
ANNEX 13

SOCIAL ENVIRONMENT REPORT

TABLE OF CONTENT

1 INTRODUCTION	3
2 PURPOSE	3
3 METHODOLOGY	3
4 DEFINITION OF INFLUENCE AREA	3
5 CHARACTERIZATION OF AREA OF INDIRECT INFLUENCE (AII)	5
5.1 GEOGRAPHIC DIMENSION.....	5
5.2 DEMOGRAPHIC DIMENSION.....	7
5.3 ANTHROPOLOGICAL DIMENSION.....	14
5.4 SOCIO-ECONOMIC DIMENSION.....	15
5.5 BASIC SOCIAL WELFARE DIMENSION.....	17
6 CHARACTERIZATION OF AREA OF DIRECT INFLUENCE (ADI)	22
6.1 POPULATED LOCALITIES.....	22
6.2 GEOGRAPHIC DIMENSION.....	22
6.3 DEMOGRAPHIC DIMENSION.....	23
7 IDENTIFICATION AND IMPACT ASSESSMENT	24
7.1 CONSTRUCTION PHASE.....	24
7.2 OPERATION PHASE.....	26
8 BIBLIOGRAPHY	26

1 INTRODUCTION

The aim of the social environment characterization is to describe and analyze the geographical, demographic, socio-economic and basic social welfare dimensions of populated areas that are close to the project "Power Transmission Lines S / S Maitenes - S / S Alfalfal and Alfalfal II Power Plant- S / S Alfalfal ", to be established in the municipality of San Jose de Maipo, Santiago province, Metropolitan Region.

To establish the baseline of the human environment, locations that are close to the project has been regarded as an area of direct influence (ADI) of the Project that is Los Maitenes and El Alfalfal, and as an area of indirect influence (AII) the commune where the layout, will be established, i.e. San José de Maipo.

This section is divided into two main parts, the first, which displays the geographic, demographic, socio-economic and basic welfare data of the area of indirect influence (AII), and the second, which presents the same data for the area of direct influence (ADI).

2 PURPOSE

The aim of this study is to characterize the geographic, demographic, socio-economic and basic social welfare dimension of areas of direct and indirect influence of the Project.

3 METHODOLOGY

The working methodology involved statistical analysis and site visit to identify populated areas and isolated buildings that are in the vicinity of the project area.

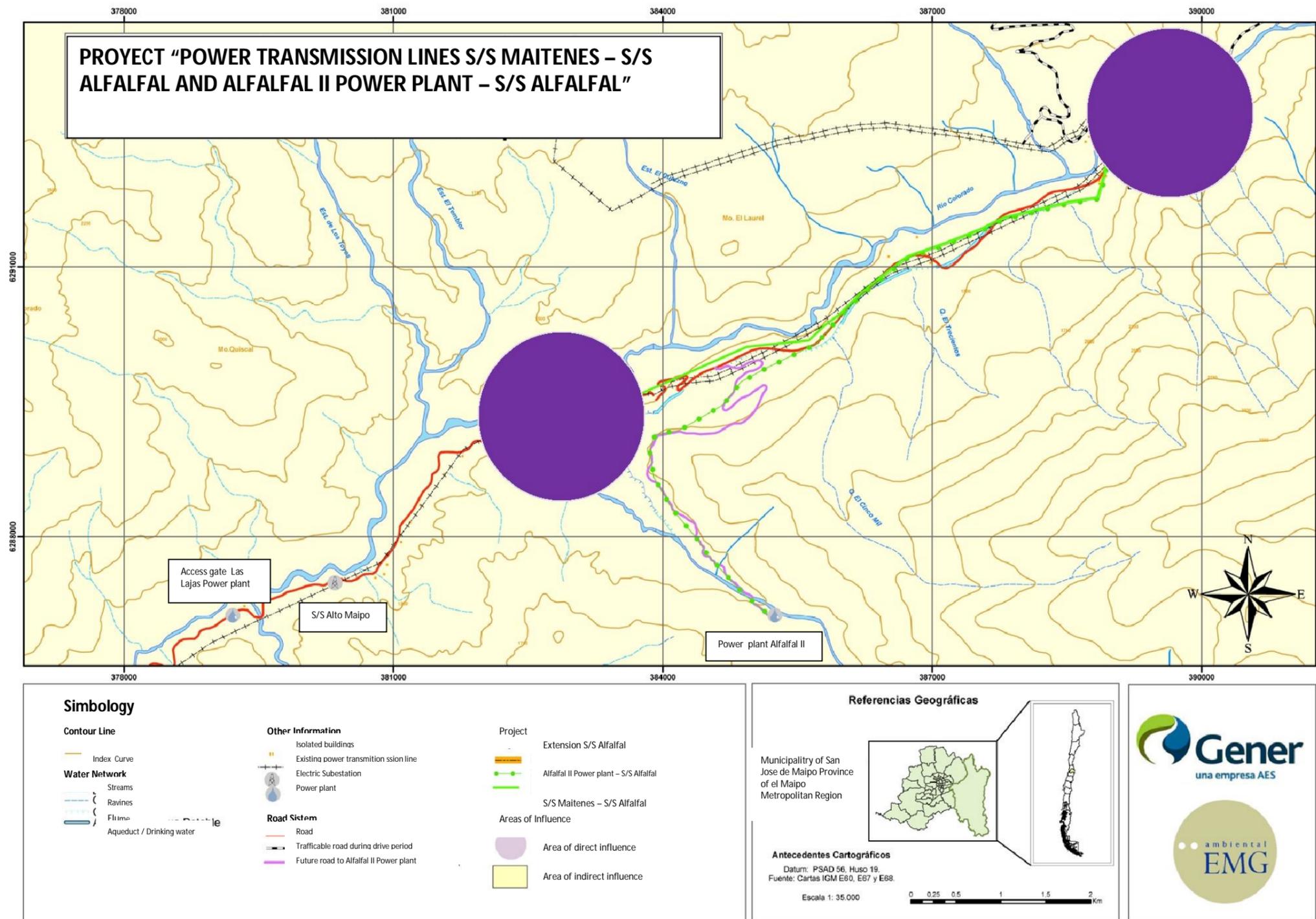
The study area of indirect influence of the Project (AII), determined by the communal level, was established by geographic, demographic, socio-economic and basic social welfare data; for this statistical information from the National Statistical Institute (INE) was reviewed (Census 1992 and 2002 and projections to 2008), Planning Ministry, Mideplan, (Casen Survey) and projections of the Library of Congress (Statistics by commune to 2008).

To analyze the local scale, we visited the area of influence directly affected by the project (ADI) on 9 and 11 November 2008, which both populated areas and isolated buildings that were close to the project were identified. This information was supplemented with bibliographic data presented by the National Statistics Institute for such locality and social organizations of the area.

4 DEFINITION OF AREA OF INFLUENCE

To establish the baseline of the human environment, locations that are close to the project has been considered as a zone of direct influence (ADI), that is, Los Maitenes and El Alfalfal, and as area of indirect influence area (AII,) the commune where the lay out will be established, i.e. San José de Maipo.

