

## 2.4 Natural Calamities

### 2.4.1 Drainage

Rivers have greatly influenced the characteristics of the country. The Paraguay and Paraná rivers and their tributaries define most of the country's borders, provide all its drainage, and serve as transportation routes. Most of the larger towns in the interior, as well as Asunción, are river ports.

The flow of groundwater moves simply from west to east or southeast in the Western Area, however it is more complicated in the Eastern Area. It is clarified that some of the areas in route 2 and 7 were submerged in the past according to the previous report, however the road surface has not been recently flooded.



Figure 2.4.1 Hydrography

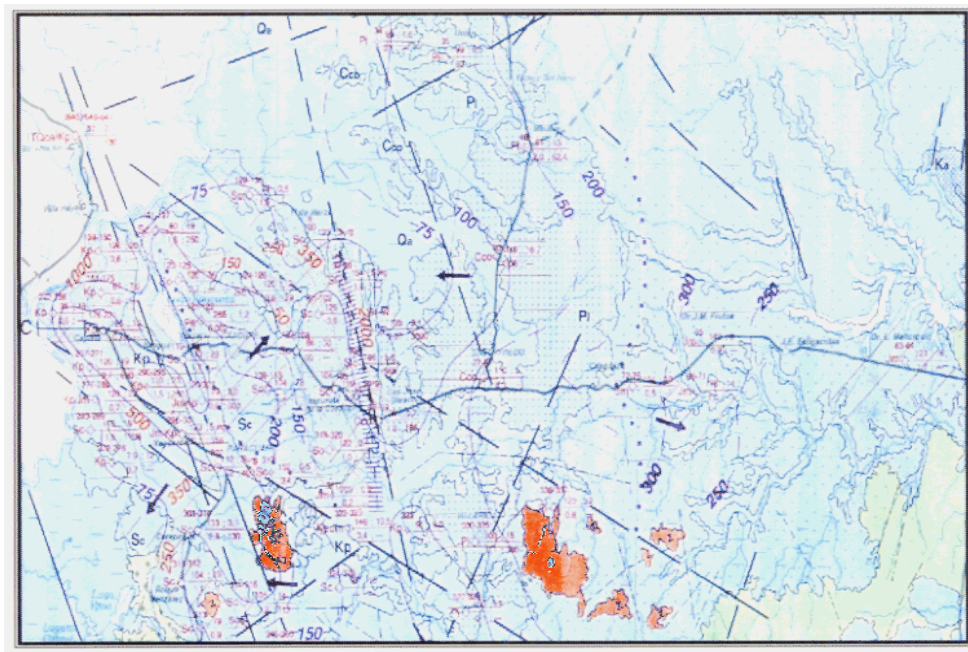
The Paraguay River has a total course of 2,600 kilometers, 2,300 of which are navigable and 1,200 of which either border on or pass through Paraguay. The limit of navigability is located in Brazil, and during most years vessels with twenty-one-meter drafts can reach Concepción without difficulty. Medium-sized ocean vessels can sometimes reach Asunción, but the twisting course and shifting sandbars can make this transit difficult.

Although sluggish and shallow, the river sometimes overflows its low banks, forming temporary swamps and flooding villages. River islands, meander scars, and oxbow (U-shaped) lakes attest to frequent changes in course. The major tributaries entering the Paraguay River from the Oriental region – such as the Apa, the Aquidabán, and the Tebicuary Rivers – descend rapidly from their sources in the Paraná Plateau to the lower lands; there they broaden and become sluggish as they meander westward. After heavy rains these rivers sometimes inundate nearby lowlands. The rivers flowing eastward across the Oriental region as tributaries of the Paraná River are shorter, faster flowing, and narrower than the tributaries of the Paraguay River.

Paraguay's third largest river, the Pilcomayo River, flows into the Paraguay River near Asunción after demarcating the entire border between the Chaco region and Argentina. During most of its course, the river is sluggish and marshy, although small craft can navigate its lower reaches. When the Pilcomayo River overflows its low banks, it feeds the Estero Patiño. Because of the seasonal overflow of the numerous west ward-flowing streams, the lowland areas of the Oriental region also experience poor drainage conditions, particularly in the Ñeembucú Plain in the southwest, where almost impervious clay subsoil prevents the absorption of excess surface water into the aquifer. About 30 percent of the Oriental region is flooded from time to time, creating extensive areas of seasonal marshlands. Permanent bogs are found only near the largest geographic depressions, however.

#### **2.4.2 Earthquake**

Paraguay does not belong to an Earthquake zone. However, it is clarified that there are faults as shown in the Hydro-geological Map in Study Area ( See Figure 2.4.2 ).



**Figure 2.4.2 Hydro-geological Map**

# CHAPTER 3 DEMOGRAPHIC AND ECONOMIC CONDITIONS

### 3 DEMOGRAPHIC AND ECONOMIC CONDITIONS

#### 3.1 Population

The population of Paraguay has reached 5 million in 1997. The population has increased 2.7% per year since 1992, with an annual increase of 3.9% in urban areas and 1.4% in rural areas.

**Table 3.1.1 Population in 1992 and 1997**

(Unit: Thousand Persons)

	1992			1997			Increase (%/year)		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
Total	4,453	2,219	2,234	5,085	2,685	2,400	2.7%	3.9%	1.4%
Asunción	529	529	0	550	550	0	0.8%	0.8%	-
Concepción	174	58	116	185	67	118	1.3%	3.1%	0.4%
San Pedro	288	39	248	333	45	288	3.0%	2.8%	3.0%
Cordillera	214	66	148	216	72	143	0.2%	1.8%	-0.6%
Guairá	170	49	120	174	51	123	0.5%	0.7%	0.4%
Caaguazú	407	110	297	442	133	309	1.7%	3.8%	0.8%
Caazapá	136	17	119	142	18	123	0.7%	0.8%	0.7%
Itapúa	397	116	281	455	145	309	2.8%	4.6%	2.0%
Misiones	95	46	49	99	49	50	0.8%	1.5%	0.1%
Paraguarí	245	52	193	248	54	194	0.2%	0.6%	0.1%
Alto Paraná	443	247	196	595	362	233	6.1%	7.9%	3.5%
Central	938	726	212	1,174	948	226	4.6%	5.5%	1.2%
Ñeembucú	84	37	47	87	40	47	0.7%	1.8%	-0.1%
Amambay	111	71	40	127	84	43	2.8%	3.3%	1.8%
Canindeyú	113	20	93	133	23	110	3.4%	3.4%	3.4%
Pdte. Hayes	67	24	44	77	29	49	2.8%	3.9%	2.2%
Boquerón	30	8	23	35	9	26	3.2%	3.1%	3.2%
Alto Paraguay	12	5	7	14	6	8	2.3%	2.2%	2.3%

