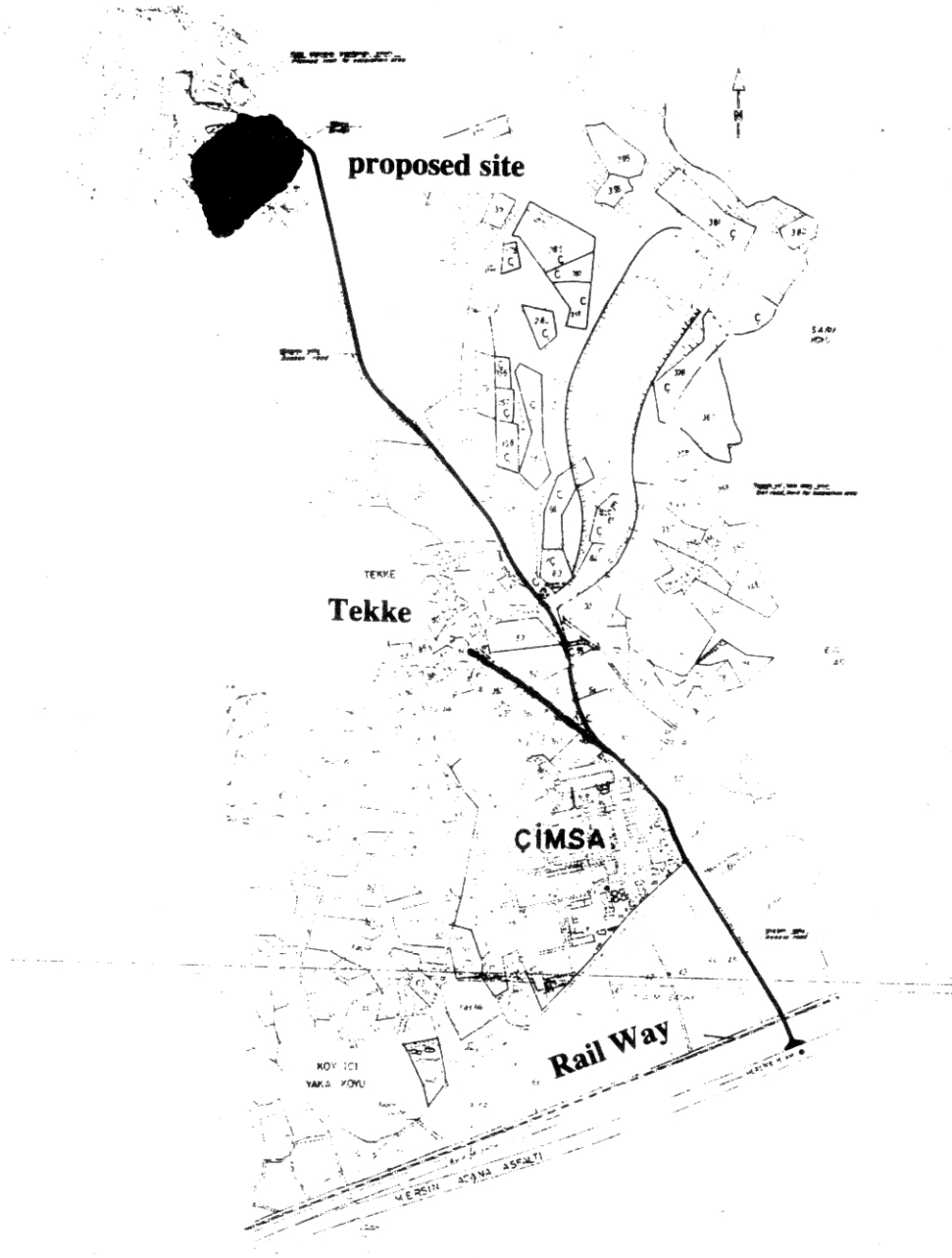


Figure 14-2: Location of the proposed site(2)