Figure 1 AID and All of the Project



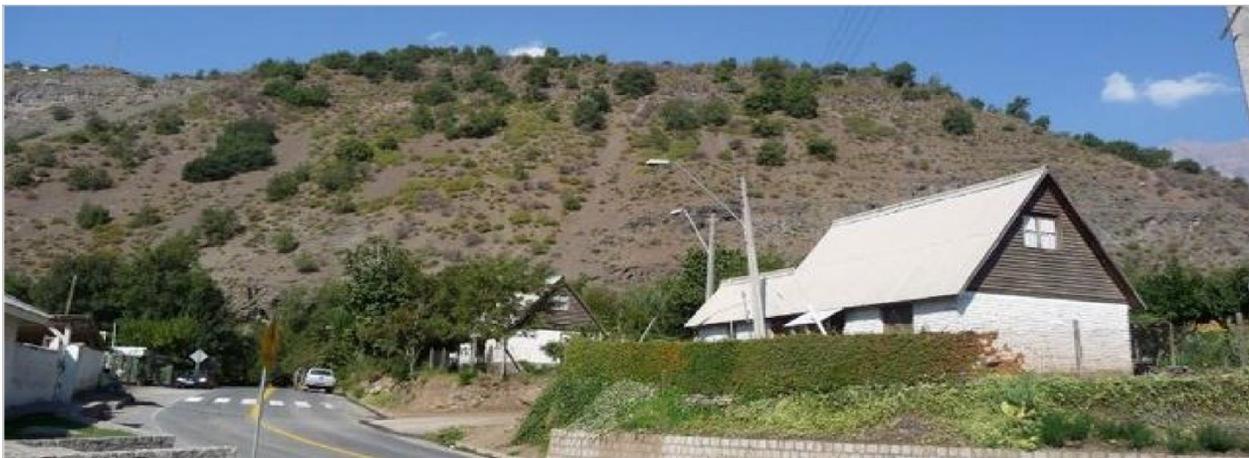
Source: Personal compilation based on IGM Charts E60, E67 and E68, scale 1:50.000.

Figure 2 Views to ADI: El Alfalfal



Source: Personal compilation.

Figure 3 Views to ADI: Los Maitenes



Source: Personal compilation.

5 CHARACTERIZATION OF AREA OF INDIRECT INFLUENCE (AI)

5.1 Geographic Dimension

The Metropolitan region of Santiago is the most populated of the country with 6,745,651 inhabitants, representing 40% of the total population. The density is 437.9 inhabitants per km².

The project will be located in the municipality of San Jose de Maipo, Cordillera province, under the jurisdiction of the Metropolitan region of Santiago, which also includes the provinces of Santiago, Chacabuco, Maipo, Talagante and Melipilla. The total area of the region reaches 15, 403 km².

Table 1 General data of Metropolitan Region of Santiago

Political Administrative Unit		Area		Inhabitants	
		Km2	%Regional	N°	% Regional
Province	Santiago	2030.3	13.2	4985893	73.9
	Cordillera	5528.3	35.9	706299	10.5
	Chacabuco	2076.1	13.5	178255	2.6
	Maipo	1120.5	7.3	454529	6.7
	Melipilla	4065.7	26.4	157569	2.3
	Talagante	582.3	3.8	263106	3.9
Region	Metropolitan	15403.2	100.0	6.745.651	100.0

Source: INE (2008)

From the provinces indicated above, the Project is fully established in the Cordillera. The table below shows areas, inhabitants and densities of municipality, province and region included in the Project.

Table 2 Inhabitants and area of municipality, province and region included in the Project

Political Administrative Unit	Area		Inhabitants		Density (Inhab/Km2)
	Km2	%Regional	N°	% Regional	
Municipality of San José de Maipo	88.2	0.6	14316	0.2	2.7
Province of Cordillera	5528.3	35.9	706299	10.5	85.9
Metropolitan Region	15403.2	100	6745651	100.0	437.9

Source: INE (2008)

According to the information presented by INE (2002), San José de Maipo has a lower rate of urbanization exhibited with regard to the view of the province and region; in fact, it only reaches to 69.6%.

Table 3 Urban /rural population for the study area (2002)

Political Administrative Unit	Urban		Rural		Total
	N° in habitants	Percentage	N° in habitants	Percentage	
Municipality of San José de Maipo	9311	69.6	4065	30.4	13376
Province of Cordillera	511565	97.8	11291	2.2	522856
Metropolitan Region	5875013	96.9	186172	3.1	6061185

Source: INE (2008)

5.2 Demographic Dimension

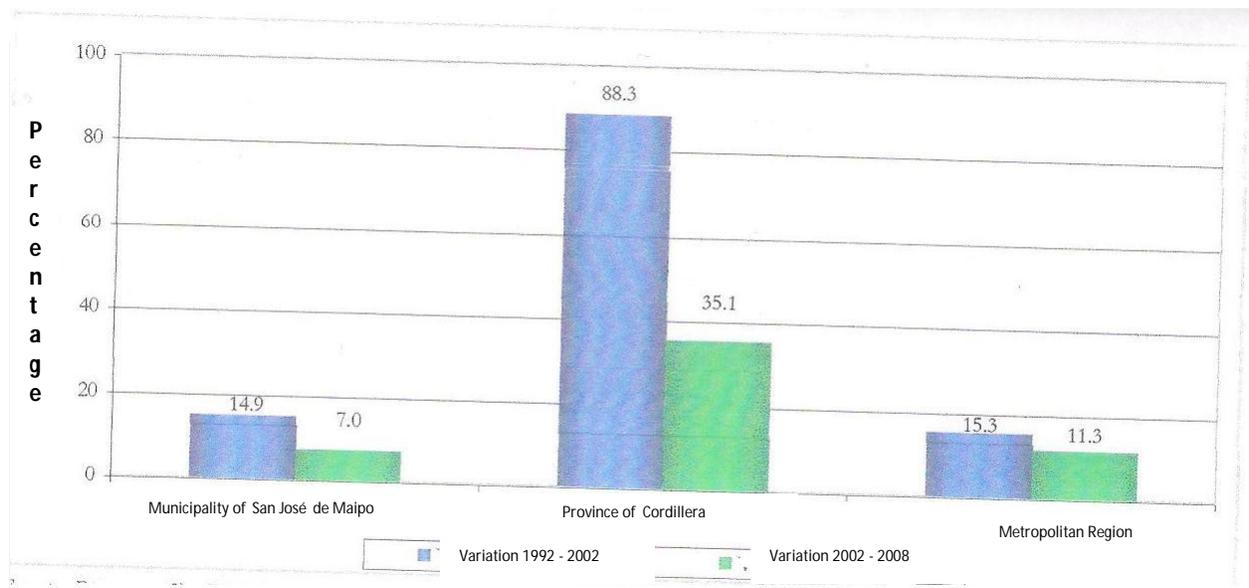
The description of the demographic dimension includes aspects concerning the variation of the population, structure of the local population by age, sex, education and literacy, which are described below.

5.2.1 Population change

Generally speaking, all political administrative units evaluated (i.e. region, province and municipality) have experienced a growth in population numbers in the periods 1992-2002 and 2002-2008. However, this difference arises from dissimilar ways depending on the scale of the political-administrative unit considered. Indeed, the municipality of San Jose de Maipo reached a positive variation lower than the provincial and regional average for the two periods considered.

The most significant change occurred in the province of Cordillera (well above the regional and communal average); the situation would be due to population weight that Puente Alto has, in relation to other communes covered by the province (San Jose de Maipo and Pirque).

Figure 4 Population growth. Periods 1992 to 2002 and 2002 to 2008



Source: BCN (2008) e INE (2008).