Source: General Directorate of Statistics, Inquiry and Census (Dirección General de Estadística, Encuestas y Censos)

#### 3.2 Gross Domestic Product (GDP)

Gross Domestic Product (GDP) at current prices is given in the table below. GDP in US\$ has fallen since 1997 even in current prices.

**Table 3.2.1 GDP at Current Prices**

	1991	1992	1993	1994	1995	1996	1997 <sup>*1</sup>	1998 <sup>*2</sup>
GDP (G. billion)	8,281	9,671	11,992	14,960	17,699	19,805	20,934	23,269
GDP (US\$ million)	6,254	6,447	6,841	7,857	8,970	9,637	9,607	8,433
GDP per Capita (G. 1,000)	1,911	2,172	2,621	3,183	3,665	3,997	4,117	4,459
GDP per Capita (US\$)	1,443	1,448	1,495	1,672	1,858	1,945	1,889	1,616

Note: <sup>\*1</sup>1-preliminary figures, <sup>\*2</sup>2-estimated figures

Source: Central Bank of Paraguay (Banco Central del Paraguay)

Shares of production sectors in GDP remain stable. Service sectors share more than half of GDP. Agricultural sectors lead the goods production sectors. GDP per capita in Guarani at constant prices of 1982 remained almost constant in the last six years.

**Table 3.2.2 GDP and Value Added by Sector at Constant Prices of 1982**

(Unit: Gs. Billion)

	1992		1994		1996		1998 <sup>*2</sup>	
	Amount	Share	Amount	Share	Amount	Share	Amount	Share
Agriculture	150	16%	157	15%	177	16%	188	17%
Livestock Breeding	75	8%	79	8%	83	8%	87	8%
Forestry	28	3%	29	3%	30	3%	31	3%
Hunting/Fishing	1	0%	1	0%	1	0%	2	0%
Agricultural Goods	254	26%	267	26%	292	26%	308	27%
Mining	5	0%	5	0%	5	0%	5	0%
Manufacturing	151	16%	157	15%	158	14%	159	14%
Construction	52	5%	56	5%	60	5%	61	5%
Total Goods	462	48%	484	47%	514	47%	533	47%
Electricity	32	3%	45	4%	54	5%	58	5%
Water/Sanitation	4	0%	5	1%	6	1%	6	1%
Transport/Communication	46	5%	49	5%	52	5%	56	5%
Basic Services	82	8%	99	10%	113	10%	120	11%
Commerce/Finance	257	27%	278	27%	280	25%	269	24%
Government	46	5%	52	5%	61	6%	64	6%
Housing	27	3%	28	3%	30	3%	31	3%
Other Services	93	10%	97	9%	103	9%	109	10%
Services	505	52%	555	53%	587	53%	592	53%
GDP	967	100%	1,039	100%	1,101	100%	1,125	100%
GDP per Capita (G. 1,000)	217		221		222		216	
GDP per Capita (US\$)	1,597		1,625		1,634		1,585	

Note: \*1-preliminary figures, \*2-estimated figures

Source: Central Bank of Paraguay (Banco Central del Paraguay)

Since major parts of the manufacturing sector are related to agriculture, the production of the agricultural sector has a vital influence on the GDP.

**Table 3.2.3 Growth in GDP and Value Added by Sector**

	1992	1993	1994	1995	1996	1997	1998
Agriculture	1.3%	7.6%	3.0%	11.5%	1.1%	5.8%	0.7%
Livestock Breeding	1.3%	2.7%	3.0%	3.1%	1.7%	5.5%	0.7%
Forestry	4.7%	2.5%	3.4%	3.1%	1.0%	2.0%	0.2%
Hunting/Fishing	3.0%	3.5%	2.5%	2.4%	2.9%	3.0%	2.0%
Agricultural Goods	0.1%	5.6%	0.6%	8.1%	1.3%	5.3%	0.2%
Mining	5.0%	1.2%	5.0%	2.9%	1.5%	2.0%	2.5%
Manufacturing	0.4%	2.0%	1.5%	3.0%	2.2%	0.2%	1.0%
Construction	5.0%	2.7%	3.6%	4.0%	3.0%	1.0%	1.0%
Total Goods	0.8%	4.0%	0.6%	5.9%	0.4%	3.1%	0.6%
Electricity	12.8%	14.0%	21.0%	15.0%	6.0%	4.5%	2.1%
Water/Sanitation	3.3%	15.2%	17.0%	12.0%	7.0%	3.9%	3.7%
Transport/Communication	2.5%	3.4%	3.9%	3.5%	2.5%	3.8%	3.0%
Basic Services	6.0%	8.1%	11.7%	9.1%	4.4%	3.7%	2.2%
Commerce/Finance	0.6%	3.8%	4.3%	1.6%	1.0%	0.2%	4.2%
Government	7.8%	4.3%	6.5%	7.0%	10.0%	7.0%	2.0%
Housing	7.0%	2.5%	3.5%	3.0%	3.0%	2.0%	2.0%
Other Services	2.5%	2.5%	2.5%	2.5%	3.5%	3.0%	2.0%
Services	2.8%	4.3%	5.4%	3.7%	2.1%	2.2%	1.3%
GDP	1.8%	4.1%	3.1%	4.7%	1.3%	2.6%	0.4%
GDP per Capita	0.9%	1.4%	0.3%	1.9%	1.3%	0.0%	3.0%

Note: \*1-preliminary figures, \*2-estimated figures

Source: Central Bank of Paraguay (Banco Central del Paraguay)

In 1997 the share of consumption reached 97% of the GDP. The share of capital formation to the GDP has been stable.

