

Chapter 2 SOCIO-ECONOMICS IN ARGENTINA

2.1 Introduction

This chapter deals with various social and economical aspects of Argentina, in order to enable the JICA Team to estimate the capacities for future new or extended installations of power plants in the model areas. Table 2.1.1 gives some general facts about Argentina.

Table 2.1.1 Argentina in Brief

Items	Description	
Constitution	Amended in August 1994	
Government Type	Representative, Republican, and Federal	
Administrative Divisions	23 Provinces and City of Buenos Aires	
Total Land Area Terrain	3,761,274 km ² , including the Antarctic area Northern half – rich plains, South – flat Western Border – rugged Andes Highest – Cerro Aconcagua 6,959 m	
Population	32,615,528 (Census in 1991)	
Languages	Officially Spanish	
Currency	Peso; 1 Peso = US\$ 1 fixed since 01/01/1992	
Fiscal Year	Calendar year	
Inflation	minus 2% (1999)	
GDP @ Market Price/Capita	Pesos 8,670 (1999) at Current value 30% by Production of goods, 70% by Services	
Production of Goods (1999) at Producers' current prices	Manufacturing industry	55.3%
	Construction	18.2%
	Agriculture, livestock, forestry	13.3%
	Electric power, natural gas supply	6.9%
	Others	6.3%
Crude Oil	Production	46,508,000 m ³ (1999)
	Reserves	488,300,000 m ³ (Confirmed in 1999)
Natural Gas	Production	42,425 x 10 ⁶ m ³ (1999)
	Reserves	748,130 x 10 ⁶ m ³ (Confirmed in 1999)

2.2 Governmental Organization

The Federal Government is composed of 4 Secretariats and 11 ministries under the Cabinet Chief.

ENRE, one of the two agencies in the Argentine Study Team, is under the Ministry of Infrastructure and Housing as one of independent organizations. ENRE is independent from the Secretary of Energy and Mines, one of Secretaries under the Ministry and was the counterpart of the previous JICA Study in 1994. The other agency in the Argentine Study Team, CNEA, is supervised by the

Secretary of General of the Presidential Office.

Territorially Argentina is divided into 24 political provinces including the City of Buenos Aires, one of the model areas of the Study. The other model areas are located in the Provinces of Buenos Aires and Mendoza.

2.3 Population

Based on the census carried out in 1991, the National Institute of Statistics and Censuses projected the population of the country and provinces until 2010. The projected data are listed in Table 2.3.1, for the Provinces that contain the model areas of the Study. Nationally, the population in 2010 is projected to be 12% more than that in 2000.

Table 2.3.1 Projected Population

	1991	2000	2005	2010
National Total	32,615,528	37,031,802	39,301,755	41,473,702
City of Buenos Aires	2,965,403	3,046,662	3,061,859	3,076,436
Province of Buenos Aires	12,571,714	14,214,701	15,045,565	15,835,917
Province of Mendoza	1,412,481	1,607,618	1,703,726	1,793,260

In 1991, almost one half (47.71%) of the total population was living in the combined area of the City and the Province of Buenos Aires. Besides the City and the Province, there are two other distinctive areas having the name of Buenos Aires. The Greater Buenos Aires is the area surrounding the City of Buenos Aires, consisting of 19 districts (24 in January 2002) of the Province of Buenos Aires. The population of the Greater Buenos Aires area was 7,969,324 in 1991. The combined area of the City and the Greater Buenos Aires, called the Metropolitan Buenos Aires area, had a population of 10,934,727 in 1991, which was almost one third of the national population.

The City of San Nicolas de los Arroyos, the urban center of the San Nicolas model area in the Province of Buenos Aires, had a population of 119,302 in 1991. The population has reportedly increased to 151,000 in 2000.

2.4 Economical Indexes

1) Inflation

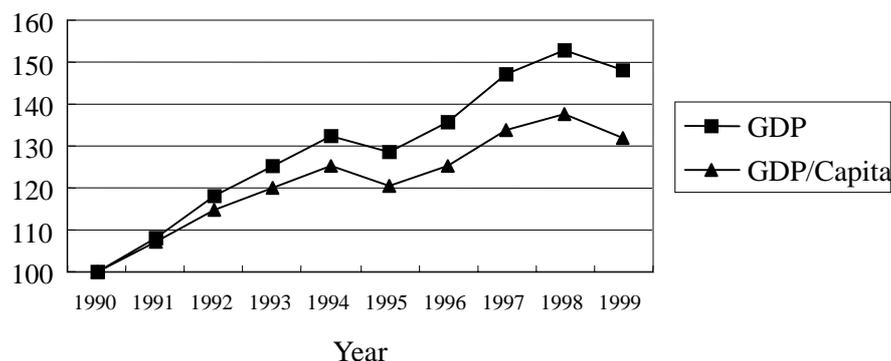
After the enactment of the Convertibility Law (April 1991), the consumer price index variation dropped amazingly to 7.4% in 1993 from 4900% in 1989. The annual consumer

price variations were within plus or minus 2 % in those 5 years until 1999.

