17 NORTH ZONE: MACRO REGION AND GATEWAY

“Strengthen the Gateway Functions and Develop Industries Targeting the Macro-regional Market in the North Zone of Chile”

17.1 Characteristics of the Macro-regional Market

The promotion of investments and exports in the North Zone depends on the development of gateways such as Arica, Iquique and Antofagasta. A new reality has been emerging in the zone that will greatly facilitate such development, namely regional economic integration between the zone and neighboring countries. This region is hereinafter referred to as the “macro-region” of the North Zone of Chile (Figure 17.1.1).

In this study, the macro-region is defined as the three northern regions of Chile (Tarapacá, Antofagasta, and Atacama), the six northwestern provinces of Argentina (Jujuy, Salta, Catamarca, Tucuman, Santiago del Estero, and La Rioja), the entire countries of Bolivia and Paraguay, the four southern departments of Peru (Tacna, Moquegua, Puno, Arequipa), and the two central-western states of Brazil (Mato Grosso do Sul and Mato Grosso). This geographical demarcation has been determined for a statistical analysis, while allowing the zone’s economy to be further integrated into other parts of those countries just mentioned.

Such regional economic integration is expected to have a significant impact on the development of the North Zone for the following two reasons. First, it is likely to bring about an expansion of trade through the gateways between the macro-regional market and Asia and the west coast of the United States. Second, it enhances the possibility to develop new industries that target the macro-regional market, e.g., manufacturing, education, medical services and tourism.

In order to reap the benefits of such integration and to realize the potential, however, the zone must strengthen its gateway functions. First, it must improve its transportation infrastructure, especially port facilities and roads connecting ports and its hinterland in the macro-region. Secondly, it is essential to develop supporting industries so the zone may truly become a full-fledged gateway, e.g., logistics, finance, insurance and telecommunications. Thirdly, industrial development, as an integral part of the development of the gateway from a broader perspective, is necessary for the long-term economic development of the zone.

Throughout the Phase II study, emphasis was placed on Arica. The emphasis on Arica is because it is lagging behind other gateways of the zone, though it has potential to become a major gateway to the Pacific Ocean in the macro-region. However, it does not mean that other gateways, such as Iquique and Antofagasta, are less important or do not have the possibility to become a major gateway in the macro-region. On the contrary, the importance of these gateways will become even greater as Arica becomes fully capable to function in a complimentary manner with the others. This section describes the characteristics of the macro-regional market as a basis for discussions in latter sections and, more importantly, as the premise for the development of the zone.

Figure 17.1.1 Macro-region of the North Zone of Chile

Note: In this study, the macro-region is defined as the three northern regions of Chile (Tarapac , Antofagasta, and Atacama), the six northwestern provinces of Argentina (Jujuy, Salta, Catamarca, Tucuman, Santiago del Estero, and La Rioja), the entire countries of Bolivia and Paraguay, the four southern departments of Peru (Tacna, Moquegua, Puno, Arequipa), and the two central-western states of Brazil (Mato Grosso do Sul and Mato Grosso). This geographical demarcation has been determined for a statistical analysis, while allowing the zone s economy to be further integrated into other parts of those countries just mentioned.

Source: Elaborated by the JICA Study Team.

17.1.1 Overview of the Macro-region

Lack of reliable and up-to-date comprehensive data is one challenge in analyzing the present situation and therefore, in projecting future prospects of the macro-regional market, as pointed out by some Chilean experts in the first phase of this study. The JICA Study Team also had similar difficulties in this regard. This report is based largely on information that was obtained through interviews and observations made in Bolivia, Brazil, and Argentina during the Phase II study, as well as on statistical data collected through the Internet and other means. Lack of reliable data suggests, however, the significance of establishing a regional research institute that can provide information necessary for trade and investment within the macro-region and between the macro-region and other parts of the world. This would also prove useful for various kinds of activities to broaden and strengthen relations among the countries and areas of the macro-region.