**Table 3.2.4 Supply and Demand on National Account at 1992 Prices**

(Unit: Gs. billion)

	1993		1995		1997 <sup>*1</sup>	
	Amount	Share	Amount	Share	Amount	Share
Total Supply	1,453	144%	1,716	158%	1,696	150%
GDP	1,007	100%	1,087	100%	1,130	100%
Import	445	44%	629	58%	567	50%
Total Demand	1,453	144%	1,716	158%	1,696	150%
Internal Demand	1,109	110%	1,289	119%	1,341	119%
Internal Investment	228	23%	255	23%	249	22%
Capital Formation	206	20%	233	21%	229	20%
Variation in Stock	21	2%	22	2%	20	2%
Consumption	882	88%	1,034	95%	1,092	97%
Government	91	9%	106	10%	119	11%
Private	791	78%	928	85%	973	86%
Export	344	34%	427	39%	356	31%

Note: \*1-preliminary figures, \*2-estimated figures

Source: Central Bank of Paraguay (Banco Central del Paraguay)

Internal investment has been decreasing recently in real terms, while consumption has grown a little faster than GDP growth. External commerce, especially exports, fell substantially in 1996 and 1997.

**Table 3.2.5 Growth in Total Supply and Demand**

	1993	1994	1995	1996	1997 <sup>*1</sup>
Total Supply	11.3%	10.3%	7.1%	1.4%	0.3%
GDP	4.1%	3.1%	4.7%	1.3%	2.6%
Import	31.6%	26.7%	11.4%	6.1%	4.0%
Total Demand	11.3%	10.3%	7.1%	1.4%	0.3%
Internal Demand	4.7%	11.5%	4.2%	1.9%	2.1%
Internal Investment	2.3%	4.5%	7.1%	0.1%	2.0%
Capital Formation	2.4%	4.6%	7.7%	0.1%	1.6%
Variation in Stock	0.9%	2.9%	0.9%	0.2%	7.0%
Consumption	5.3%	13.4%	3.5%	2.4%	3.1%
Government	5.3%	3.9%	12.1%	10.0%	2.0%
Private	5.3%	14.4%	2.6%	1.6%	3.2%
Export	39.6%	6.5%	16.9%	11.6%	5.9%

Note: \*1-preliminary figures, \*2-estimated figures

Source: Central Bank of Paraguay (Banco Central del Paraguay)

### 3.3 Agricultural Production

Production of raw cotton has decreased by more than 10 % in the last two years, while soybean production has increased at a similar rate.

**Table 3.3.1 Production of Major Agricultural Crops**

Agricultural Year	'91/'92	'93/'94		'95/'96		'97/'98*	
	Amount	Amount	Increase*	Amount	Increase*	Amount	Increase*
<b>Raw Cotton</b>							
Farm Area (ha. thousand)	437	381	-6.6%	307	-10.3%	202	-18.8%
Production (ton. thousand)	391	380	-1.5%	330	-6.8%	222	-17.9%
Yield (Kg./ha.)	895	997	5.5%	1,075	3.9%	1,099	1.1%
<b>Sugarcane</b>							
Farm Area (ha. thousand)	55.9	55.6	-0.2%	57.0	1.2%	58.0	0.9%
Production (ton. thousand)	2,788	2,799	0.2%	2,736	-1.1%	2,800	1.2%
Yield (ton./ha.)	49.87	50.31	0.4%	48.00	-2.3%	48.28	0.3%
<b>Maize</b>							
Farm Area (ha. thousand)	258	218	-8.0%	325	21.9%	356	4.7%
Production (ton. thousand)	450	462	1.3%	654	19.0%	874	15.6%
Yield (ton./ha.)	1.74	2.11	10.1%	2.02	-2.4%	2.46	10.4%
<b>Manioc</b>							
Farm Area (ha. thousand)	179	174	-1.4%	191	4.6%	237	11.4%
Production (ton. thousand)	2,591	2,518	-1.4%	2,480	-0.8%	3,300	15.4%
Yield (ton./ha.)	14.45	14.45	0.0%	13.00	-5.2%	13.94	3.6%
<b>Soybean</b>							
Farm Area (ha. thousand)	595	694	8.0%	833	9.5%	1,086	14.2%
Production (ton. thousand)	1,192	1,796	22.7%	2,395	15.5%	2,856	9.2%
Yield (ton./ha.)	2.00	2.59	13.6%	2.87	5.4%	2.63	-4.4%
<b>Wheat</b>							
Farm Area (ha. thousand)	183	175	-2.2%	221	12.6%	201	-4.8%
Production (ton. thousand)	328	376	7.0%	543	20.3%	229	-35.1%
Yield (ton./ha.)	1.80	2.15	9.4%	2.45	6.9%	1.14	-31.8%

Note: \*annual increase in the two years

Source: Directorate of Agricultural Census and Statistics, Ministry of Agriculture and Livestock Breeding (Dirección de Censo y Estadísticas Agropecuarias, MAG)

Cotton production is scattered over the country, while production of sugarcane and soybean are concentrated in Guairá and Alto Paraná, respectively.

