

3.3 Future Socio-Economic Structure

3.3.1 Population Projection Per Municipality

As mentioned in Section - 1, many municipalities were recently created in Paraná State, from the year of 1980 to 1993. The number of municipalities installed during this period is as follows: 1) 20 municipalities in the year of 1983, 2) 01 municipality in 1986, 3) 07 municipalities in 1989, 4) 05 municipalities in 1990 and 5) 48 municipalities in 1993. For this reason, the population per municipality from the census of 1970, 1980 and 1991 could not be used for population projection per municipality for the Study.

Therefore, in accordance with the Counterpart Team, the population projection per municipality was carried out based on the preliminary estimation by IPARDES for the years of 1993, 1995 and 2000 (estimated rural population, urban population and total population per municipality).

The projection for the target years was carried out by JICA Team, as follows: 1) the population of all municipalities of each MRH, which includes any of the municipalities belonging to the zoning, was estimated based on the trend of increase (or decrease) of the municipalities' population in 1993, 1995 and 2000, divided into urban population and rural population; 2) the total of urban and rural population of these municipalities was adjusted tentatively to the estimated urban and rural population of the MRH to which they belong; 3) finally, the municipalities of each MRH that are included by the zoning and, therefore, belong to the river basin, were separated from those that are not included in the river basin. The estimated population per municipality in 1993 by IPARDES and 2005 and 2015 by JICA Team are shown in Table - 3.11 (1) and Table - 3.11 (2).

3.3.2 Gross Regional Domestic Production (GRDP) Projection per Municipality

GRDP per municipality in 1993 was estimated by the same method mentioned in Section - 3.2.2, but by excluding the contribution of hydroelectric power stations of some municipalities. And the GRDP per Municipality for the target years 2005 and 2015 was estimated individually, based on the past trend of GRDP per municipality during the years of 1981 to 1991 (shown in Table - 3.4 (1) and Table - 3.4 (2)) also excluding the contribution of hydroelectric power stations of some municipalities in 1989 and 1991, and on 1993, by adjusting the estimated GRDP per MRH to the years to which they belong.

The estimated GRDP per Municipality of the 43 municipalities in 1993, 2005 and 2015 are shown in Table - 3.12.

3.3.3 GRDP by Secondary Sector Projection per Municipality

GRDP by Secondary Sector per Municipality in 1993, 2005 and 2015 was estimated using the same method mentioned in the previous Section. This estimation is presented in Table - 3.13.

3.3.4 Future Socio-Economic Framework

Based on the population projection per municipality (shown in Table - 3.11 (1) and Table - 3.11 (2)), and GRDP projection per municipality in 1993, 2005 and 2015 (shown in Table - 3.12), the future socio-economic framework of this river basin can be estimated and conceived through the classification of the 43 municipalities into four categories.

There are three remarkable points, as follows:

- 1) 04 large size municipalities (classified in 1st and 2nd classes) will occupy approximately 66% of the total urban population and 63% of the GRDP of this river basin in 2015, respectively.
- 2) 11 large and medium size municipalities will occupy 85% of the urban population and 89% of the GRDP of this river basin in 2015, respectively.
- 3) 06 municipalities which compose the urban axis with Maringá will share about 54% of the urban population and 47% of the GRDP of this river basin in 2015, respectively.

The classification of these 43 municipalities with their participation, in percentage, in this river basin's urban population and GRDP in 1993, 2005 and 2015, are shown in Table - 3.8, Table - 3.9 and Table - 3.10.

3.4 Alternative Socio-Economic Framework (Alternative Case)

Alternative regional development plan was estimated in Section - 1 as shown below in Table - 3.6, using the MRH as regional unit.

Table - 3.6 Restriction and Distribution of Urban Population, GRDP (Secondary and Tertiary Sector) and GRDP of Secondary Sector, in 2005 and 2015

No. and Name of MRH	2005				2015			
	%	Urban Population	GRDP (2nd and 3rd Sector) million US\$	GRDP of 2nd Sector million US\$	%	Urban Population	GRDP (2nd and 3rd Sector) million US\$	GRDP of 2nd Sector million US\$
MRH 268 Curitiba	100.00	(253,000)	(1,950.00)	(750.00)	100.00	(465,000)	(5,100.00)	(1,900.00)
MRH 273C. Ponta Grossa	14.70	37,200	285.00	110.00	14.40	67,000	735.00	275.00
MRH 281/N. Londrina	31.30	79,200	610.00	235.00	30.60	142,200	1,560.00	580.00
MRH 282/N. Maringá	18.30	45,300	355.00	140.00	18.40	85,600	935.00	350.00
MRH 288 Extr. Oeste Paranaense	35.70	90,300	700.00	265.00	36.60	170,200	1,870.00	695.00