Analyzing the situation of the municipality under study, the data presented indicate that the population by 2008 would be 14,316 inhabitants, which in practice means an increase of 7% compared to what was presented in the last Census. It is important to state that this municipality has not developed a process of urbanization as strong as the one presented in the neighboring communes, especially Puente Alto and La Florida. Indeed, San José de Maipo is constituted as an area of tourism and recreation, which in recent years has been of interest in the housing market (such as Hacienda El Peñón Project). Furthermore, the development of projects in this sector is highly restricted as it is indicated by the Santiago Metropolitan Master Plan of 1994 (that includes much of the area as an Ecological Preservation); it was also declared as a Tourism Zone (so that many of the projects that are to be developed must submit an Environmental Impact Assessment). This situation has led to the existence of large suburban country plots and isolated housings established in major towns in the municipality (El Canelo, El Manzano, San José de Maipo, El Volcán, Lo Valdés and Los Maitenes, to name a few), avoiding higher densification.

5.2.2 Structure of the population by sex

Regarding the distribution of population by sex, in Table 4 we can see a slight predominance of female population over male in the regional and provincial units; however, this trend is reversed at municipal scale. This situation corresponds to a common feature in rural areas given the traditional female migration from these areas.

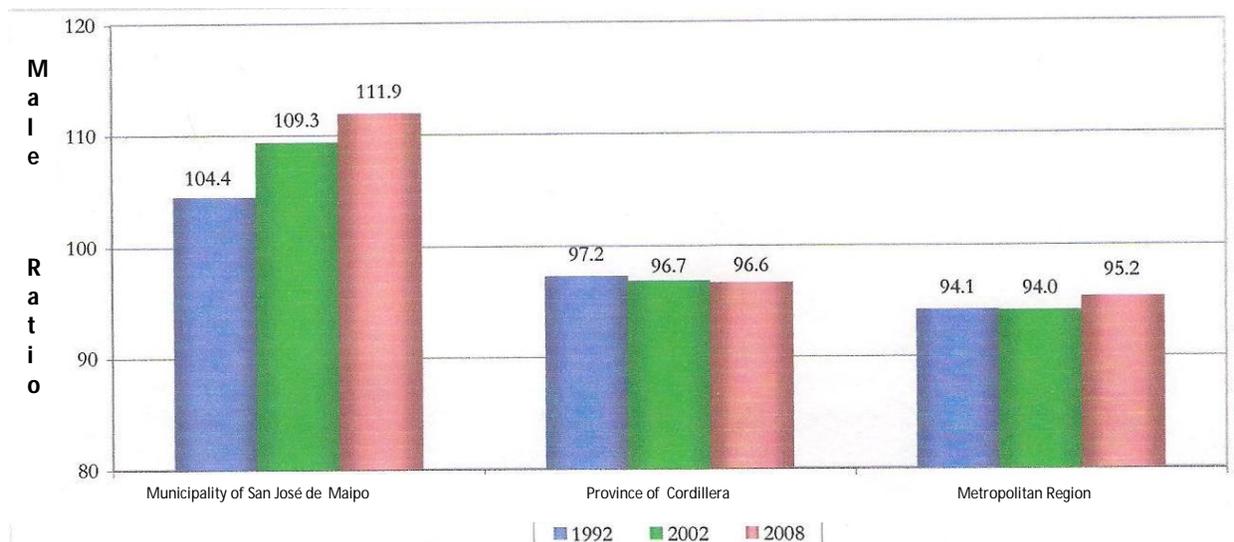
Table 4: Population distribution by gender. Periods 1992 to 2002 and 2002 to 2008

Political Administrative Unit	Male		Female		Male Ratio
	Amount	Percentage	Amount	Percentage	
1992					
Municipality of San José de Maipo	6091	51.1	5832	48.9	104.4
Province of Cordillera	161875	49.3	166585	50.7	97.2
Metropolitan Region	2615058	48.5	2780267	51.5	94.1
2002					
Municipality of San José de Maipo	7202	52.2	6588	47.8	109.3
Province of Cordillera	283953	49.2	293527	50.8	96.7
Metropolitan Region	2937193	48.5	3123992	51.5	94.0
2008					
Municipality of San José de Maipo	7559	52.8	6757	47.2	111.9
Province of Cordillera	347010	49.1	359289	50.9	96.6
Metropolitan Region	3290280	48.8	3455371	51.2	95.2

Source: BCN (2008) and INE (2008).

In relation to the above, if we analyze male ratios presented, we can see that it has increased slightly at regional level, while at communal scale growth has been around 5%. Meanwhile, provincial level has tended to decrease slightly.

Figure 5 Male ratios. Years 1992, 2002 and 2008



5.2.3 Population distribution by age groups

Regarding the distribution of population by age groups, it is possible to appreciate broadly and with some variation between a territorial unit and another aging trend, where the number of births is lower relative to the quintile that follows (5-9 years) (see Figure 6). The communal population distribution largely responds to the regional average, showing significant differences in relation to the provincial scene.

In analyzing the regional situation, we can see more sharply the drastic population decline in the younger age groups, and the aging trend. For its part, the picture displayed by the province is quite dissimilar to the community level except for the age groups that occur between 20 and 39 years. Indeed, young population is still quite significant in the province of Cordillera, reaching 37.2% (considering the population aged 0 to 19 years); if we analyze the older population in this unit, it shows the low presence of this population, which does not reach 5% of the total.

At the communal level, it is shown that San José de Maipo presents indicators above the regional average in quintiles comprised by 0-9 years and 25-49 years. An adult population in this commune is also significant, reaching 8.1% of its population.

The statistics detail of the population distribution by age and sex for each of the units concerned is presented in Table 5.