**Table 3.3.2 Production of Major Agricultural Crops by Department in 1997/1998**

( Unit: ton. thousand)

Department	Raw Cotton	Sugarcane	Maize	Manioc	Soybean	Wheat
TOTAL	222.0	2,800.0	873.9	236.7	2,855.7	229.2
Concepción	12.8	32.4	15.1	11.9	0.5	-
San Pedro	51.3	134.4	66.5	33.5	57.6	2.7
Cordillera	1.7	250.0	8.6	12.4	-	-
Guairá	7.5	1,128.1	16.0	15.2	0.7	-
Caaguazú	41.4	384.8	112.5	46.6	157.0	35.3
Caazapá	20.7	103.4	54.0	14.8	180.0	27.0
Itapúa	33.8	29.5	190.0	26.7	794.5	54.1
Misiones	5.2	15.8	12.5	5.7	0.7	-
Paraguarí	16.6	297.6	17.8	17.7	-	-
Alto Paraná	9.5	34.5	221.6	23.3	1,180.4	77.6
Central	0.6	240.6	1.1	2.7	-	-
Ñeembucú	3.0	6.7	2.6	1.3	-	-
Amambay	2.5	24.3	50.4	8.1	99.0	17.5
Canindeyú	8.9	36.4	104.2	16.6	385.4	15.0
Pdte. Hayes	1.0	81.5	0.4	0.2	-	-
Boquerón	2.0	-	0.0	0.0	-	-
Alto Paraguay	3.6	-	0.6	0.0	-	-

Source: Directorate of Agricultural Census and Statistics, Ministry of Agriculture and Livestock Breeding (Dirección de Censo y Estadísticas Agropecuarias, MAG)

Production of sweet orange increased by 10% in the 1997/1998 agricultural year because of higher yields. Production of other perennial crops has been stable in recent years.

**Table 3.3.3 Production of Major Perennial Crops**

Agricultural Year	'91/'92 Amount	'94/'95 Amount	Increase*	'97/'98* Amount	Increase*
<b>Banana</b>					
Farm Area (ha. Thousand)	9.6	9.0	-2.0%	10.0	5.4%
Production (ton. Thousand)	89.3	69.8	-7.9%	71.5	1.2%
Yield (ton./ha.)	9.3	7.8	-6.0%	7.1	-4.0%
<b>Orange (Sweet)</b>					
Farm Area (ha. Thousand)	10.2	10.2	0.1%	10.2	0.2%
Production (ton. Thousand)	177.2	172	-1.1%	208.0	10.1%
Yield (ton./ha.)	17.4	16.80	-1.2%	20.3	10.0%
<b>Orange (Bitter)</b>					
Farm Area (ha. Thousand)	10.9	10.7	-0.6%	10.8	0.4%
Production (ton. Thousand)	189.4	181.6	-1.4%	185.0	0.9%
Yield (ton./ha.)	17.4	17.0	-0.8%	17.1	0.5%
<b>Grapefruit</b>					
Farm Area (ha. Thousand)	1.0	1.0	-0.2%	1.0	-0.2%
Production (ton. Thousand)	74.0	62.1	-5.6%	60.0	-1.8%
Yield (ton./ha.)	74.1	62.6	-5.5%	60.6	-1.6%
<b>Mate Leaves</b>					
Farm Area (ha. Thousand)	26.8	28.5	2.1%	29.3	1.4%
Production (ton. Thousand)	63.0	63.9	0.4%	66.5	2.0%
Yield (ton./ha.)	2.4	2.2	-1.6%	2.3	0.6%

Note: \*annual increase in the three years

Source: Directorate of Agricultural Census and Statistics, Ministry of Agriculture and Livestock Breeding (Dirección de Censo y Estadísticas Agropecuarias, MAG)



**Table 3.3.4 Production of Perennial Agricultural Crops by Department in 1997/98**

(Unit: ton. thousand)

Department	Banana	Sweet Orange	Bitter Orange	Grapefruit	Mate Leaves
<b>TOTAL</b>	71.5	208.0	185.0	60.0	66.5
Concepción	6.3	4.8	0.1	3.7	0.7
San Pedro	17.2	32.7	125.6	13.0	3.7
Cordillera	9.9	19.7	39.2	4.6	0.0
Guairá	2.8	8.2	0.5	2.8	10.4
Caaguazú	5.5	26.7	13.8	6.6	1.2
Caazapá	2.7	12.0	1.2	3.2	2.7
Itapúa	4.7	47.5	0.7	2.5	31.1
Misiones	4.5	9.4	0.1	2.0	0.1
Paraguarí	5.0	9.4	1.6	10.7	0.0
Alto Paraná	5.4	19.9	1.8	1.8	3.8
Central	1.5	1.7	0.0	4.1	0.0
Ñembucú	1.4	5.5	0.0	2.8	0.0
Amambay	1.8	3.3	0.0	0.1	5.3
Canindeyú	2.5	5.7	0.4	0.5	7.4
Pdte. Hayes	0.1	1.3	0.0	0.7	-
Boquerón	0.0	0.0	-	0.0	-
Alto Paraguay	0.0	0.2	0.0	0.7	-

Source: Directorate of Agricultural Census and Statistics, Ministry of Agriculture and Livestock Breeding (Dirección de Censo y Estadísticas Agropecuarias, MAG)

Production of beef has been increasing in recent years, while that of pork has been decreasing on the contrary.

**Table 3.3.5 Major Livestock Production**

	1993 Amount	1995 Amount	Increase*	1997 Amount	Increase*
<b>Livestock</b>					
cow (1,000)	951	970	1.0%	1,100	6.5%
horse, donkey, mule (1,000)	2	3	28.4%	4	3.4%
pig (1,000)	2,213	2,167	-1.1%	1,957	-5.0%
sheep, goat (1,000)	239	226	-2.6%	228	0.2%
<b>Fowl</b>					
Chicken (1,000)	2,284	3,357	21.2%	3,427	1.0%
Chick (1,000)	6,888	10,608	24.1%	12,615	9.1%
Others (1,000)	385	555	20.1%	556	0.0%
<b>Other Products</b>					
raw milk (million liters)	279	347	11.5%	431	11.4%
egg (million)	760	808	3.1%	899	5.5%
honey (1,000 liters)	1,322	1,398	2.8%	1,565	5.8%
wool (ton)	815	843	1.7%	845	0.1%
bristle (ton)	257	262	1.0%	263	0.2%

Note: \*annual increase in the two years

Source: Central Bank of Paraguay (Banco Central del Paraguay)

Cattle breeding is spread over the country. The Department of Presidente Hayes has almost one fourth of the cattle population in Paraguay. The Central Department has the country's highest production of chickens.