Remark: % is percentage of distribution per MRH

According to the concept of the alternative development plan (described in Section - 1), it was considered that three municipalities: Ponta Grossa, Telêmaco Borba and Castro participate in MRH 273/Campos de Ponta Grossa and that other three municipalities: Londrina, Cambé and Arapongas participate in MRH 281/N. N. Londrina. The participation of these six municipalities, in the MRH to which they belong, in 2005 and 2015, is shown in Table - 3.7.

Table - 3.7 Participation of Urban Population, GRDP (Secondary Sector and Tertiary Sector) and GRDP by Secondary Sector of Six Municipalities in 2005 and 2015 by Alternative Case

YEAR	2005				2015			
	%	Urban Population	GRDP (2nd and 3rd Sectors) million US\$	GRDP of 2nd Sector million US\$	%	Urban Population	GRDP (2nd and 3rd Sectors) million US\$	GRDP of 2nd Sector million US\$
MRH 273C. Ponta Grossa	100.00	(37,200)	(285.00)	(110.00)	100.00	(67,000)	(735.00)	(275.00)
39 Ponta Grossa	65.00	24,200	185.00	70.00	65.00	43,600	480.00	180.00
40 Telêmaco Borba	25.00	7,400	55.00	25.00	20.00	13,400	150.00	55.00
37 Castro	15.00	3,600	45.00	15.00	15.00	10,000	105.00	40.00
MRH 281/N. N. Londrina	100.00	(79,200)	(610.00)	(235.00)	100.00	(142,200)	(1,560.00)	(580.00)
124 Londrina	75.00	59,400	460.00	175.00	75.00	106,700	1,170.00	435.00
113 Cambé	15.00	11,900	90.00	35.00	15.00	21,300	235.00	90.00
109 Arapongas	10.00	7,900	60.00	25.00	10.00	14,200	155.00	55.00

Table - 3.8 Classification of Municipalities Related to Urban Population and GRDP per Municipality in 1993 / Tibagi River Basin

Classification	No. and Name of MRH	No. and Name of Municipality	Urban Population		GRDP per Municipality	
			Population	%	Million US\$	%
1st Class	281/N. N. Londrina	124 Londrina	380,980	30.51	1,127.00	26.06
2nd Class	273/C. Ponta Grossa	39 Ponta Grossa	226,780	18.16	852.12	19.70
		40 Telêmaco Borba	57,540	4.61	254.83	5.89
		113 Cambé	70,210	5.62	298.00	6.89
		183 Apucarana	88,220	7.07	219.72	5.08
		Subtotal	442,750	35.46	1,624.67	37.57
3rd class	273/C. Ponta Grossa 276/Col. Irati 279/N. V. Jacarezinho 281/N. N. Londrina	37 Castro	41,070	3.29	334.63	7.74
		50 Irati	32,420	2.60	91.85	2.12
		85 Cornélio Procópio	40,910	3.28	141.43	3.27
		109 Arapongas	61,060	4.89	187.55	4.34
		119 Ibitorã	32,430	2.60	66.83	1.55
		132 Rolândia	34,930	2.80	193.57	4.48
		Subtotal	242,820	19.45	1,015.86	23.49
4th Class	Other 32 Municipalities	Subtotal	181,990	14.58	556.87	12.88
TOTAL OF MUNICIPALITIES OF BASIN			1,248,540	100.00	4,324.40	100.00

Remark: GRDP per Municipality not including contribution of Hydroelectric Power Stations

Table - 3.9 Classification of Municipalities Related to Urban Population and GRDP per Municipality in 2005 / Tibagi River Basin