Figure 6 Population distribution by age groups. Projection year 2005

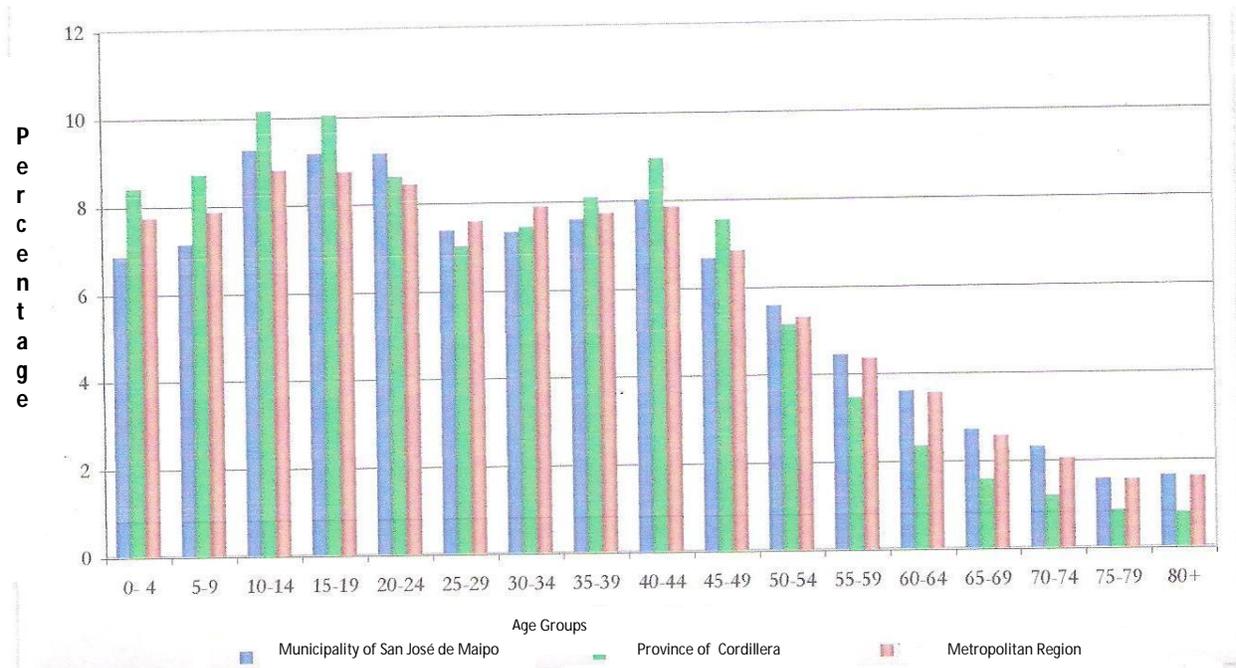


Table 5 Distribution of population by age and sex groups. Projection year 2005

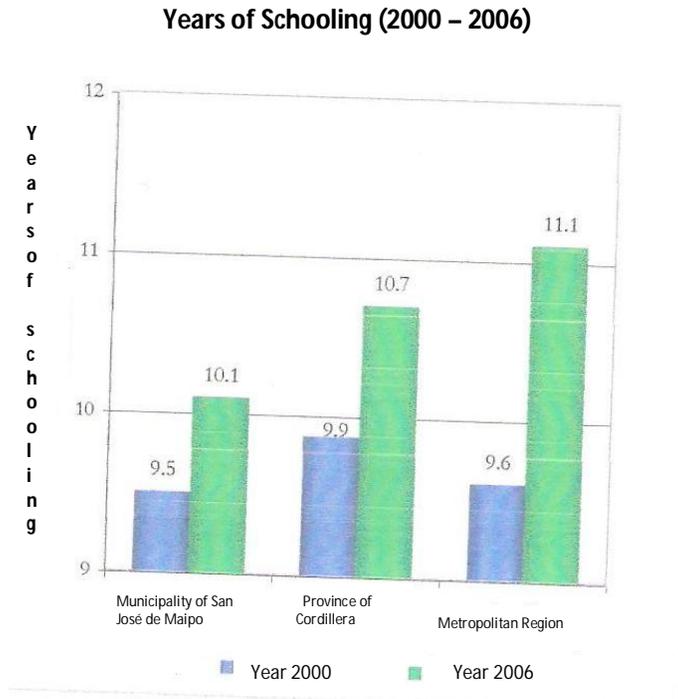
Age bracket	Municipality of San José de Maipo						Province of Cordillera						Metropolitan Region					
	Male		Female		Total		Male		Female		Total		Male		Female		Total	
	Q	%	Q	%	Q	%	Q	%	Q	%	Q	%	Q	%	Q	%	Q	%
0 – 4	497	6.7	470	7.0	967	6.8	184786	7.8	178110	7.0	362896	7.4	256735	8.1	247398	7.4	504133	7.7
5 – 9	540	7.3	465	6.9	1005	7.1	186253	7.8	180928	7.2	367181	7.5	259647	8.1	252076	7.5	511723	7.8
10 – 14	710	9.6	596	8.9	1306	9.2	208395	8.8	202468	8.0	410863	8.4	291529	9.1	282057	8.4	573586	8.8
15 – 19	706	9.5	586	8.7	1292	9.1	207625	8.7	206415	8.2	414040	8.4	286766	9.0	283540	8.5	570306	8.7
20 - 24	772	10.4	517	7.7	1289	9.1	205430	8.6	206657	8.2	412087	8.4	275288	8.6	275045	8.2	550333	8.4
25 – 29	551	7.4	488	7.3	1039	7.4	189977	8.0	187963	7.4	377940	7.7	248087	7.8	245464	7.3	493551	7.5
30 – 34	555	7.5	475	7.1	1030	7.3	195022	8.2	195793	7.7	390815	8.0	256509	8.0	257849	7.7	514358	7.9
35 – 39	557	7.5	511	7.6	1068	7.6	184806	7.8	188120	7.4	372926	7.6	248853	7.8	253687	7.6	502540	7.7
40 – 44	594	8.0	535	8.0	1129	8.0	182559	7.7	192832	7.6	375391	7.7	249199	7.8	261586	7.8	510785	7.8
45 – 49	477	6.4	462	6.9	939	6.6	158499	6.7	173570	6.9	332069	6.8	214731	6.7	230856	6.9	445587	6.8
50 – 54	378	5.1	406	6.1	784	5.6	123801	5.2	140287	5.5	264088	5.4	163704	5.1	180977	5.4	344681	5.3
55 – 59	297	4.0	326	4.9	623	4.4	103163	4.3	120184	4.8	223347	4.6	132875	4.2	150603	4.5	283478	4.3
60 – 64	247	3.3	258	3.8	505	3.6	84932	3.6	102080	4.0	187012	3.8	106360	3.3	124717	3.7	231077	3.5
65 – 69	181	2.4	197	2.9	378	2.7	59029	2.5	75996	3.0	135025	2.8	73512	2.3	92635	2.8	166147	2.5
70 – 74	164	2.2	159	2.4	323	2.3	43757	1.8	64095	2.5	107852	2.2	54379	1.7	77436	2.3	131815	2.0
75 – 79	107	1.4	111	1.7	218	1.5	30867	1.3	52239	2.1	83106	1.7	37901	1.2	62393	1.9	100294	1.5
80 +	87	1.2	142	2.1	229	1.6	26776	1.1	61301	2.4	88077	1.8	32438	1.0	72064	2.2	104502	1.6
Total	7420	100	6704	100	14124	100	2375677	100	2529038	100	4904715	100	3188513	100	3350383	100	6538896	100

Source: INE (2008)

5.2.4 Schooling and educational attainment

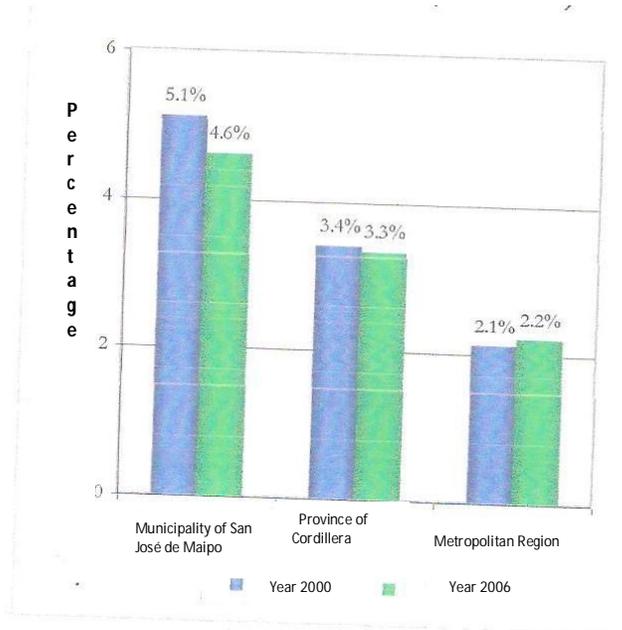
Analyzing the Casen survey data from 2000 and 2006, we can see a slight increase in the years of schooling of the population residing in the territorial units evaluated; the largest difference was observed at regional and communal scale, where the increase was 1.2 and 0.8 years for the period. Similarly, illiteracy shows a decrease in the municipal and provincial units; the greatest difference in the reporting period was also recorded in San Jose de Maipo with a decrease of 0.5%.