**Table 3.3.6 Livestock Distribution in 1997/1998**

(Unit: thousand)

Department	Cow	Pig	Sheep	Horse	Goat	Cock, Hen
TOTAL	9,713	1,746	395	352	123	14,997
Concepción	706	77	29	19	6	675
San Pedro	996	234	29	47	6	1,421
Cordillera	274	74	10	11	1	680
Guairá	222	85	14	16	2	878
Caaguazú	569	201	22	17	6	1,801
Caazapá	257	124	31	29	6	907
Itapúa	585	331	33	36	6	2,116
Misiones	425	37	32	23	1	320
Paraguarí	479	103	28	28	3	1,292
Alto Paraná	401	230	10	11	6	1,276
Central	146	52	2	5	2	2,392
Ñeembucú	427	23	41	32	8	206
Amambay	609	37	14	12	3	237
Canindeyú	662	105	8	12	4	653
Pdte. Hayes	1,994	22	70	41	42	87
Boquerón	294	6	7	3	3	5
Alto Paraguay	666	6	16	9	19	51

Source: Directorate of Agricultural Census and Statistics, Ministry of Agriculture and Livestock Breeding (Dirección de Censo y Estadísticas Agropecuarias, MAG)

### 3.4 Employment

The unemployment rate has grown with the recent stagnant economy. Unemployment rates of women are higher than those of men and unemployment is higher in rural areas than in urban areas. Nearly one fifth of the labor force is underemployed.

**Table 3.4.1 Change in Urban Unemployment**

Urban	1995	1996	1997	1998
Total Unemployment	7.8%	10.9%	14.1%	14.9%
Open Unemployment*	5.3%	8.2%	6.9%	7.7%
Hidden Unemployment*	2.7%	3.0%	6.9%	7.2%
Growth in GDP	4.7%	1.3%	2.6%	-0.5%

Note: \* refer to the note of below table

Source: General Directorate of Statistics, Inquiry and Census  
(Dirección General de Estadística, Encuestas y Censos)

**Table 3.4.2 Unemployment and Underemployment in 1998**

	Unemployment			Underemployment		
	Open*1	Hidden*2	Total*3	Visible*4	Invisible*5	Total
Whole Country	5.4%	9.5%	14.3%	6.5%	12.7%	19.1%
Male	4.5%	4.9%	9.2%	4.7%	12.0%	16.7%
Female	6.8%	16.7%	22.4%	9.6%	13.8%	23.4%
Urban	6.9%	7.6%	13.9%	5.9%	12.9%	18.8%
Male	6.2%	5.2%	11.1%	4.4%	11.2%	15.6%
Female	7.8%	10.7%	17.7%	8.0%	15.4%	23.4%
Rural	3.2%	12.0%	14.9%	7.3%	12.2%	19.5%
Male	2.6%	4.5%	7.0%	5.1%	13.0%	18.0%
Female	4.8%	27.0%	30.6%	13.2%	10.4%	23.5%

Note: \*1- the rate of persons who did not work in the last 7 days and looked for the job with concrete measures to the total economically active population

\*2- the rate of persons who did not work in the last 7 days but did not look for a job, having the will to be employed, to the total economically active population

\*3- the total does not coincide with the sum of open unemployment and hidden unemployment

\*4- rate of persons who worked but less than 30 hours in a week to the total economically active population

\*5- rate of persons who worked 30 hours or more in a week with less salary than legal minimum to the total economically active population

Source: General Directorate of Statistics, Inquiry and Census (Dirección General de Estadística, Encuestas y Censos)

### 3.5 Inflation

Inflation has been calmed considerably in recent years. Average salary of workers as well as minimum salary in real terms slightly decreased in the last year.

**Table 3.5.1 Price Indexes**

	1991	1992	1993	1994	1995	1996	1997	1998
<b>Consumer Price (Asuncion)</b>								
General*1	24.3%	15.1%	18.3%	20.6%	13.4%	9.8%	7.0%	11.6%
<b>Producer Price*2</b>								
Domestic	-	-	-	-	-	9.0%	0.5%	20.4%
Import	-	-	-	-	-	6.6%	5.0%	13.0%
General						8.3%	1.8%	18.1%
<b>Salary*1</b>								
Workers' Average								
Nominal	23.2%	15.1%	20.4%	21.4%	21.2%	12.2%	6.5%	10.6%
Real	-0.9%	0.0%	1.9%	0.7%	6.8%	2.2%	-0.3%	-0.8%
Minimum								
Nominal	18.3%	5.0%	13.7%	23.9%	15.2%	12.4%	12.6%	10.0%
Real	-4.8%	-8.8%	-3.8%	2.8%	1.6%	2.2%	5.4%	-1.4%

Note: \*1-Increase rate of average monthly indices, \*2-Increase from December to December

Source: Central Bank of Paraguay (Banco Central del Paraguay)

### 3.6 External Commerce

Export of cotton has substantially decreased, while that of cereal has sharply increased. Total volume of exports in tons has grown with an increase rate of around 10% during the 1993-1997 period.