Classification	No. and Name of MRH	No. and Name of Municipality	Urban Population		GRDP per Municipality	
			Population	%	Million US\$	%
1st Class	281/N. N. Londrina	124 Londrina	488,390	30.89	1,874.24	25.33
2nd Class	273/C. Ponta Grossa	39 Ponta Grossa	269,880	17.07	1,427.23	19.29
		40 Telêmaco Borba	80,350	5.08	558.33	7.55
		113 Cambé	96,450	6.10	438.75	5.93
		183 Apucarana	110,160	6.97	382.64	5.17
		Subtotal	556,840	35.22	2,806.95	37.94
3rd class	273/C. Ponta Grossa 276/Col. Irati 279/N. V. Jacarezinho 281/N. N. Londrina	37 Castro	57,250	3.62	687.32	9.29
		50 Irati	40,450	2.56	171.30	2.32
		85 Cornélio Procópio	48,060	3.04	211.26	2.86
		109 Arapongas	70,520	4.46	368.87	4.99
		119 Ibitorã	45,730	2.89	85.19	1.15
		132 Rolândia	42,280	2.67	332.33	4.49
		Subtotal	304,290	19.25	1,856.27	25.09
4th Class	Other 32 Municipalities	Subtotal	231,380	14.64	860.44	11.63
TOTAL OF MUNICIPALITIES OF BASIN			1,580,900	100.00	7,397.90	100.00

Remark: GRDP per Municipality not including contribution of Hydroelectric Power Stations

Table - 3.10 Classification of Municipalities Related to Urban Population and GRDP per Municipality in 2015 / Tibagi River Basin

Classification	No. and Name of MRH	No. and Name of Municipality	Urban Population		GRDP per Municipality	
			Population	%	Million US\$	%
1st Class	281/N. N. Londrina	124 Londrina	579,760	31.08	2,952.12	25.41
2nd Class	273/C. Ponta Grossa	39 Ponta Grossa	306,720	16.44	2,230.33	19.20
		40 Telêmaco Borba	99,820	5.35	881.22	7.58
		113 Cambé	118,770	6.37	718.50	6.18
		183 Apucarana	129,880	6.96	580.41	5.00
		Subtotal	655,190	35.13	4,410.46	37.96
3rd class	273/C. Ponta Grossa 276/Col. Irati 279/N. V. Jacarezinho 281/N. N. Londrina	37 Castro	71,080	3.81	1,196.61	10.30
		50 Irati	47,140	2.53	289.31	2.49
		85 Cornélio Procópio	54,290	2.91	292.88	2.52
		109 Arapongas	78,620	4.22	576.08	4.96
		119 Ibitorã	57,060	3.06	110.43	0.95
		132 Rolândia	48,550	2.60	542.60	4.67
		Subtotal	356,740	19.13	3,007.91	25.89
4th Class	Other 32 Municipalities	Subtotal	273,540	14.67	1,247.47	10.74
TOTAL OF MUNICIPALITIES OF BASIN			1,865,230	100.00	11,817.96	100.00

Remark: GRDP per Municipality not including contribution of Hydroelectric Power Stations

Table - 3.11 (1) Projected Population per Municipality in 1993, 2005 and 2015, and Area per Municipality / Tibagi River Basin