2) GDP

The annual gross domestic products have gained a momentum of increment from 1991 as shown in Figure 2.4.1. The annual mean growth was 4.48% of GDP or 3.11% of GDP/capita from 1990 to 1999. There seems a negative sign of the growth from 1999.

Figure 2.4.1 Gross Domestic Product at Market Price (Base: 1990-100)

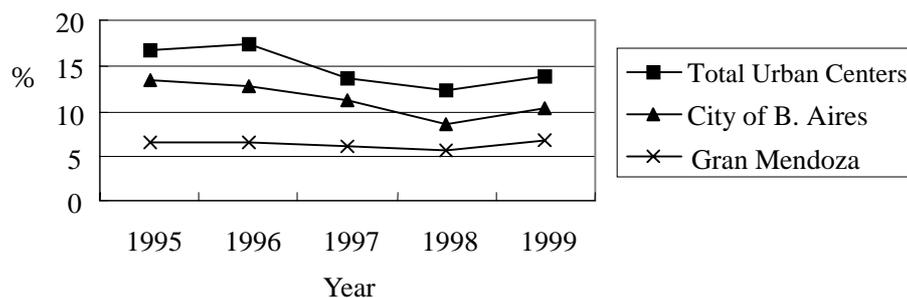


The production of goods accounts for 30% of the GDP at market price in each year from 1994.

3) Unemployment Rates

Unemployment rates have decreased since 1995 as shown on Fig. 2.4.2.

Fig. 2.4.2 Unemployment in October



After May 1995 when the unemployment rate in total urban centers was 18.4%, the rates in the total urban centers and in the City of Buenos Aires are substantially reduced. The rates in Mendoza have been lower than Total Urban Centers' and shown no change in those years.

4) International Trade Balance

The international trade balance has been negative since 1997 because of increased amounts of imports. In 1999, the export amounts were US\$ 23,333 million, less than US\$ 22million

imports. The main export products were manufactures of agricultural origin, manufactures of industrial origin, primary products, and fuels (in the order of the FOB amounts in 1999). On the other hand, the imports were almost all manufactures of industrial origin, among which the major items were machinery, transportation equipment, and chemical products.

2.5 Oil and Gas

1) Reserves

Table 2.5.1 shows the confirmed reserves of crude oil and natural gas.

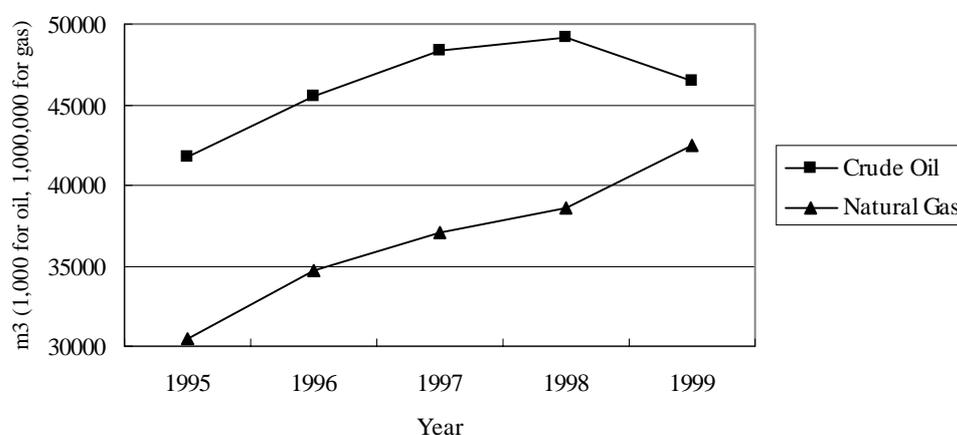
Table 2.5.1 Confirmed Reserves of Crude Oil and Natural Gas

Locals	Crude Oil Reserves in 1998 (1,000 m ³)	Natural Gas Reserves in 1999 (1,000,000 m ³)
Northwest	32,343	165,360
Northern Mendoza	34,014	880
Neuquina	190,766	377,120
Gulf of San Jorge	149,878	33,340
Southern	30,756	171,440
National Total	437,757	748,140

2) Production

Argentina produces enough crude oil for its fuel and other related products. Fig. 2.5.1 illustrates crude oil and natural gas production in Argentina. Argentina exports larger cash amounts of the related products than those of the import: export FOB 2,827 million US\$ and import CIF 676 million US\$ in 1999.