(1) Economic Situation

The macro-region is 4 million km^2 in area and has a population of 28 million in the late 1990s (Table 17.1.1). Although some parts, particularly the Andean regions of Peru and Bolivia, are among the poorest in South America at present, the macro-region offers considerable potential for trade and investment in the future. Such potential is, first of all, due to the relatively larger population compared to that of the North Zone and the proximity of some densely populated cities. For example, La Paz, the capital of Bolivia with a population of one million, is located about 500 km northeast of Arica.[1] Other major cities of the macro-region include Arequipa of Peru, Santa Cruz of Bolivia, and Salta of Argentina, whose populations range from 0.5 million to 1 million.[2] The current size of the economy may not appear so large, but it is expected to expand as the population, as well as the income, grows.

Such potential is also due to a variety of industries that make up the region’s economy (Table 17.1.2), though the macro-region’s main economic activities are natural-resource-based, i.e., mining, agriculture and agroindustry. Besides these natural-resource-based industries, the service sector, e.g., commerce and transport, is also important in the macro-region. Several free trade zones (with significant tax incentives for certain export-oriented activities) have been created in the macro-region, encouraging trade among as well as with overseas countries. Along with economic growth in the 1990s, other industries have been developed, e.g., tourism, petrochemicals, and electricity. The discovery of large oil and gas fields in the Department of Santa Cruz (exported to Argentina through pipelines) has attracted many people and businesses to this area, reinforcing the economic potential of the macro-region.

(2) Social Conditions

The social conditions of the people living in the macro-region significantly vary by country and region/province/department as implied by the large differences in national and regional GDP per capita (Table 17.1.3). Perhaps such gaps also exist between

[1] Instituto Nacional de Estadística (INE), *Anuario Estadística 1999*.

[2] Instituto Nacional de Estadística e Información (INE) (http://www.inei.gob.pe/cpi/); INE, ibid.; and Instituto Nacional de Estadística y Censos (INDEC) (http://www.indec.mecon.gov.ar/anuario/infoprov/).

urban and rural areas and among economic classes. The macro-region also includes socially underdeveloped areas within relatively developed countries, probably due partly to the distances from the national capitals. The most notable case is Argentina's northwestern provinces. These provinces seem to be less developed as indicated by their infant mortality and illiteracy rates, which are considerably higher than the national average. The people residing in the Andean regions of Bolivia and Peru likely receive even less adequate services for health and education, though statistical evidence is not available.

The social conditions of those living in the macro-region may not appear to be factors as important as the current economic situation and natural resource endowment. However, services available to a wider range of people and areas, such as education and health care in particular, will substantially determine the degree to which the economic potential of the macro-region is realized. The provision of better social services will help to minimize economic development constraints in the macro-region, e.g., high poverty incidence and a large gap in incomes. Therefore, it is also important to build a database concerning social conditions based on ways in which the public services provided by each national government may be improved, possibly through international cooperation and by private sector participation.

Table 17.1.1 Area, Population and GDP of the Macro-region of the North Zone

Country	Region / Province	Area	Population	GDP	GDP per capita	Data year	GDP Average Annual Growth	
		(km2)	(1,000)	(US$ millions)	(US$)		1979-89	1989-99*
Chile	National Total	756,626	14,622	62,446	4,271	1997	3.5	7.2
	Tarapaca	56,698	380	2,459	6,471	1997		7.6
	Antofagasta	126,444	450	5,213	11,584	1997		7.6
	Atacama	75,573	260	1,570	6,038	1997		7.6
	Regional Total	258,715	1,090	9,242	8,479	1997		
Argentina	National Total	2,780,400	35,672	292,859	8,210	1997	-0.4	5.0
	Jujuy	53,219	574	1,388	2,418	1997		
	Salta	155,488	1,001	2,180	2,178	1997		
	Catamarca	102,602	301	1,396	4,638	1997		
	Tucuman	22,524	1,248	3,368	2,699	1997		
	Santiago del Estero	136,351	711	1,580	2,222	1997		
	La Rioja	89,680	260	n.a.	n.a.	1997		
	Regional Total	470,184	3,835	9,912	2,585	1997		
Bolivia	National Total	1,098,581	7,950	8,538	1,074	1998	-0.9	4.2
Peru	National Total	1,285,220	23,900	59,000	2,507	1996, 95	0.5	4.3
	Tacna	16,706	246	n.a.	n.a.	1996		
	Moquegua	15,734	138	n.a.	n.a.	1996		
	Puno	66,988	1,143	n.a.	n.a.	1996		
	Arequipa	63,344	999	n.a.	n.a.	1996		
	Regional Total	162,772	2,526	n.a.	n.a.	1996		
Paraguay	National Total	406,752	5,219	8,443	1,618	1998	2.7	2.6
Brazil	National Total	8,547,404	161,790	787,023	4,865	1998	2.9	2.6
	Mato Grosso do Sul	358,159	1,996	8,651	4,335	1998		
	Mato Grosso	906,807	2,332	8,523	3,655	1998		
	Regional Total	1,264,966	4,328	17,174	3,968	1998		
Total of Countries		14,874,983	249,715	1,208,219	4,838			
Total of Regions		3,988,130	27,899	..	..			