**Table 3.6.1 Registered Exports by Type of Commodity**

(Unit: thousand tons, US\$ million in FOB)

	1993		1995		1997		Share (1997)		Annual Increase	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Essential Oil	0.9	8.2	0.8	10.9	0.8	12.8	0.0%	1.1%	-0.3%	11.8%
Vegetable Oil	81.7	40.4	212.1	63.9	107.7	61.4	2.7%	5.4%	7.1%	11.0%
Cotton (Fiber)	138.7	164.9	149.9	296.0	53.3	97.1	1.3%	8.5%	-21.3%	-12.4%
Meat	26.6	44.6	27.3	51.9	24.6	47.7	0.6%	4.2%	-2.0%	1.7%
Cereal	4.2	0.8	225.2	26.7	466.4	48.0	11.7%	4.2%	223.8%	181.5%
Leather	13.5	53.3	11.7	56.7	11.4	41.5	0.3%	3.6%	-4.1%	-6.0%
Wood	199.6	23.2	244.6	32.2	320.8	38.0	8.0%	3.3%	12.6%	13.2%
Wood Products	93.0	40.7	109.7	57.3	122.3	62.7	3.1%	5.5%	7.1%	11.4%
Oil Seeds	1,369.2	226.7	1,078.7	177.7	1,942.7	496.9	48.5%	43.5%	9.1%	21.7%
Cake/Expeller/Pellet, etc.	408.6	57.1	306.8	41.0	420.3	106.5	10.5%	9.3%	0.7%	16.9%
Others	356.3	65.9	401.2	104.8	531.7	130.1	13.3%	11.4%	10.5%	18.6%
Total	2,692.2	725.5	2,768.0	919.2	4,002.0	1,142.8	100%	100%	10.4%	12.0%

Source: Economic Statistics No. 428, 1998, Central Bank of Paraguay (Estadísticas Económicas No. 428, 1998, Banco Central del Paraguay)

Exports to Brazil - both in volume and in value - have increased most rapidly, followed by exports to North American countries. The share of exports to Brazil reached 35% of the total, which may point to a greater influence of the Brazilian economy on Paraguayan exports in the future. Exports to other MERCOSUR countries, such as Argentina and Chile, are also growing faster than average.

**Table 3.6.2 Registered Exports by Destination**

(Unit: thousand tons, US\$ million in FOB)

	1993		1995		1997		Share (1997)		Annual Increase	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Brazil	280.6	72.9	1,267.1	379.5	1,408.3	368.7	35.2%	32.3%	49.7%	49.9%
Argentina	99.9	47.1	113.3	59.0	210.7	74.3	5.3%	6.5%	20.5%	12.1%
Uruguay	8.7	5.1	144.7	20.0	16.1	16.7	0.4%	1.5%	16.5%	34.7%
Chile	21.2	20.3	5.5	9.6	20.7	26.0	0.5%	2.3%	-0.6%	6.4%
Peru	0.1	0.4	0.0	0.0	0.0	0.0	0.0%	0.0%	-14.7%	0.0%
North America	92.03	36.55	126.12	47.97	233.41	78.7	5.8%	6.9%	26.2%	21.1%
Europe	1,369.7	259.9	578.3	172.8	1,097.3	303.1	27.4%	26.5%	-5.4%	3.9%
Japan	0.16	0.32	0.08	0.16	0.14	0.3	0.0%	0.0%	-3.1%	-3.8%
Others	499.5	240.5	186.7	156.3	520.7	171.4	13.0%	15.0%	1.0%	-8.1%
Undistributable*	320.2	42.5	346.1	73.9	494.6	103.6	12.4%	9.1%	11.5%	25.0%
Total	2,692.2	725.5	2,768.0	919.2	4,002.0	1,142.8	100.0%	100.0%	10.4%	12.0%

Note: \* could not distribute to some country according to the available statistics

Source: Economic Statistics No. 428, 1998, Central Bank of Paraguay  
(Estadísticas Económicas No. 428, 1998, Banco Central del Paraguay)

The volume of imported commodities has been growing at a slightly slower rate than that of exported commodities, while the value of imports has been increasing nearly twice as fast as that of exports during 1993-1997. Regarding imports, intermediate goods accounted for two thirds of the total due to the high share of petroleum imports.

**Table 3.6.3 Registered Import by Type of Commodities**

(Unit: thousand tons, US\$ million in FOB)

	1993		1995		1997		Share (1997)		Annual Increase	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
<b>Consumer Goods</b>	391.3	628.4	673.1	1,302.8	626.0	1,375.4	24%	44%	12%	22%
Not Durable	349.3	435.9	604.6	954.1	583.6	1,129.0	23%	36%	14%	27%
Food	167.2	66.4	180.4	144.8	171.9	165.0	7%	5%	1%	26%
Beverage and Tobacco	55.5	112.2	142.9	325.3	152.1	446.3	6%	14%	29%	41%
Others	126.6	257.3	281.3	484.0	259.5	517.8	10%	17%	20%	19%
Durable	42.1	192.4	68.5	348.7	42.5	246.4	2%	8%	0%	6%
Automobile	12.2	72.7	20.5	123.2	21.0	182.2	1%	6%	15%	26%
Electric Appliance	29.9	119.7	48.0	225.6	21.4	64.3	1%	2%	-8%	-14%
<b>Intermediate Goods</b>	1,298.6	339.3	1,565.8	504.3	1,741.8	708.9	67%	23%	8%	20%
Combustible/Lubricant	842.9	147.2	1,015.5	191.6	1,185.4	311.4	46%	10%	9%	21%
Chemical Substances	140.7	66.5	124.8	95.8	201.4	148.5	8%	5%	9%	22%
Others	315.0	125.5	425.5	216.9	355.0	249.1	14%	8%	3%	19%
<b>Capital Goods</b>	112.7	509.9	302.3	975.0	220.0	1,041.2	9%	33%	18%	20%
Machinery, Equipment, Motors	61.9	339.4	121.0	629.4	108.3	614.3	4%	20%	15%	16%
Transport Equip./Accessories	34.4	134.0	62.3	235.0	65.2	307.7	3%	10%	17%	23%
Others	16.4	36.5	119.0	110.6	46.5	119.1	2%	4%	30%	34%
<b>Total</b>	1,802.7	1,477.5	2,541.2	2,782.2	2,587.8	3,125.5	100%	100%	9%	21%

Source: Economic Statistics No. 428, 1998, Central Bank of Paraguay  
(Estadísticas Económicas No. 428, 1998, Banco Central del Paraguay)

Argentina has the largest share in volume of imports to Paraguay, while Brazil has the largest share in value. Imports from MERCOSUR countries account for two thirds of the total.