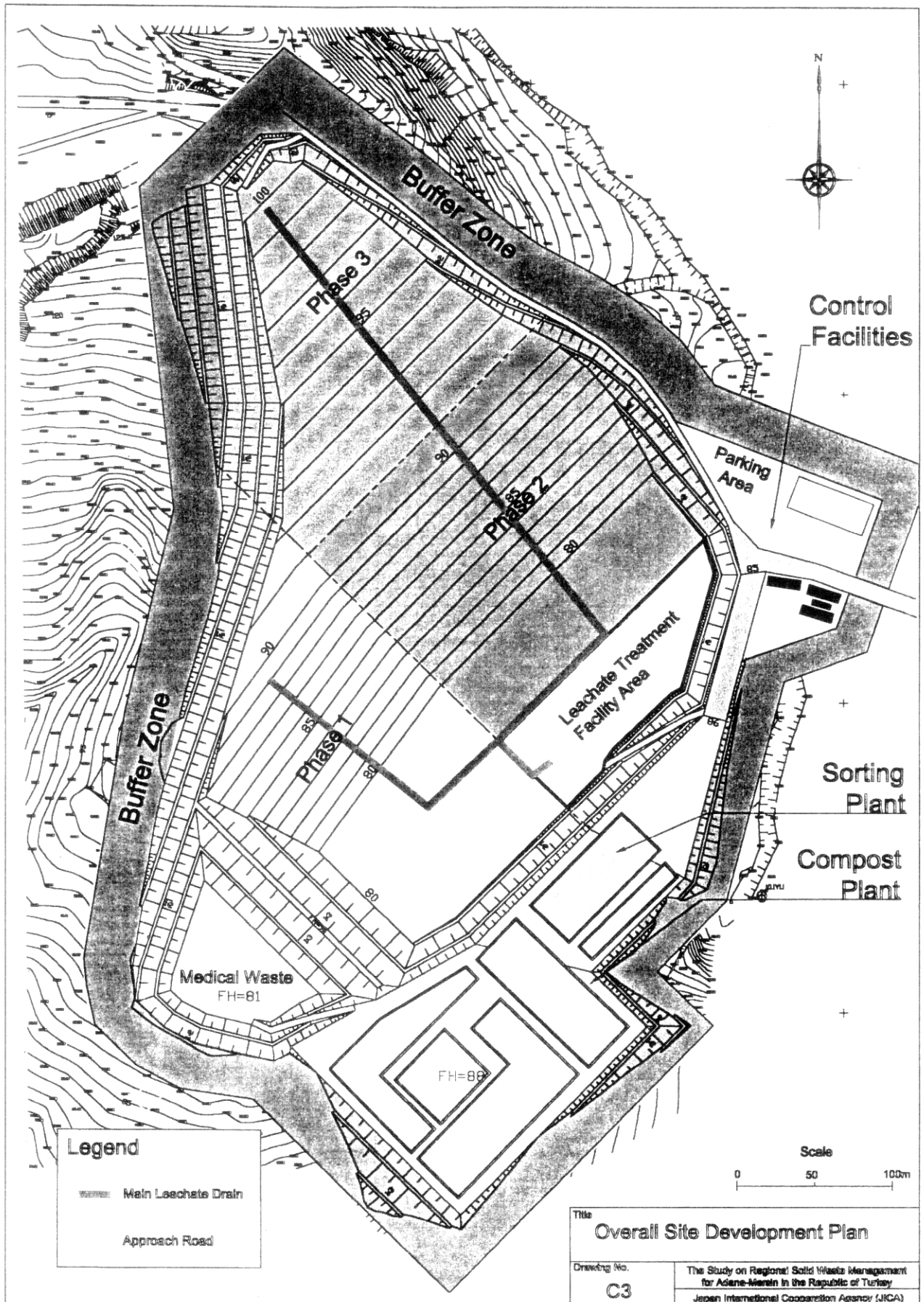


Figure 14-3: Location of Solid Waste Management Facilities

## 14.3 Social and Economic Dimensions of the Project

### 14.3.1 Selection of the Project

Following the selection of the best scenario by Mersin GM, the Turkish counterpart and the team decided and agreed on the project as described below.

- Introduction of a separate collection system
- Construction of a sorting plant
- Construction of a compost plant
- Construction of Cimsa MSW disposal site
- Construction of Cimsa medical waste disposal site

### 14.3.2 Targets of the Priority Projects

The project is part of the Phase 1 (2000 - 2005) improvements of the SWM M/P. The targets between 2002 and 2005 are summarised in the tables below.

Table 14-1: The Targets of the Project for Mersin GM

Components	Phase	1998	2002	2003	2004	2005
<b>1. MSW Generation</b>						
Population in Mersin GM		<b>634,850</b>	<b>718,412</b>	<b>741,141</b>	<b>764,660</b>	<b>788,999</b>
Akdeniz DM		255,516	276,579	282,111	287,753	293,508
Trosklar DM		234,024	268,548	277,947	287,675	297,744
Yenisehir DM		145,310	173,285	181,083	189,232	197,747
MSW Amount (ton/year)						
Generation		162,790	204,035	216,080	228,125	241,995
Discharge		155,125	196,892	209,250	221,243	235,060
Collection		148,555	192,654	205,595	218,171	232,572
<b>2. Separate Collection</b>						
Separate collection rate to refuse collection (%)		0	30	30	30	30 %
Separately collected amount (ton/year)		0	57,796	61,678	65,451	69,772
<b>3. Sorting plant</b>						
Amount treated (ton/year)		0	23,696	26,522	28,798	32,095
Amount recovered (ton/year)		0	5,687	6,365	6,912	7,703
Amount of residue (ton/year)		0	18,009	20,157	21,886	24,392
<b>4. Compost plant</b>						
Amount treated (ton/year)		0	34,100	35,156	36,653	37,677
Amount composted (ton/year)		0	6,138	6,328	6,598	6,782
Amount of residue (ton/year)		0	1,364	1,406	1,465	1,507
<b>5. MSW Final Disposal</b>						
Amount disposed (ton/year)		143,262	160,799	172,780	183,736	196,729
Landfill volume (m <sup>3</sup> /year)		214,893	241,199	259,170	275,604	295,094
<b>6. Medical Waste Final Disposal</b>						
Amount disposed (ton/year)		548	694	730	767	803
Landfill volume (m <sup>3</sup> /year)		1,409	1,785	1,877	1,972	2,065