Sources: Average annual growth rates are from World Bank, Country at glance. Other data sources are as follows.
Chile: INE, Anuario de Demografia 1998; and Ministerios de Economia, Mineria y Energia, "Regiones de Chile" (http://200.28.221.159/regiones/).
Argentina: INDEC (http://www.indec.mecon.gov.ar/anuario/); Federal Council of Investment (CFI), NOA Northwestern Argentina, September 2000 (based on INDEC data); and Provincial Statistical Bureaus.
Bolivia: INE, Anuario Estadistico 1999.
Peru: INEI (http://www.inei.gob.pe/cpi/).
Paraguay: Banco Central de Paraguay (http://www.bcp.gov.py/GEE/estadisticaseconomicas/).
Brazil: IBGE, *Brazil in Figures 1999* ; *Contas Regionais do Brasil 1985-1997; and Contas Regionais do Brasil* 1995-1998 (http://www.ibge.gov.br/ibge/estatistica/economia/contasregionais/).
*: 1990-97 for the three regions of Chile.

Table 17.1.2 Economic Structure of the Macro-region of the North Zone

Country	Region / Province	GDP (%)	Agriculture (%)	Industry (%)	(Manufacture) (%)	Services (%)	Data year
Chile	National Total	100.0	8.4	34.2	16.4	57.4	1998
	Tarapaca	100.0	3.6	42.2	17.8	54.3	1996
	Antofagasta	100.0	0.7	80.2	5.4	19.0	1996
	Atacama	100.0	17.2	59.1	1.9	23.8	1996
Argentina	National Total	100.0	5.7	28.7	19.1	65.6	1998
	Jujuy	100.0	20.2	42.3	29.3	37.5	1995
	Salta	100.0	12.5	41.1	31.1	46.4	1996
	Catamarca	100.0	8.0	30.5	24.1	61.5	1996
	Tucuman	100.0	10.8	31.3	23.7	57.9	1993
	Santiago del Estero	100.0	14.5	17.6	7.4	67.9	1990
	La Rioja	100.0	2.8	27.7	24.7	69.5	1995
Bolivia	National Total	100.0	18.9	18.7	14.8	62.4	1998
Peru	National Total	100.0	7.1	36.8	23.1	56.1	1998
	Tacna	100.0	7.1	..	7.1	..	1992
	Moquegua	100.0	3.7	..	63.0	..	1992
	Puno	100.0	20.0	..	10.0	..	1992
	Arequipa	100.0	14.3	..	16.1	..	1992
Paraguay	National Total	100.0	24.3	27.0	15.5	48.8	1998
Brazil	National Total	100.0	7.7	37.8	23.5	54.5	1997
	Mato Grosso do Sul	100.0	25.9	23.7	11.9	50.5	1997
	Mato Grosso	100.0	18.8	21.6	9.3	59.6	1997

Sources: National data are mostly from World Bank, Country at glance. Other data sources are as follows.
Chile: Ministerios de Economia, Mineria y Energia, "Regiones de Chile" (http://200.28.221.159/regiones/).
Argentina: INDEC (http://www.indec.mecon.gov.ar/anuario/).
Peru: INEI, as quoted in IDCJ, *Transport Economic Cooperation Study (Peru)* , March 1996.
Brazil: IBGE, *Contas Regionais do Brasil 1985-1997* .