Figure 7 Years of schooling and illiteracy rate



Source: MIDEPLAN (2002 AND 2006)

Illiteracy rate



Source: MIDEPLAN (2002 AND 2006)

As shown in Figure 7 left, regionally years of schooling reach 11.1 in 2006. This figure is slightly higher when compared to the average of Cordillera province having an indicator of 10.7 years, a situation that could be explained by the rural condition of some of the communes of such political administrative unit. Similarly, this situation shows that a smaller proportion of the population has not end compulsory education (primary and secondary).

If we analyze the situation of the municipality under study, it appears that the years of schooling for the latter are even lower, corresponding to 10.2 years.

Furthermore, reviewing the situation of illiteracy by 2006 we can see that the municipality of San José de Maipo is the one with the highest rates in the political administrative units analyzed. Differences between province and region units are also important, being the lowest at regional scale (2.1%)

5.3 Anthropological dimension

According to the facts presented in the Explanatory Report of the study "Upgrading and Suitability of the Municipal Town Plan of San José de Maipo", the settlement in this municipality has been linked to the exploitation of its natural resources. Thus, in 1792 the Villa of San José de Maipo was founded by the Governor of the Kingdom of Chile Ambrosio O'Higgins, in order to support the cattle and mining tasks being undertaken in the area.

By the late nineteenth century mining has become the main activity in the sector, highlighting the copper mine El Volcán as the producer of 40% of the country's copper. It is at this time when the need to draw a railroad to sustain the booming mining industry is seen.

The arrival of the twentieth century brought the decline of mining until then held in San José de Maipo and the height of the energy business. The gradual growth of Santiago made necessary to have power supply sources, which meant the construction of Maitenes hydroelectric plant between 1918 and 1922, becoming the first plant built in central Chile.

Important for the development of the town of San Jose de Maipo and Santiago was also the construction of the aqueduct from Laguna Negra, vital for drinking water supply in the city.

In this way, we can determine that the origins of the towns of this municipality are varied and can be born from temporary camps for the construction of infrastructure, such as the case of the town of La Obra, or mining camps as San Jose de Maipo. They could also be originated from the operation of major infrastructure, as with the locality of Los Maitenes associated with a hydroelectric plant.

5.4 Socio-economic dimension

The description of the socio-economic dimension includes the economically active population (EAP), the levels of employment and unemployment, and the presence of productive activities dependent on natural resource extraction by the human group.

5.4.1 Economically active population (EAP) and workforce

Considering INE projections of population by 2005, it is possible to establish that in all territorial units evaluated, being around 68% of the economically active population.

Table 6 Economically active population. Projection Year 2005

Political Administrative Unit	From 0 to 14 years		From 15 to 64 years		Over 65 years	
	Number	%	Number	%	Number	%
Municipality of San José de Maipo	3278	23.2	9698	68.7	1148	8.1
Province of Cordillera	1140940	23.3	3349715	68.3	414060	8.4
Metropolitan Region	1589442	24.3	4446696	68.0	502758	7.7

From the aforementioned EAP, the largest percentage of the workforce is at provincial level, followed by region and municipality units, both virtually with the same percentage.

For its part, workforce is presented at communal and provincial level for 2000 and 2006. As one can see in the table below, during both periods considered, the municipality of San José de Maipo exhibits a higher unemployment rate than that presented to the provincial level. Similarly, the workforce in the municipality is less also.

If we analyze the situation of each unit in the periods considered, a decrease in the total labor force in the municipality of San Jose de Maipo is observed, unlike what happens at the provincial level. Now, if we analyze the unemployment rate a decrease in both territorial units is observed regarding the exhibited scene for 2000.

Table 7 Workforce

Political Administrative Unit	Year 2000			Year 2006		
	Total	Employed	Unemployed	Total	Employed	Unemployed
Municipality of San José de Maipo	58.3	89.9	10.1	56.8	92.4	7.4
Province of Cordillera	58.6	91.2	8.8	58.9	93.1	7.0

Source: MIDEPLAN (2008).

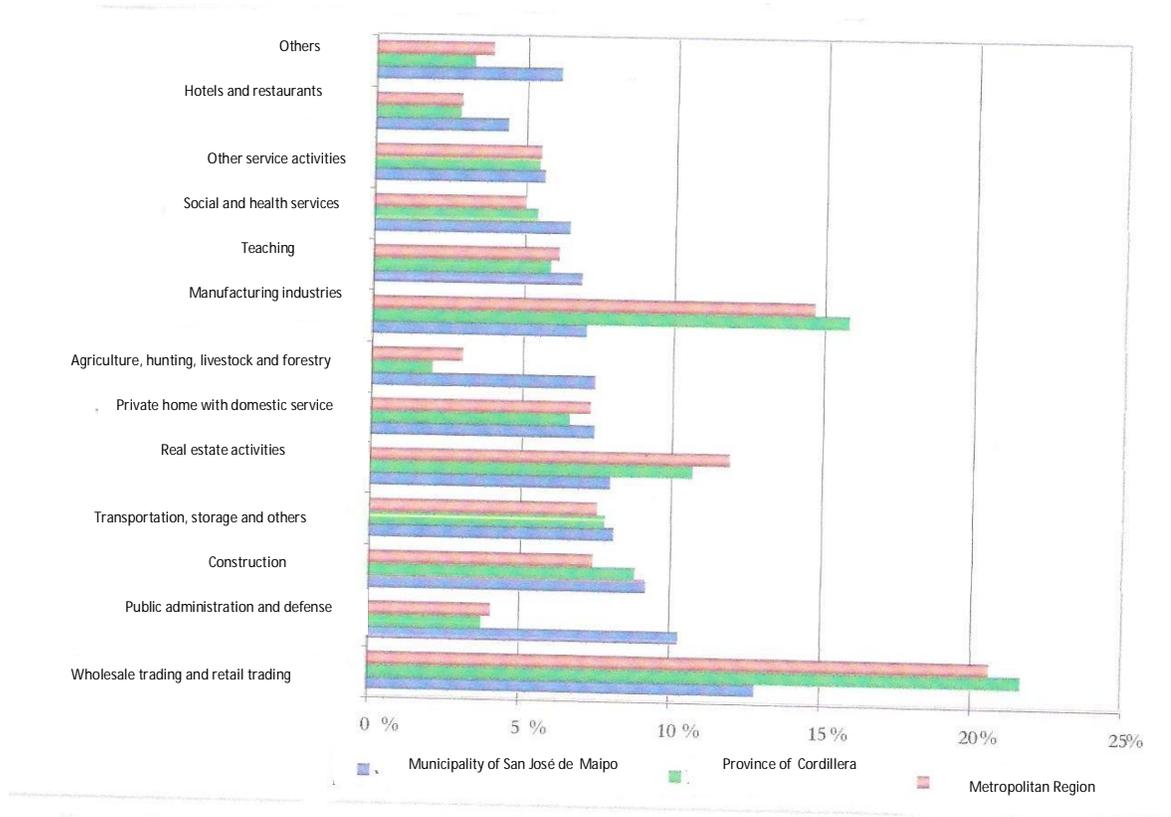
5.4.2 Economic activities

As shown in Figure 8, most of the economically active population of all political administrative units assessed work in the retail sector, followed by industry and real estate.