No. and Name of MRH	No. and Name of Municipality	Population						Urban Area	Area						
		1993			2005				Total Area	%	Km²				
		URBAN	RURAL	TOTAL	URBAN	RURAL	TOTAL								
MRH 272	C. de LAPA	60,616	46,044	106,660	73,600	46,400	120,000	84,800	44,100	128,900	1,500.8	81.78	1,227.4	53.8	
	34 Palmeira	15,221	14,533	29,754	17,900	15,500	33,400	20,230	15,340	35,570	Y	206.8	26.02	53.8	
	35 Porto Amazonas	0	0	0	0	0	0	0	0	0	N	---	---	---	
	Subtotal of Municipalities of Basin	15,221	14,533	29,754	17,900	15,500	33,400	20,230	15,340	35,570	---	---	---	---	
	Subtotal of Municipalities not of Basin	45,395	31,511	76,906	55,700	30,900	86,600	64,570	28,760	93,330	---	---	---	---	
MRH 273	C. de PONTA GROSSA	349,228	65,327	414,555	441,200	55,400	496,600	519,800	44,800	564,600	Y	3,089.8	73.74	2,278.4	965.2
	37 Castro	41,065	24,987	66,052	57,250	24,710	81,960	71,080	22,520	93,600	Y	1,367.3	70.59	1,870.8	82.43
	38 Pirai do Sul	12,568	6,964	19,532	15,060	6,130	21,190	17,190	5,000	22,190	Y	2,269.6	82.43	1,625.3	100.00
	39 Ponta Grossa	226,775	12,133	238,908	269,880	10,480	280,360	306,720	8,340	315,060	Y	2,938.1	99.61	2,926.6	824.2
	40 Telêmaco Borba	57,538	9,397	66,935	80,350	4,990	85,340	99,820	2,710	102,530	Y	1,625.3	100.00	1,625.30	---
	41 Tibagi	7,631	8,995	16,626	12,760	6,660	19,420	17,150	4,310	21,460	Y	2,938.1	99.61	2,926.6	---
	42 Venâncio	3,651	2,851	6,502	5,900	2,430	8,330	7,840	1,920	9,760	N	824.2	46.12	380.1	---
	Subtotal of Municipalities of Basin	349,228	65,327	414,555	441,200	55,400	496,600	519,800	44,800	564,600	---	---	---	---	
	Subtotal of Municipalities not of Basin	0	0	0	0	0	0	0	0	0	---	---	---	---	
MRH 276	Col. de IRATI	71,821	103,597	175,418	90,400	103,300	193,700	105,900	97,300	203,200	Y	1,073.8	75.55	811.3	---
	49 Imbituva	8,119	18,063	26,182	9,970	18,650	28,620	11,520	13,040	24,560	Y	896.8	15.57	139.6	---
	50 Irati	32,420	16,180	48,600	40,450	53,290	93,740	47,140	9,670	56,810	Y	1,343.3	97.04	1,303.5	---
	55 Teixeira Soares	4,771	9,455	14,226	6,330	8,680	15,010	7,630	7,630	15,260	Y	---	---	---	---
	Subtotal of Municipalities of Basin	45,310	43,698	89,008	56,750	40,170	96,920	66,290	35,340	101,630	---	---	---	---	
	Subtotal of Municipalities not of Basin	26,511	59,899	86,410	33,650	63,130	96,780	39,610	61,960	101,570	---	---	---	---	