**Table 3.6.4 Registered Imports by Origin**

(Unit: thousand tons, US\$ million in FOB)

	1994		1997		Share (1997)		Annual Increase	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Argentina	737.1	308.1	878.9	641.1	34%	21%	6%	28%
Brazil	818.1	555.1	650.9	961.5	25%	31%	-7%	20%
Chile	43.7	77.4	40.5	60.4	2%	2%	-3%	-8%
Uruguay	37.3	28.6	68.6	62.5	3%	2%	23%	30%
Venezuela	32.6	7.3	40.8	5.9	2%	0%	8%	-7%
U.S.A.	88.4	243.3	90.5	320.2	3%	10%	1%	10%
Germany	40.9	75.0	16.8	102.6	1%	3%	-26%	11%
U.K.	15.9	58.2	17.4	65.7	1%	2%	3%	4%
Algeria	129.5	15.2	15.1	12.7	1%	0%	-51%	-6%
South Africa	27.6	19.3	14.4	11.7	1%	0%	-20%	-15%
Nationalist China	70.3	193.3	113.0	241.3	4%	8%	17%	8%
South Korea	22.1	104.5	18.0	61.9	1%	2%	-7%	-16%
Hong Kong	59.0	73.1	25.9	49.2	1%	2%	-24%	-12%
Japan	28.8	236.5	22.8	241.3	1%	8%	-7%	1%
Other Countries	166.9	145.7	70.4	287.5	3%	9%	-25%	25%
<b>Total</b>	2,318.1	2,140.4	2,084.0	3,125.5	81%	100%	-3%	13%

Source: Economic Statistics No. 428, 1998, Central Bank of Paraguay  
(Estadísticas Económicas No. 428, 1998, Banco Central del Paraguay)

### 3.7 Balance of Payment

The contribution of Binational Entities (Itaipú and Yacyreta) is substantial. Despite this contribution, the current account turned into a deficit in 1995. Although capital inflows have been growing, the global balance in 1997 recorded a large deficit of US\$ 216 million, causing a reduction by the same amount in foreign currency reserves.

**Table 3.7.1 Balance of Payment**

(Unit: US\$ million)

	1993	1995	1997
<b>I. Current Account</b>	245.0	-364.8	-482.5
A. Goods*1	167.6	-261.9	-446.2
Export*2	2,947.2	4,231.2	3,768.4
Import	2,779.6	4,493.1	4,214.6
B. Services	-73.3	-248.1	-170.3
Transport (Net)	-224.8	-350.8	-292.3
Travel (Net)	66.4	-8.4	-78.7
Other Service*3	85.1	111.1	200.7
C. Income from Investment (Net)	50.4	73.0	87.4
D. Current Transfer (Net)	100.3	72.2	46.6
<b>II. Capital and Financial Account</b>	88.5	531.6	566.8
E. Direct Investment*3	73.9	156.1	221.0
F. Other Investment	14.6	375.5	345.8
Suppliers Credit	55.4	46.9	58.7
Central Government	14.8	-24.5	-35.3
Others	40.6	71.4	94.0
Disbursement	130.1	220.2	214.7
Central Government	66.7	150.5	174.5
Others	63.4	69.7	40.2
Amortization	-162.4	-148.0	-109.1
Central Government	-64.8	-54.3	-49.3
Public Corporation	-64.6	-65.4	-31.7
Others	-33.0	-28.3	-28.1
Conceded Loan	-0.3	7.8	12.0
Central Government	-0.3	7.8	12.0
Currency and Deposit (Net)	-40.9	374.4	49.8
Other Financing (Net)	32.7	-125.8	119.7
III. Errors and Omission	-246.4	-104.4	-300.6
<b>IV. Global Balance</b>	87.1	62.4	-216.3

Note: \*1-includes energy sales and goods procurement of Binationals (Itaipú and Yacyreta)

\*2-includes re-export

\*3-includes Binationals

Source: Central Bank of Paraguay (Banco Central del Paraguay)

### 3.8 Revenue and Expenditure of the Central Government

Income tax, including that from companies, accounted for only 13% in 1997 although its share is slightly rising. The Central Government has suffered from a small deficit in recent years. Capital expenditure shares nearly 20% on average.

**Table 3.8.1 Revenue and Expenditure of the Central Government**

(Unit: Gs. billion)

	1991		1993		1995		1997	
	Amount	Share	Amount	Share	Amount	Share	Amount	Share
TOTAL REVENUE	974	100%	1,481	100%	2,775	100%	3,330	100%
Current Revenue	968	99%	1,471	99%	2,713	98%	3,259	98%
Tax Revenue	735	75%	1,016	69%	1,981	71%	2,236	67%
Income Tax	94	10%	172	12%	405	15%	429	13%
IVA	0	0%	410	28%	773	28%	951	29%
Tax on External Commerce	165	17%	206	14%	493	18%	482	14%
Other Tax Revenue	476	49%	228	15%	311	11%	374	11%
Non-tax Revenue	233	24%	455	31%	732	26%	1,023	31%
Capital Revenue	7	1%	10	1%	62	2%	71	2%
TOTAL EXPENDITURE	999	103%	1,565	106%	2,825	102%	3,383	102%
Current Expenditure	788	81%	1,334	90%	2,063	74%	2,663	80%
Personnel Expenditure	385	39%	712	48%	1,150	41%	1,590	48%
Others	403	41%	622	42%	913	33%	1,074	32%
Capital Expenditure	211	22%	230	16%	762	27%	720	22%
Surplus/Deficit (-)	-25	-3%	-84	-6%	-50	-2%	-53	-2%
Revenue/GDP		12%		12%		16%		16%
Expenditure/GDP		12%		13%		16%		16%

Source: Ministry of Finance (Ministerio de Hacienda)

The Ministry of Public Works and Communication shares around 40% of the total capital expenditure. The largest portion of the current expenditure is spent by the Ministry of Education and Culture.