The sector designated as *other* incorporates mining activities, fishing, electricity, gas and water supply, financial intermediation, fishing and organization and extraterritorial bodies.

At the communal level it is highlighted that nearly 13% of the EAP is engaged in activities related to trade, about 10% in the sector of public administration and defense, and 9% in the construction sector. Similarly, when compared with the corresponding region and province, Hotels and Restaurants sector comprise about 4.4% of the EAP.

Figure 8 Employed population by economic activity (percentages)



Source: INE (2002)

Similarly, it highlights the underrepresentation of the population in activities related to primary production sectors (agriculture, livestock and forestry) at the provincial and regional level, while communal level reaches 7.4% of the EAP.

5.5 Basic social welfare dimension

The description of the basic social dimension includes aspects of both the level of poverty in the population and the health insurance system, and corresponding birth and mortality rates present in the territorial units evaluated.

5.5.1 Poverty

The following table presents the poverty at level of individuals and households for 2000 and 2006. According to these records one can say that there has been a decrease both in the number of poor people and the number of poor households for all units evaluated. The municipality of San José de Maipo recorded a decline of 7.9% of total poor people; this difference is mainly explained by the reduction in the number of poor indigent. A similar behavior is observed when analyzing the number of poor households, where the main reduction occurs in the non-indigent poor group.

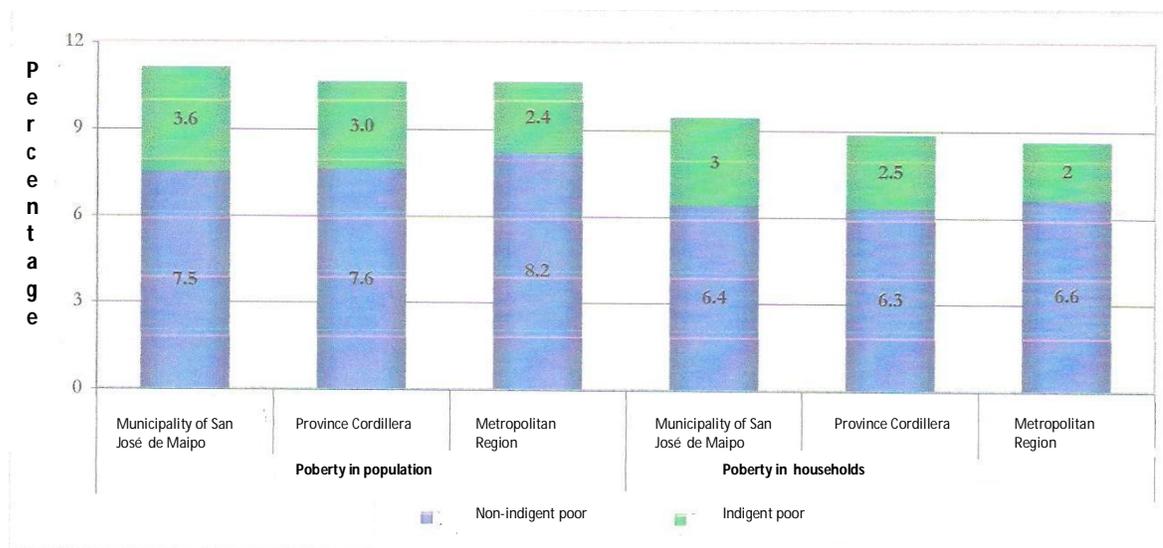
Table 8 Poverty status at individual and household level. Years 2000 and 2006 (percentages)

Political Administrative Unit	Year 2000			Year 2006		
	Non-indigent poor	Indigent poor	Total Poor	Non-indigent poor	Indigent poor	Total Poor
People						
Municipality of San José de Maipo	14,7	4,3	19	7,5	3,6	11,1
Province Cordillera	12,4	4,9	17,3	7,6	3,0	10,6
Metropolitan Region	11	4,1	15,1	8,2	2,4	10,6
Households						
Municipality of San José de Maipo	11,8	3,8	15,7	6,4	3	9,4
Province Cordillera	10,6	3,7	14,3	N/D	N/D	9,3
Metropolitan Region	8,6	3,3	11,8	6,6	2	8,6

Source: Personal compilation based on MIDEPLAN (2008)

If we analyze the situation for 2006, presented in Figure 9, one can see that the municipality of San José de Maipo presents the highest indicators of the units studied, considering the total categories of poor and indigent poor; yet it has 0.7% less than the regional average in the category indigent poor. The same scenario occurs when values are observed for poor households.

Figure 9 Poverty status of individuals and households. Year 2006



Source: Personal compilation based on MIDEPLAN (2008)

5.5.2 Level of household income

The table below shows the household income levels at the regional, provincial and communal level. Overall, one can see a significant increase in income of territorial units analyzed during such period. At communal level income increased by 8%, while at provincial level it only increased by 6% and at regional level by 22%; the variations do not respond to a significant increase in the subsidies granted by the State to these units.

It is important to note that the municipality of San José de Maipo is the one that received as much money as monetary subsidy for the two periods considered, but in no case is greater than US\$ 5,000.

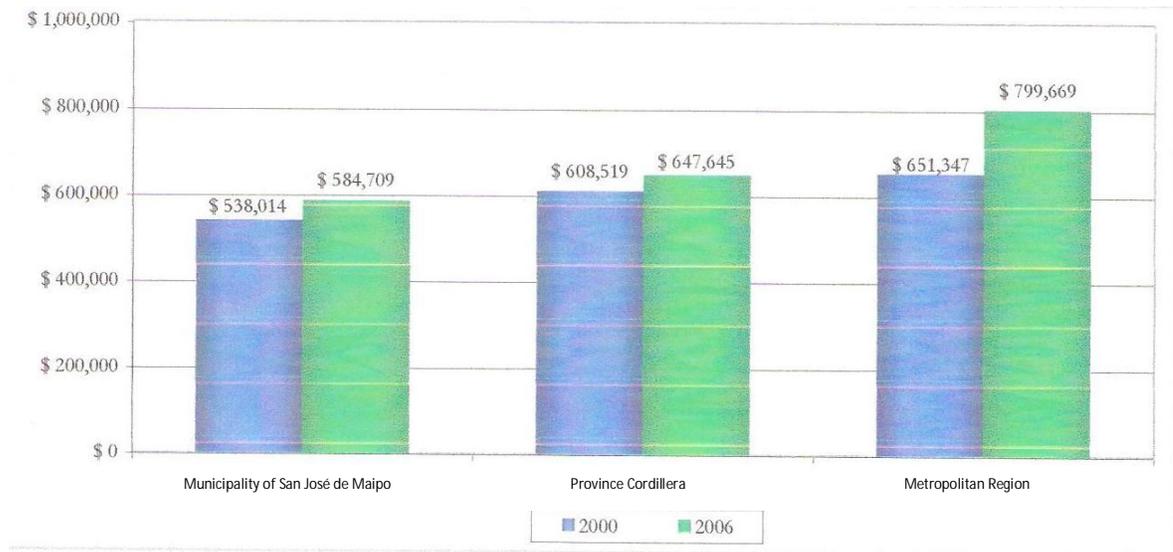
Table 9 Average income of households. Years 2000 and 2006 (Chilean pesos)

Political Administrative Unit	Year 2000			Year 2006		
	Autonomous Income	Monetary Subsidy	Monetary Income	Autonomous Income	Monetary Subsidy	Monetary Income
Municipality of San José de Maipo	\$ 533073	\$ 4941	\$ 538014	\$ 579721	\$ 4987	\$ 584709
Province Cordillera	\$ 604284	\$ 4236	\$ 608519	\$ 642790	\$ 4855	\$ 647645
Metropolitan Region	\$ 647915	\$ 3432	\$ 651347	\$ 795268	\$ 4401	\$ 799669

Source: MIDEPLAN (2008).