MRH 277	ALTO IVAI	23,934	72,182	96,116	32,600	59,500	92,100	39,700	46,600	86,300	Y	932.3	99.97	932.0	---
	57 Ipiranga	3,345	9,532	12,877	4,280	10,800	15,080	5,050	10,430	15,480	Y	609.9	34.80	212.2	---
	58 Ivaí	3,145	8,325	11,470	4,530	7,570	12,100	5,660	5,980	11,640	N	2,471.6	64.27	1,588.5	---
	59 Oruguera	5,444	19,339	24,783	5,670	8,500	14,170	5,880	3,730	9,610	Y	1,770.8	31.39	555.9	---
	60 Reserva	7,753	17,353	25,086	11,800	14,740	26,540	15,110	10,720	25,830	Y	---	---	---	---
	Subtotal of Municipalities of Basin	19,687	54,529	74,216	26,230	41,610	67,890	31,700	30,860	62,560	---	---	---	---	
	Subtotal of Municipalities not of Basin	4,247	17,653	21,900	6,370	17,890	24,210	8,000	15,740	23,740	---	---	---	---	
MRH 278	N. V. DE WENCESLAU B.	96,440	71,394	167,834	123,300	45,000	168,300	145,700	28,900	174,600	Y	581.7	62.19	361.8	---
	63 Curitiba	4,380	6,274	10,654	7,290	4,820	12,110	9,690	3,770	13,460	Y	694.2	76.62	531.9	---
	75 Sapopema	3,119	3,928	7,047	5,000	2,370	7,370	6,560	1,520	8,080	Y	---	---	---	---
	7,499	10,202	17,701	12,290	7,190	19,480	16,250	5,290	21,540	---	---	---	---	---	
	Subtotal of Municipalities of Basin	88,941	61,192	150,133	111,010	37,810	148,820	129,450	23,610	153,060	---	---	---	---	
	Subtotal of Municipalities not of Basin	220,756	86,480	307,236	262,100	50,900	313,000	298,200	30,600	328,800	---	---	---	---	
MRH 279	N. V. JACAREZINHO	4,211	3,505	7,716	5,700	1,960	7,660	6,990	1,000	7,990	P	588.1	17.78	104.6	---
	84 Congonhinhas	40,907	61,322	102,229	48,600	3,050	51,110	54,290	1,040	55,330	P	627.8	53.65	336.7	---
	85 Cornélio Procopio	2,361	2,365	4,726	3,220	1,360	4,580	3,960	750	4,710	N	344.7	19.98	68.9	---
	89 Leopoldo	1,880	2,173	4,053	2,370	1,360	3,730	2,800	880	3,680	Y	133.3	100.00	133.3	---
	90 N. América de Colina	6,059	2,265	8,324	7,190	1,310	8,500	8,140	730	8,870	Y	232.1	35.99	83.5	---
	91 Nova Fátima	1,210	1,168	2,378	1,250	560	1,810	1,300	340	1,640	Y	151.9	100.00	151.9	---
	97 S. Antônio do Paraíso	4,941	1,707	6,648	5,460	970	6,430	5,910	680	6,590	Y	453.0	52.35	226.7	---
	98 Sertãozinho	61,609	19,315	80,924	73,350	10,570	83,920	83,390	5,420	88,810	---	---	---	---	
	Subtotal of Municipalities of Basin	159,147	67,165	226,312	188,850	40,330	229,180	214,810	25,180	239,990	---	---	---	---	
	Subtotal of Municipalities not of Basin	---	---	---	---	---	---	---	---	---	---	---	---	---	