Fig. 2.5.1 Crude Oil and Natural Gas Production



Oil production was reduced by 2,639,000 m³ and gas was increased by 3,794 million m³ in 1999, from the amounts in 1998. By assuming heats of combustion, the combined production of heat energy in 1999 was almost equal to that in 1998.

3) Oil Products

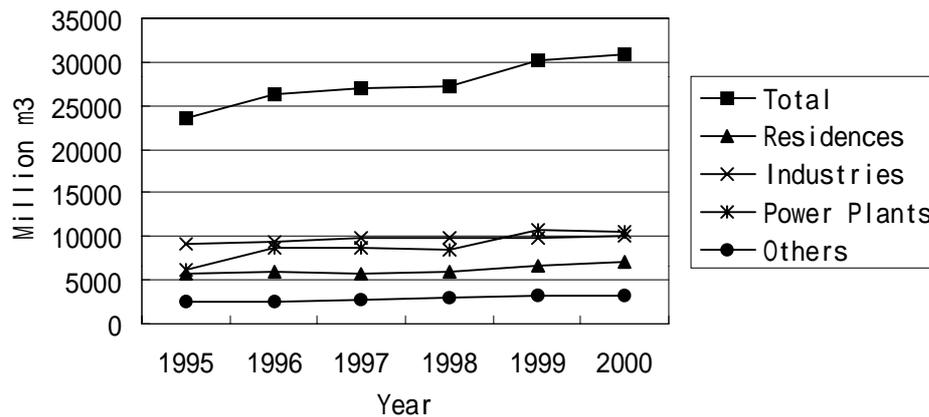
Regular gasoline consumption was greatly reduced in all model areas, especially in the City of Buenos Aires where consumption was reduced by one third from 1997 to 2000. Also, super gasoline was consumed less in all areas. However, gas oil consumption was almost steady in all area and was even increased in the Province of Mendoza. The consumption of fuel oil was generally decreasing in all areas.

Sulfur in products relates directly to air pollution. According to the national specification of oil products, the sulfur content of gas oil is to be less than 0.25 wt% and of the sulfur content of fuel oil is to be less than 1.4 wt%. A chemical analysis reported the sulfur content of gas oil and fuel oil to be 0.13 and 0.66 wt% respectively .

4) Natural Gas Consumption

Fig. 2.5.2 shows trends of natural gas consumption in major consumers. The annual average growth rates from 1995 to 1999 were 6.4% in 'Total', 3.29% in 'Residential', 1.56% in 'Industrial', and 15.00% in 'Power Plants'. Chapter 3 will discuss in detail this increment of natural gas consumption in the power industry.

Fig. 2.5.2 Natural Gas Consumption



The steel industries consumed 1×10^9 m³ of natural gas in 1999, about 10 % of the industries sector. Acindar Industria S.A., one of the steel industries in Santa Fe (just outside of the San Nicolas model area), is annually consuming 300 million m³ of natural gas for the direct reduction steel production.

Compressed natural gas (CNG) is the major part (47.7%) of 'Others' category in Fig. 2.5.2. It is used for the fuel of passenger cars. Fig. 2.5.3 shows trends of the CNG consumption. Its mean annual consumption growth was 10.6% from 1995 to 1999. The Secretary of Energy projected CNG demands to grow from 1,509 million m³ in 1999 to 2,873 million m³ in 2010, with the annual average growth rate of 6.65%.

Fig. 2.5.3 Compressed Natural Gas Consumption

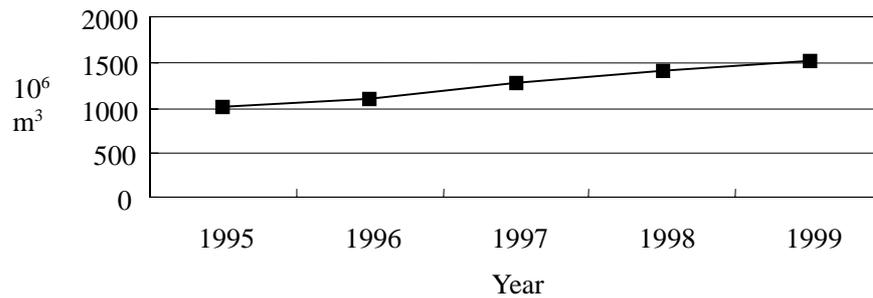
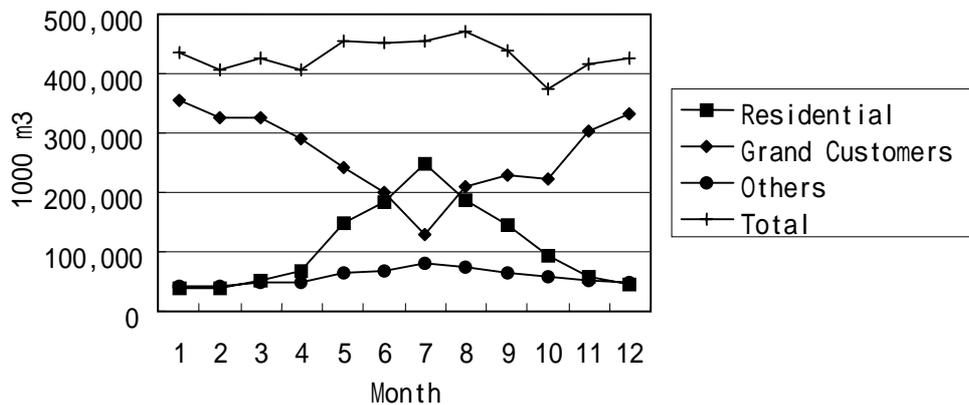