Table 17.1.3 Social Indicators of the Macro-region of the North Zone

Country	Region / Province	Poverty*	Urban population**	Life expectancy at birth	Infant mortality	Illiteracy, male	Illiteracy, female	Net school enrollment, primary	Net school enrollment, secondary	Data year
		(% of population below national poverty line)	(% of total population)	(years)	(per 1,000 live births)	(% of population age +15)	(% of population age +15)	(% of school-age population)	(% of school-age population)	
Chile	National Total	21.0	85.2	75.4	10.3	4.4	4.8	87.3	80.4	1995-98
	Tarapaca	16.1	..	..	8.9	..	..	..	..	1998
	Antofagasta	13.2	..	..	13.0	..	..	..	..	1998
	Atacama	28.5	..	..	14.9	..	..	..	..	1998
Argentina	National Total	16.5	87.4	71.9	19.1	3.8	4.1	99.9	71.9	1991, 98
	Jujuy	33.6	81.8	68.4	21.5	4.6	11.0	..	..	1991, 98
	Salta	33.9	79.2	68.9	22.6	6.0	9.1	..	..	1991, 98
	Catamarca	24.6	70.0	70.6	23.3	4.8	5.1	..	..	1991, 98
	Tucuman	24.6	76.8	71.0	19.9	5.9	5.0	..	..	1991, 98
	Santiago del Estero	33.6	60.9	69.8	18.1	9.1	10.1	..	..	1991, 98
	La Rioja	23.6	75.5	70.4	22.9	4.6	4.1	..	..	1991, 99
Bolivia	National Total	67.0	61.3	61.9	60.4	8.7	22.2	98.0	40.0	1995-98
Peru	National Total	41.0	72.0	68.6	39.6	5.8	15.7	91.9	83.5	1995-98
	Tacna	..	89.7	..	..	7.4		..	..	1993
	Moquegua	..	82.8	..	..	8.8		..	..	1993
	Puno	..	39.2	..	..	22.2		..	..	1993
	Arequipa	..	85.7	..	..	7.6		..	..	1993
Paraguay	National Total	..	54.6	69.8	24.4	6.0	8.5	93.3	59.3	1995-98
Brazil	National Total	..	79.6	68.1	36.1	13.8	13.8	94.7	66.2	1995-98
	Mato Grosso do Sul	..	83.8	69.8	26.7	10.0	13.5	94.6	59.2	1998
	Mato Grosso	..	76.0	68.6	28.0	11.4	11.1	95.6	61.9	1998

Sources: National data are mostly from World Bank, Country at glance; and Data Profile (http://devdata.worldbank.org/external/dgprofile.asp).
Other data sources are as follows.
Chile: INE, Anuario de Demografia 1998; and Ministerios de Economia, Mineria y Energia, "Regiones de Chile" (http://200.28.221.159/regiones/).
Argentina: INDEC (http://www.indec.mecon.gov.ar/anuario/).
Peru: INEI (http://www.inei.gob.pe/cpi/bancogeo/).
Brazil: IBGE, *Sintese de Indicadores Sociais* , 1999.
*) Porverty rates for Argentina are "homes with Unsafisfied Basic Needs (NBI), 1991". The poverty rate indicated by World Bank's data is 18% for some year between 1993-99.
**) Argentina's urban population is those who are 3 years old and above in 1991.

(3) International Trade

Export products of the regions/provinces/departments of the macro-region are mainly natural-resource-based, i.e., products obtained from mining, agriculture, fishery, and forestry activities (Table 17.1.4). While the macro-region as a whole has a larger variety of products compared to those of the North Zone, these products generally have low value added, i.e., a relatively low capacity to pay transport costs to cross the Andes and reach Chilean ports. Some exceptions are wood-based products such as timbers, construction materials and furniture and processed soybean products produced in Bolivia and Brazil. For example, about 80% of Bolivian forestry products and most of the construction materials and furniture manufactured in Santa Cruz are exported overseas through the Port of Arica.[3]