(To be continued)

Table - 3.11(2) Projected Population per Municipality in 1993, 2005 and 2015, and Area per Municipality / Tibagi River Basin

(Continuation)

No. and Name of MRH	Population												Area			
	1993						2005						Urban Area	Total Area	Area Involved %	Km ²
	URBAN	RURAL	TOTAL	URBAN	RURAL	TOTAL	URBAN	RURAL	TOTAL	URBAN	RURAL	TOTAL				
MRH 280 ALG. DE ASSAU	49,386	28,412	77,798	60,200	15,900	76,100	69,500	9,200	78,700	17,230	2,370	19,600	450.5	100.00	450.5	
99 Assai	13,249	6,819	20,068	15,380	3,720	19,100	17,230	2,370	19,600	10,910	830	11,740	199.1	100.00	199.1	
100 Jacuzinho	8,565	1,918	10,483	9,820	1,180	11,000	10,910	830	11,740	2,230	710	2,940	112.2	100.00	112.2	
101 N. Santa Barbara	2,115	1,552	3,667	2,170	1,040	3,210	2,230	710	2,940	4,780	250	5,030	187.4	100.00	187.4	
102 Rancho Alegre	3,365	1,105	4,470	4,120	480	4,600	4,780	780	5,560	2,700	780	3,480	68.5	100.00	68.5	
103 Santa Cecilia do Pavão	2,639	2,141	4,780	2,670	1,200	3,870	2,700	780	3,480	7,710	4,440	12,150	851.7	99.95	851.3	
104 São Jerônimo Serra	5,234	7,795	13,029	7,710	4,040	11,750	9,800	1,620	11,420	9,680	1,620	11,300	217.4	100.00	217.4	
105 S. Sebastião Amoreira	4,859	3,316	8,175	7,470	2,280	9,750	9,680	1,620	11,300	12,820	1,200	14,020	209.6	100.00	209.6	
106 Uraí	9,360	3,766	13,126	10,860	1,960	12,820	12,170	2,200	14,370	69,500	9,200	78,700	—	—	—	
Subtotal of Municipalities of Basin	49,386	28,412	77,798	60,200	15,900	76,100	69,500	9,200	78,700	—	—	—	—	—	—	
Subtotal of Municipalities not of Basin	0	0	0	0	0	0	0	0	0	0	0	0	—	—	—	
MRH 281 N. N. LONDRINA	738,500	94,594	833,094	935,700	48,600	984,300	1,103,700	26,000	1,129,700	79,840	2,880	82,720	395.0	48.59	191.9	
109 Arapongas	61,063	4,275	65,338	70,520	2,480	73,000	78,620	1,220	79,840	118,770	2,880	121,650	478.9	29.96	143.5	
113 Cambé	70,214	6,743	76,957	96,450	4,460	100,910	118,770	2,880	121,650	57,060	1,140	58,200	295.4	100.00	295.4	
119 Ibiporã	32,425	4,079	36,504	45,730	2,000	47,730	57,060	1,140	58,200	579,760	8,330	588,090	2,095.6	100.00	2,095.6	
124 Londrina	380,979	21,995	402,974	488,390	12,880	501,270	579,760	8,330	588,090	12,560	270	12,830	371.7	38.41	142.8	
131 Primeiro de Maio	9,922	1,853	11,775	11,340	640	11,980	12,560	270	12,830	48,550	1,880	50,430	473.7	12.11	57.4	
132 Rolândia	34,929	6,774	41,703	42,280	3,370	45,650	48,550	1,880	50,430	13,420	840	14,260	493.0	97.13	478.9	
137 Senanópolis	10,188	3,842	14,030	11,930	1,660	13,590	13,420	840	14,260	908,740	16,560	925,300	—	—	—	
Subtotal of Municipalities of Basin	599,720	49,561	649,281	766,640	27,490	794,130	908,740	16,560	925,300	194,960	9,440	204,400	—	—	—	
Subtotal of Municipalities not of Basin	138,780	45,433	184,213	169,060	21,110	190,170	194,960	9,440	204,400	297,300	29,200	326,500	—	—	—	
MRH 284 N. N. APUCARANA	214,032	104,770	318,802	257,900	53,900	311,800	297,300	29,200	326,500	110,160	5,150	115,310	554.9	32.83	182.2	
184 Apucarana	88,221	8,449	96,670	110,160	5,150	115,310	129,880	2,610	132,490	7,120	910	8,030	130.9	74.27	97.2	
187 California	4,646	2,570	7,216	5,950	1,430	7,380	7,120	910	8,030	7,840	2,110	9,950	385.3	39.51	152.2	
198 Maniçanda do Sul	4,912	4,261	9,173	6,450	2,850	9,300	7,840	2,110	9,950	4,502	730	5,230	153.4	31.27	48.0	
200 Mauá da Serra	3,098	1,404	4,502	3,830	1,010	4,840	4,490	730	5,220	149,330	6,360	155,690	—	—	—	
Subtotal of Municipalities of Basin	100,877	16,684	117,561	126,390	10,440	136,830	149,330	6,360	155,690	147,970	22,840	170,810	—	—	—	
Subtotal of Municipalities not of Basin	113,175	88,086	201,261	131,510	43,460	174,970	147,970	22,840	170,810	1,865,230	169,170	2,034,400	—	—	—	
TOTAL OF MUNICIPALITIES OF THE BASIN	1,248,537	302,261	1,550,798	1,580,900	224,270	1,805,170	1,865,230	169,170	2,034,400	—	—	—	—	—	—	