**Table 3.8.2 Expenditure by Ministry**

(Unit: Gs. billion)

	1994		1996	1998	
	Amount	Share	Amount	Amount	Share
House of Senate	8.1	0.4%	14.8	13.6	0.3%
House of Deputy	11.0	0.5%	18.8	19.7	0.5%
President's Office	41.2	1.8%	53.2	64.1	1.6%
Vice Presidents Office	2.9	0.1%	3.1	3.0	0.1%
Min. of Interior	147.1	6.6%	240.6	282.9	6.9%
Current Expenditure	136.6	8.2%	227.9	254.5	8.4%
Capital Expenditure	10.4	1.8%	12.7	28.3	2.7%
Min. of External Relation	46.9	2.1%	57.0	77.7	1.9%
Current Expenditure	45.9	2.8%	55.9	77.4	2.6%
Capital Expenditure	0.9	0.2%	1.1	0.3	0.0%
Min. of National Defense	202.0	9.0%	273.5	262.6	6.4%
Current Expenditure	174.4	10.5%	257.3	257.1	8.5%
Capital Expenditure	27.6	4.8%	16.2	5.5	0.5%
Min. of Finance	118.4	5.3%	173.0	181.9	4.5%
Current Expenditure	67.7	4.1%	111.1	138.7	4.6%
Capital Expenditure	50.7	8.8%	61.9	43.2	4.1%
Min. of Education and Culture	428.4	19.2%	710.4	894.1	21.9%
Current Expenditure	400.2	24.1%	642.2	829.6	27.3%
Capital Expenditure	28.2	4.9%	68.1	64.5	6.2%
Min. of Public Health and Social Welfare	150.8	6.7%	240.3	300.7	7.4%
Current Expenditure	112.9	6.8%	176.6	248.7	8.2%
Capital Expenditure	37.9	6.6%	63.8	52.0	5.0%
Min. of Justice and Labor	25.4	1.1%	45.8	71.8	1.8%
Current Expenditure	22.7	1.4%	36.3	49.7	1.6%
Capital Expenditure	2.7	0.5%	9.5	22.0	2.1%
Min. of Agriculture and Livestock Breeding	149.5	6.7%	212.2	203.0	5.0%
Current Expenditure	73.0	4.4%	111.4	97.5	3.2%
Capital Expenditure	76.4	13.3%	100.8	105.6	10.1%
Min. of Industry and Commerce	11.3	0.5%	15.9	18.7	0.5%
Current Expenditure	10.8	0.7%	15.3	18.1	0.6%
Capital Expenditure	0.5	0.1%	0.6	0.6	0.1%
Min. of Integration	1.0	0.0%	1.8	1.7	0.0%
Current Expenditure	0.8	0.1%	1.5	1.7	0.1%
Capital Expenditure	0.2	0.0%	0.2	0.0	0.0%
Min. of Public Works and Communication	303.5	13.6%	379.5	482.2	11.8%
Current Expenditure	67.6	4.1%	72.0	91.2	3.0%
Capital Expenditure	236.0	41.0%	307.5	391.0	37.5%
Judiciary Power	56.8	2.5%	139.3	163.4	4.0%
General Control Office	6.0	0.3%	15.2	17.7	0.4%
Obligation of the State	511.1	22.9%	741.1	1,017.9	25.0%
Department Government	12.7	0.6%	0.0	0.0	0.0%
Subtotal-Current Expenditure	1,658.5	100.0%	2,449.3	3,033.4	100.0%
Subtotal-Capital Expenditure	575.5	100.0%	886.2	1,043.0	100.0%
TOTAL EXPENDITURE	2,233.9	100.0%	3,335.5	4,076.4	100.0%
Subtotal-Current Expenditure		74.2%			74.4%
Subtotal-Capital Expenditure		25.8%			25.6%

Source: Ministry of Finance (Ministerio de Hacienda)



### 3.9 Public Debt

Increase in outstanding balance in foreign debt has been accelerated recently. Although the ratio of public debt service to the amount of export was as high as 17%, that figure was five to six percent when re-export and account of Binationalals are taken into consideration.

**Table 3.9.1 Public Debt**

	(Unit: million US\$)		
	1994	1996	1998
A. Balance in Foreign Debt	1,280	1,396	1,583
B. Balance in Domestic Debt		41	213
C. Balance in Total Public Debt (A + B)	1,280	1,437	1,796
D. Disbursement of Foreign Loan	138	210	195
E. Disbursement of Domestic Loan (Bond Issuance)		42	68
F. Total Disbursement	138	252	263
G. Service of Foreign Loan	222	172	169
H. Service of Domestic Loan			40
I. Total Public Debt Service	222	172	209
J. GDP	7,854	9,576	10,061
K. Registered Export (FOB)	816	1,043	1,002
(K'. Export incl. Re-export and Binationalals)	(3,423)	(3,768)	n.a.
M. Foreign Currency Reserve (FCR)	1,044	1,062	688
N. Population (million persons)	4.70	5.03	5.43
O. Economically Active Population (million persons)	1.64	1.75	2.17
Export/Foreign Debt (K/A)	64%	75%	63%
Public Debt/GDP (C/J)	16%	15%	18%
Foreign Debt Service/Export (G/K)	27%	16%	17%
Foreign Debt Service/Export (G/K')	6%	5%	n.a.
FCR/Foreign Debt (M/A)	82%	76%	43%
Foreign Debt Service/FCR (G/M)	21%	16%	25%
FCR/GDP (M/J)	13%	11%	7%
Total Disbursement/Total Debt Service (F/I)	62%	147%	126%
Total Debt Service/Total Debt (I/C)	17%	12%	12%
Public Debt per capita (C/N) (US\$)	272	286	331
Public Debt per capita Active (C/O) (US\$)	780	821	828
Debt Service per capita (I/N) (US\$)	47	34	38
Debt Service per capita Active (I/O) (US\$)	135	98	96

Source: Ministry of Finance (Ministerio de Hacienda)