Fig. 2.5.4 indicates the natural gas consumption patterns of the City of Buenos Aires. Grand consumers which are power plants have been forced to reduce the natural gas consumption in winter when residential customers use the gas in large quantity.

Fig. 2.5.4 Monthly Gas Sold in City of BA (10/99-9/00)



5) Prices of Oil and Gas

Table 2.5.2 shows information of fuel prices. The last data were prices on the street of Buenos Aires in the first part of May 2001.

Table 2.5.2 Fuel Prices

Source	Fuel	Dec/1999	Sept/1999	Jan/2000	May/2001 in BA
Station-ary	Natural Gas	0.071 \$/m ³	--		
	Gas Oil	--	--		
	Fuel Oil	100 \$/ton	--		
	Coal	37 \$/ton	--		
Mobile	CNG	--	0.31 \$/m ³		0.306 \$/m ³
	Common Gasoline	--	0.938 \$/lt	0.96 \$/lt	0.959 \$/lt
	Super Gasoline	--	--	1.09 \$/lt	1.094 \$/lt
	Gas Oil	--	0.469 \$/lt	0.5 \$/lt	0.524 \$/lt

2.6 Electric Power Consumption

Fig. 2.6.1 shows that the three main sectors - industrial, residential and commercial users, constitute more than 88% of the total demand in the past trends of the annual electric power consumption.

Fig. 2.6.1 Annual Electric Power Consumption in Argentina

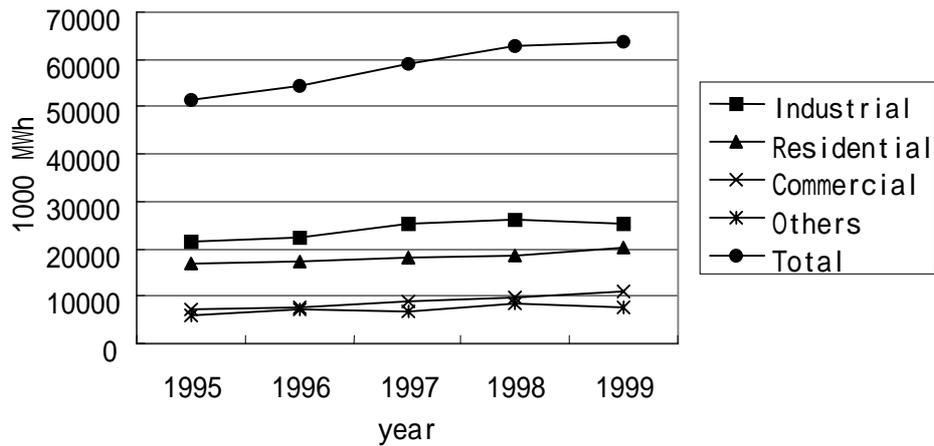


Table 2.6.1 shows electric power consumption in 2000 for the regions having the model areas.

Table 2.6.1 Regional Consumption of Electric Power in 2000

	Metropolitan Buenos Aires	Rest of Prov. Buenos Aires	Cuyo	Others	National
% in 2000	43.9	13.0	6.1	37.0	100
Consumed MWh in 2000	31,579,000	9,351,400	4,388,000	balance	71,934,000
Estimated Population in 2000	11,258,757	5,230,124	2,186,122	balance	37,031,802
MWh per capita in 2000	2.80	1.79	2.01	--	1.94

2.7 Cars

The annual average growth of the registered cars is minus 4.77% for domestic cars and plus 12.92% for imported ones from 1993 to 1998. The numbers of the registered cars in 1998 were 223,031 domestic and 183,448 imported with a total of 406,479. The domestic production was extremely reduced in 1999 to about 67% of the 457,957 cars in 1998.

2.8 Privatization

Privatization of the state owned companies is progressing as an economic policy since 1991. Those privatized are

- Electric power generation and transportation,
- Petroleum processing, Petrochemical production, Gas transportation and distribution,
- Aerolineas Argentinas, Maritime transportation, etc.