Source: IPARDES - Population in 1993, SANEPAR - Area of Municipality.

Remark: Population in 1993 projected by IPARDES, and in 2005 and 2015 were projected by JICA Team.

Figures of Porto Amazonas/MRH 272 are listed in Iguacu River Basin

Urban Area: Y = Urban Area in the River Basin, P = Part of the Urban Area in the River Basin, N = Urban Area not included in the River Basin, (P)N = Topographically the Urban Area does not belong to the River Basin, but the Study will consider it as part of the Basin

Table-3.12 Estimated GRDP per Municipality in 1993, 2005 and 2015 - Excluding Contribution of Hydroelectric Power Stations / Tibagi River Basin

No. and Name of MRH	No. and Name of Municipality		Unit: million US\$		
	No.	Name	1993 US\$	2005 US\$	2015 US\$
MRH 272 Campos da Lapa	TOTAL of MRH		562.82	667.94	1,163.22
	34	Palmeira	76.49	145.74	241.12
	35	Porto Amazonas	0.00	0.00	0.00
	Subtotal of Municipalities of Basin		76.49	145.74	241.12
	Subtotal of Municipalities not of Basin		286.33	522.20	922.10
MRH 273 C. Ponta Grossa	TOTAL of MRH		1,545.30	2,870.83	4,632.53
	37	Castro	334.63	687.32	1,196.61
	38	Piraí do Sul	49.06	101.20	171.60
	39	Ponta Grossa	852.12	1,427.23	2,230.33
	40	Telêmaco Borba	254.83	558.33	881.22
	41	Tibagi	49.79	87.10	135.50
	42	Ventania	4.87	9.66	17.27
Subtotal of Municipalities of Basin		1,545.30	2,870.83	4,632.53	
Subtotal of Municipalities not of Basin		0.00	0.00	0.00	
MRH 276 Col. Irati	TOTAL of MRH		200.53	383.82	637.73
	49	Imbituva	26.95	47.74	79.49
	50	Irati	91.85	171.30	289.31
	55	Teixeira Soares	15.60	34.82	56.57
Subtotal of Municipalities of Basin		134.39	253.86	425.37	
Subtotal of Municipalities not of Basin		66.14	129.96	212.36	
MRH 277 Alto Ivaí	TOTAL of MRH		42.78	69.22	104.06
	57	Ipiranga	9.85	20.03	33.30
	58	Ivaí	9.51	15.18	24.48
	59	Ortigueira	6.66	6.50	4.11
	60	Reserva	8.66	11.52	15.90
Subtotal of Municipalities of Basin		34.68	53.24	77.78	
Subtotal of Municipalities not of Basin		8.10	15.98	26.28	
MRH 278 N.V. Wenceslau Braz	TOTAL of MRH		149.02	216.78	332.69
	63	Curiúva	5.90	5.88	7.40
	75	Sapopema	8.31	16.78	29.97
	Subtotal of Municipalities of Basin		14.21	22.66	37.36
Subtotal of Municipalities not of Basin		134.81	193.62	295.33	
MRH 279 N.V. Jacarezinho	TOTAL of MRH		664.90	1,013.13	1,438.03
	84	Congonhinhas	8.57	13.26	20.47
	85	Cornélio Procopio	141.43	211.26	292.88
	89	Leópolis	11.84	16.24	17.02
	90	N. América Colina	8.59	13.10	17.80
	91	N. Fátima	9.64	15.76	21.79
	97	S. Antônio Paraiso	3.85	5.42	6.79
	98	Sertaneja	31.98	31.70	37.27
	Subtotal of Municipalities of Basin		215.90	306.74	414.07
Subtotal of Municipalities not of Basin		449.00	706.39	1,022.01	
MRH 280 Alg. Assaí	TOTAL of MRH		135.06	171.29	191.06
	99	Assaí	69.50	84.29	90.63
	100	Jataizinho	12.03	11.83	11.48
	101	N. Santa Bárbara	2.38	2.76	2.98
	102	Rancho Alegre	16.75	32.54	41.68
	103	Santa Cecília Pavão	7.71	8.29	8.92
	104	São Jerônimo Serra	5.12	5.12	5.12
	105	S. Sebastião Amoreira	12.33	17.22	21.01
	106	Ural	9.24	9.24	9.24
	Subtotal of Municipalities of Basin		135.06	171.29	191.06
	Subtotal of Municipalities not of Basin		0.00	0.00	0.00
MRH 281 N.N. Londrina	TOTAL of MRH		2,344.76	3,862.85	5,990.97
	109	Arapongas	187.55	368.87	576.08
	113	Cambé	298.00	438.75	718.50
	119	Ibiporã	66.83	85.19	110.43
	124	Londrina	1,127.00	1,874.24	2,952.12
	131	Primeiro de Maio	24.00	22.70	22.70
	132	Rolândia	193.57	332.33	542.60
137	Sertãozinho	45.83	57.99	79.75	
Subtotal of Municipalities of Basin		1,942.78	3,180.07	5,002.18	
Subtotal of Municipalities not of Basin		401.98	682.78	988.79	
MRH 284 N.N. Apucarana	TOTAL of MRH		556.78	857.07	1,233.83
	184	Apucarana	219.72	382.64	580.41
	187	Califórnia	5.87	10.83	16.12
	198	Marilândia do Sul	11.76	18.21	29.45
	200	Mauá da Serra	35.27	54.61	87.63
Subtotal of Municipalities of Basin		225.59	393.47	598.53	
Subtotal of Municipalities not of Basin		331.19	463.60	635.30	
TOTAL OF THE MUNICIPALITIES OF THE BASIN			4,324.40	7,397.90	11,617.96

Source: Fundo de Participação dos Municípios - Índices Preliminares/95 (Municipalities' Participation Fund - Preliminary Indexes/95) SEFA

Remark: Values in US\$ were estimated by JICA Team

: Figures of Porto Amazonas/MRH 272 are listed in Iguagu River Basin

Table - 3.13 Estimated GRDP by Secondary Sector per Municipality in 1993, 2005 and 2015
Excluding Contribution of Hydroelectric Power Station / Tibagi River Basin