By looking at the graphed data for 2000 and 2006 differences between family income between one period and another, and between territorial units studied are seen more clearly. It highlights the increase at regional level, where the average family moved from receiving almost 651,000 Chilean pesos per month in 2000 to nearly 800,000 by 2006, equivalent to an increase of around 22% in six years.

Figure 10 Average income of households. Years 2000 and 2006 (Chilean pesos)



Source: Personal compilation based on MIDEPLAN (2008)

5.5.3 Health

i) Health insurance system

Regarding health insurance system, which largely relates to the income levels of families, one can see a significant increase in people adhering to the public health system (FONASA), especially at the provincial level, where there was an increase of 12%, at the expense of private and particular systems and another for the period 2000-2006. Likewise, it is clearly noticeable that both the province and municipality unit show for 2006 a rate almost 10% higher than the regional average of adherence to the public system.

If we analyze the situation at communal scale, it is shown that nearly three quarters of the population of San José de Maipo was incorporated to the public system in 2000; this figure increased by just over 5% for 2006.

Table 10 Population by health insurance system (percentages)

Political Administrative Unit	Year 2000			Year 2006		
	Public System	Health Insurance Company (ISAPRE)	Particular and other	Public System	Health Insurance Company (ISAPRE)	Particular and other
Municipality of San José de Maipo	73.4	14.1	12.1	79.3	12.9	7.8
Province of Cordillera	66.4	20.7	10.6	78.4	15.5	6.0
Metropolitan Region	ND	ND	ND	70.1	20.4	9.4

Source: BNC (2008).

ii) Infant Birth and mortality rates

In relation to the birth rate, one can see a general decline during the period 2000-2006; this situation is clearly seen at the provincial level, mainly. The same is true when you look at data for infant mortality rates.

Now, if we analyze the situation only for 2006, it is observed that the birth rate is almost the same for the province and the municipality, while the infant mortality rate has certain significant differences; in effect, at provincial scale a decrease of almost 4 infant deaths per thousand live births is recorded.

Table 11 Infant birth and mortality rates. Period 2000-2006

Political Administrative Unit	Year 2000		Year 2006	
	Infant Mortality Rate	Birth Rate	Infant Mortality Rate	Birth Rate
Municipality of San José de Maipo	5.4	16.9	10.9	13.1
Province of Cordillera	4.4	17.3	6,7	13.3
Metropolitan Region	ND	ND	7.2	14.2

Source: Personal compilation based on BCN (2008)

6 CHARACTERIZATION OF THE AREA OF DIRECT INFLUENCE (ADI)

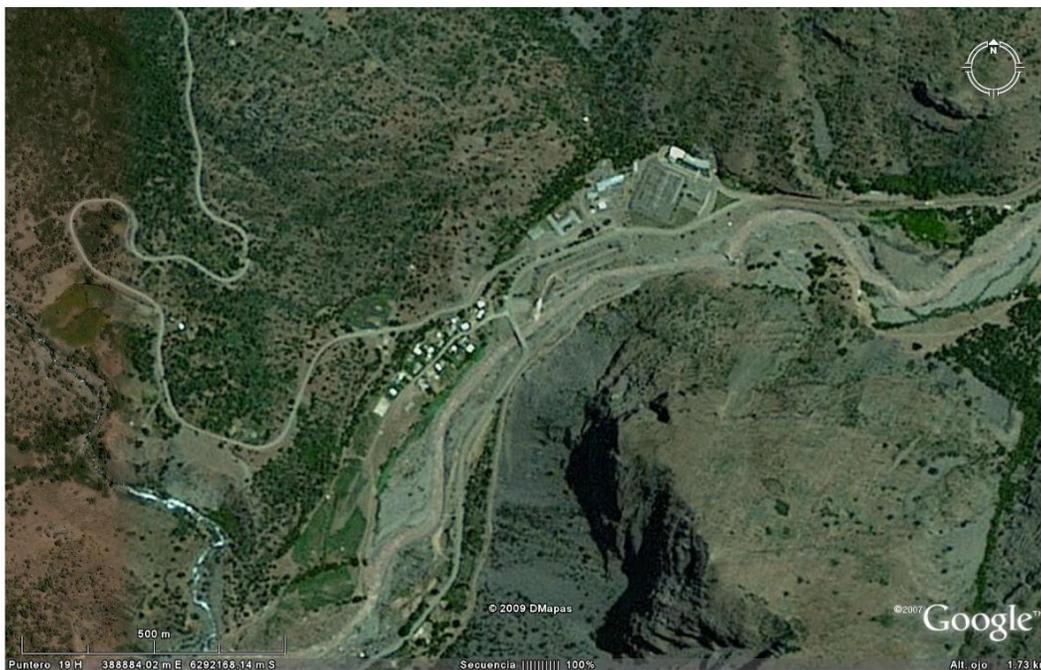
6.1 Populated localities

The transmission line begins at the S / S Maitenes, where it will develop to the east, following the direction of Colorado River and Road G-345, up to the S / S Alfalfal, which is located east of the town of the same name. For its part, the line to be established between the future Alfalfal II Power Plant and S / S Alfalfal will be developed mainly on the mountain range bordering Colorado valley to the south-east. In the course of this layout there are not populated areas, except for El Alfalfal, which is next to the connection substation (El Alfalfal).

6.2 Geographic dimension

The localities of Los Maitenes and El Alfalfal are in the municipality of San Jose de Maipo, in kilometers 13 and 22 km of the road G-345, which communicates with the Camino El Volcán. Los Maitenes is located at 1350 m ASL and 59 km away from the city center of Santiago, while El Alfalfal is located 1,500 m ASL and about 68 km from the city center.

Figure 11 Overview to the village of El Alfalfal



Source: Personal compilation based on Google Earth.

Figure 12 Overview to the village of Los Maitenes



Source: Personal compilation based on Google Earth.

6.3 Demographic dimension

Los Maitenes and El Alfalfal have been characterized as hamlets by INE, i.e. they are human settlement with its own name, which have three or more dwellings close together, with less than 301 inhabitants and they are not part of another entity.

Importantly, these hamlets are not included in the statistics provided by the Census of 1992, so that the data of 2002 will only be used.

6.3.1 Demographic Variation

The two populated entities studied showed a growth in population numbers from 1992 to 2002. Indeed, while Los Maitenes grew by 5.7%, the locality of El Alfalfal did it by 27.7%.

Table 12 Population Growth. Period 1992 to 2002

Populated entity	Population Year 1992	Population Year 2006	Intercensal Variation
Los Maitenes	141	149	5.7
El Alfalfal	77	98	27.3

Source: Personal compilation based on the Study “Upgrading and Suitability of the Municipal Master Plan of San José de Maipo (2009).