Information regarding imports is less accessible. Judging from the national figures and the regional economic structures, however, a large percentage of the imports of the macro-region seem to be accounted for by capital goods. Other important import products seem to be various kinds of consumer goods, including both durables and non-durables. The Free Trade Zone of Iquique (ZOFRI) has been playing an important role as an international trade center of the macro-region, especially in importing goods from the Asian and Pacific markets (with a share of 53% of ZOFRI's total purchases in 1999).[4] The five countries of the macro-region are major destinations of goods imported through ZOFRI (Bolivia, Peru, Paraguay, Argentina and Brazil together occupied 54% of ZOFRI's total sales in 1999).[5]

Table 17.1.4 Trade of the Macro-region of the North Zone

Country	Region / Province	Exports (fob US$ millions)	Major export products (fob US$ millions)						Imports (cif US$ millions)	Major import products		
										Food	Fuel & energy	Capital goods
Chile	National Total	15,616	Copper	5,889	Fruits	1,212	Manufactures	7,152	18,779	..	1,492	5,112
	Tarapaca	982	Copper	707	Iodine	73	Fishmeal	54	..	..	..	..
	Antofagasta	3,976	Copper	3,470	Sodium nitrate	78	Metal ashes	68	..	..	..	..
	Atacama	927	Copper	569	Silver	99	Iron pellets	93	..	..	..	..
	Regional Total	5,885	..	..	..	..	..	..	..	..	..	..
Argentina	National Total	23,315	Food	2,428	Meat	643	Manufactures	15,082	25,538	466	674	11,909
	Jujuy	115	Tobacco	71	Vegetables	11	Sugar	8	..	..	..	..
	Salta	337	Vegetables	83	Mineral fuel	81	Tobacco	49	..	..	..	..
	Catamarca	548	Minerals	516	Vegetables	8	Precious stones	8	..	..	..	..
	Tucuman	336	Fresh fruits	83	Vehicles & parts	67	Chemical products	41	..	..	..	..
	Santiago del Estero	97	Cotton	54	Cereals	18	Vegetables	13	..	..	..	..
	La Rioja	137	Paper	46	Leather	37	Fats and oils	21	..	..	..	..
	Regional Total	1,570	..	..	..	..	..	..	..	..	..	..
Bolivia	National Total	1,051	Tin	69	Zinc	154	Manufactures	220	1,755	..	..	..
Peru	National Total	6,114	Copper	776	Fishmeal	533	Manufactures	1,874	6,581	932	629	2,140
	Tacna	..	..	..	..	..	..	..	..	..	..	..
	Moquegua	..	..	..	..	..	..	..	..	..	..	..
	Puno	..	..	..	..	..	..	..	..	..	..	..
	Arequipa	..	..	..	..	..	..	..	..	..	..	..
	Regional Total	..	..	..	..	..	..	..	..	..	..	..
Paraguay	National Total	2,701	Soy products	307	Cotton	69	Manufactures	1,960	2,713	988	..	..
Brazil	National Total	48,011	Coffee	2,441	Soy products	3,784	Manufactures	30,251	49,219	2,078	2,169	21,157
	Mato Grosso do Sul	218	Soy products	89	Meat	31	Minerals	16	57	..	11	12
	Mato Grosso	741	Soy products	548	Meat	90	Sugar	11	154	..	-	107
	Regional Total	959	..	..	..	..	..	..	211	..	11	119
Total of Countries		96,808							104,585			
Total of Regions		..							..			

Sources:
Chile: World Bank, *Chile at glance* ; ProChile, *Analisis Regional de las Exportaciones Chilenas 2000* .
Argentina: World Bank, *Argentina at glance* ; Federal Council of Investment (CFI), NOA *Northwestern Argentina* , September 2000 (based on INDEC data).
Bolivia: World Bank, *Bolivia at glance* .
Peru: World Bank, *Peru at glance* .
Paraguay: World Bank, *Paraguay at glance* .
Brazil: World Bank, *Brazil at glance* ; Ministerio do Desenvolvimento, Industria e Comercio Exterior, *Estataticas de Comercio Exterior* (http://www.mdic.gov.br/publica/SECEX/pag/estatistica.html).

[3] Ministerio de Agricultura, Ganadería y Desarrollo Rural, *Estadísticas de Exportación de Productos Forestales Gestión 1999*, p. 133.
[4] ZOFRI S.A. (http://www.zofri.cl).