No. and Name of MRH	No. and Name of Municipality	Unit: Million US\$		
		1993 US\$	2005 US\$	2015 US\$
MRH 272	TOTAL of MRH	144,48	259,30	461,01
Campos da Lapa	34 Palmeira	20,30	47,81	86,64
	35 Porto Amazonas	0,00	0,00	0,00
	Subtotal of Municipalities of Basin	20,30	47,81	86,64
	Subtotal of Municipalities not of Basin	124,18	211,59	374,37
MRH 273	TOTAL of MRH	550,69	1 076,90	1 753,81
C. Ponta Grossa	37 Castro	81,18	240,52	469,30
	38 Piraí do Sul	16,53	44,54	84,70
	39 Ponta Grossa	294,20	517,72	779,55
	40 Telêmaco Borba	137,70	271,21	414,72
	41 Tibagi	0,81	2,13	3,91
	42 Ventania	0,27	0,77	1,63
	Subtotal of Municipalities of Basin	530,69	1 076,90	1 753,81
	Subtotal of Municipalities not of Basin	0,00	0,00	0,00
MRH 276	TOTAL of MRH	53,75	102,17	179,22
Col. Irati	49 Imbituva	6,37	11,24	19,38
	50 Irati	32,81	61,20	107,00
	55 Teixeira Soares	1,47	1,23	0,88
	Subtotal of Municipalities of Basin	40,65	73,67	127,26
Subtotal of Municipalities not of Basin	13,10	28,50	51,96	
MRH 277	TOTAL of MRH	4,78	8,30	14,90
Alto Ivaí	57 Ipiranga	0,32	0,35	0,58
	58 Ivaí	2,08	3,30	5,64
	59 Ortigueira	0,90	1,44	2,58
	60 Reserva	0,56	1,04	2,00
	Subtotal of Municipalities of Basin	3,86	6,13	10,80
Subtotal of Municipalities not of Basin	0,92	2,17	4,10	
MRH 278	TOTAL of MRH	10,44	29,97	61,21
N.V. Wenceslau B.	63 Curitiba	0,32	0,48	0,84
	75 Sapopema	0,31	0,55	0,99
	Subtotal of Municipalities of Basin	0,63	1,03	1,83
Subtotal of Municipalities not of Basin	9,81	28,94	59,38	
MRH 279	TOTAL of MRH	147,54	289,03	472,99
N.V. Jacarezinho	84 Congonhinhas	0,22	0,92	1,77
	85 Carmo Procopio	49,71	75,46	112,18
	89 Leopoldina	0,63	3,27	7,96
	90 N. América Colina	1,90	4,89	9,01
	91 Nova Fátima	0,28	0,42	0,48
	97 S. Antônio Paraíso	0,03	0,07	0,12
	98 Sertaneja	0,09	10,40	26,63
	Subtotal of Municipalities of Basin	52,86	95,42	158,15
	Subtotal of Municipalities not of Basin	94,68	193,61	314,84
MRH 280	TOTAL of MRH	32,52	40,37	49,03
Alg. Assaí	99 Assaí	19,22	23,85	26,09
	100 Jataizinho	3,59	0,79	0,17
	101 N. Santa Bárbara	0,05	0,09	0,14
	102 Rancho Alegre	4,96	8,98	13,43
	103 Santa Cecília Pavão	2,80	5,19	8,00
	104 São Jerônimo Serra	0,18	0,23	0,32
	105 S. Sebastião Amorcia	0,21	0,26	0,37
	106 Ura	1,51	0,98	0,51
	Subtotal of Municipalities of Basin	32,52	40,37	49,03
Subtotal of Municipalities not of Basin	0,00	0,00	0,00	
MRH 281	TOTAL of MRH	654,41	1 235,39	2 060,31
N.N. Londrina	109 Arapongas	61,74	134,00	228,20
	113 Cambé	143,08	233,62	416,82
	119 Ipiraporã	18,99	39,09	68,12
	124 Londrina	274,81	468,06	704,51
	131 Primeiro de Maio	0,52	1,29	3,34
	132 Rolândia	48,92	113,31	204,10
	137 Sertãozinho	6,04	17,30	36,48
	Subtotal of Municipalities of Basin	554,10	1 006,67	1 661,57
Subtotal of Municipalities not of Basin	100,31	228,72	398,74	
MRH 284	TOTAL of MRH	152,55	359,04	632,91
N.N. Apucarana	184 Apucarana	75,71	172,41	286,04
	187 Califórnia	0,83	2,53	4,85
	198 Marilândia do Sul	0,26	0,39	0,71
	200 Mauá da Serra	13,76	20,80	37,17
Subtotal of Municipalities of Basin	90,56	198,13	328,76	
Subtotal of Municipalities not of Basin	61,99	160,91	304,15	
TOTAL OF THE MUNICIPALITIES OF THE BASIN		1 326,17	2 544,14	4 177,86

Source: Fundo de Participação dos Municípios - Índices Provisórios - 95 (Municipalities' Participation Fund - Preliminary Indexes - 95) SEFA

Remark: Values in US\$ were estimated by JICA Team
: Figures of Porto Amazonas are listed in Iguazu River Basin

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