6.3.2 Structure of the population by sex

Regarding the distribution of population by sex, Table 13 shows the predominance of male over female population in the two populated entities analyzed. This situation is typical of rural areas. It is important to relate this distribution to the economic activities taking place in this sector, associated directly to existing hydroelectric plants, and Colorado River Mining that is also in close proximity to these locations.

Table 13 Distribution of population by sex in Los Maitenes and El Alfalfal (2005)

Populated Entity	Total	Male		Female		Male Ratio
		N°	%	N°	%	
Los Maitenes	149	81	54.4	68	45.6	119.1
El Alfalfal	98	53	54.1	45	45.9	117.8

Source: INE (2005).

7 IDENTIFICATION AND IMPACT ASSESSMENT

The project will not alter the constitutive characteristics of human groups present in its environment, considering the area of direct and indirect influence. The analysis of each of the dimensions considered in assessing the potential impacts was performed according to the Guide of Criteria for Evaluating the Significant Alteration in Living and Custom Systems of Human Groups in the EIAS

7.1 Construction Phase

7.1.1 Environmental Impact Analysis

Regarding the geographical /demographic Dimension, the Project will not alter significantly space organization of human groups, or the communication and transport flows. Indeed, the high-voltage line is largely a transparent infrastructure which totally allows transport and communication flows. It is important to state that the lines will not cross the existing villages (Los Maitenes and El Alfalfal).

Regarding the demographic dimension, the Project involves the use of a bounded amount of labor (maximum 145 workers / month) for a relatively short period of time (two years or so), which does not mean a change in the demographic conditions of the location areas, especially when the implementation of camps is not considered.

Regarding the anthropological Dimension it can be said that the project in all its activities does not consider the loss of local culture /subculture components, or a change in the traditional communication system, or a loss of social and community organization or of the deep-rooted feeling for the territory. Indeed, the Project given its characteristics will not intervene into any special manifestation of local culture / subculture or the built or natural environment of the area that could adversely affect this area.

For its part, the project will not affect the socioeconomic Dimension as long as it will preferably be established in areas without population and of property of Ministry of National Assets. Additionally, the power lines are compatible with forestry, farming and livestock development (except in specific areas of the site of towers). On the other hand, the expansion of S / S Alfalfal will be carried out in the premises of the same S / S, so that it will not generate a change in land use of such place.

The Project for its size and features do not produce a relevant impact on the factors associated with the social welfare dimension of surrounding communities.

7.1.2 Summary of the environmental assessment

Based on the previously mentioned data and characteristics of the Project, it has been determined that impacts on this component will occur only during the construction phase, and are related directly to labor contracting. It is important to state that for the impact assessment of social Environment those covered by other components such as land use, transportation and noise are not considered, and they are entered in the corresponding sections.

Thus, the impact identified during the construction stage is identified and assessed in the following table.

Table 14 Matrix of impacts assessment. Component Social Environment. Construction Phase

ENVIRONMENT: Human		COMPONENT: Social Environment					
ACTIVITIES	IMPACT	LOCALIZATION	Ca	VALUATION			
				Re	Te	Ti	Mg
Labor contracting	IMH!: Generation of direct employments	Province of Santiago and Cordillera	+	Rev	Te	Di	Ba

Valuation criteria: Ca = Character [Positive (+), negative (-)], Re = Reversibility [Reversible (Rev), Recoverable (Rec), Unrecoverable (Unr)]; Te = Temporality [Temporary (Te), Permanent (Per)] Ty = Type [Direct (Dir), Indirect (Ind), Synergy (Sin), Cumulative (Cu)], Mg = Magnitude [High (H), Medium (Me), Low (L)].

Source: Personal compilation

IMH1: Generating direct jobs

During the construction phase, the Project will require skilled and unskilled labor. For economic and operational reasons it is likely that much of the labor force that is hired comes from the provinces of Santiago and Cordillera. It has been calculated an average amount of

115 workers during the approximate 24 months of construction of the Project, with a peak of 145 workers / month.

The impact is qualified as *positive and* temporary because its effects are restricted to the duration of the construction phase. It is considered a *direct* type impact since jobs are generated by the Project itself (jobs that will be provided in the form of contractors) and of *low* magnitude because the number of jobs created in relation to the population of the provinces involved is low.

Consequently, this impact has been classified as MINOR POSITIVE.

7.2 Operation phase

Regarding the geographical /demographic dimension, the Project operation will not alter space organization of human groups, or the communication and transport flows.

Maintenance will be occasional and performed by personnel who are currently carrying out these activities in the rest of the lines and substations of AES Gener SA, so new workers associated with the operation of this project will not be hired. Similarly, in the S / S Alfalfal additional workers for the operation of the extension will not be required, as this task will be absorbed by the staff of this company.

The operation of the project does not consider changes in the anthropological Dimension because the project does not consider the loss of local culture /subculture components, or a change in the traditional communication system, or a loss of social and community organization or of the deep-rooted feeling for the territory. Indeed, the Project will not intervene into any special manifestation of local culture / subculture or the built or natural environment of the area that could adversely affect this area.

The Project will not affect the socioeconomic Dimension as no alterations will be made in the economic activities taking place in this sector.

The Project for its size and features is not a relevant impact on the factors associated with the social welfare Dimension of surrounding communities

8 BIBLIOGRAPHY

INE (2008): Cuadro Chile proyecciones y estimaciones de población poro sexo y edad. Regiones, provincias y comunas 1990-2020. Available in website http://www.ine.cl/canales/chile_estadistico/demografia_y_vitales/demo_y_vita.php

INE (2008): Cuadro Población total estimada al 30 de junio, por sexo. 1990-2020. Available in website http://www.ine.cl/canales/chile_estadistico/demografia_y_vitales/proyecciones/DatCom/SalComUsuarios-13Tok.xls#'T1'!A819

INE (2008): División Político Administrativa y Censal 2007. Available in website http://www.ine.cl/canales/chile_estadistico/territorio/division_politico_administrativa/pdf/DP_A_COMPLETA.pdf

INE (2008): Caracterización demográfica de la región. Región Metropolitana Available in website

http://www.canalregional.trabajo.gob.cl/doc/estadisticas%5CRM_region_119_140.pdf

INE (1995): Chile. Ciudades, pueblos y aldeas. Censo 1992. INE (2005): Chile. Ciudades, pueblos, aldeas y caseríos. Municipality of de San José de Maipo (2008). Tourism Office.

NATIONALCONGRESS LIBRARY (2008): Reporte estadístico comunal, Año 2008. Comuna San José de Maipo. Available in website http://www.bcn.cl/siit/comunas_cifras

Planning Ministry (2008): CASEN survey 2000 y 2006. Tabla Situación de Pobreza a nivel de personas, por Región (2000 y 2006), Situación de Pobreza a nivel de Hogares, según Región (2000 y 2006), Situación de Pobreza a nivel de personas, por Provincia (2006), Situación de Pobreza a nivel de hogares, por Provincia (2006) Composición de los ingresos de los hogares por quintil de ingreso autónomo nacional según sexo de jefe de hogar y tipo de ingreso (2000 y 2006) Available in website <http://www.mideplan.cl/final/categoria.php?secid=25&catid=124>

Planning Ministry (2002): Análisis de la VIII encuesta de caracterización socioeconómica nacional (CASEN 2000). Documentos N° 7: Situación del sector rural en Chile y N° 10: Situación de la infancia en Chile. Available in website <http://www.mideplan.cl>