

Table 5-1 WATER RIGHTS GRANTS BY NATIONAL WATER RESOURCES BOARD (NWRB)

REG. NO.	SOURCE OF WATER SUPPLY	DOMESTIC			IRRIGATION			POWER			INDUSTRIAL			COMMERCIAL			LIVESTOCK			RECREATION			FISHERIES			TOTAL
		NUMBER OF GRANTEE	AMOUNT GRANTED (LPS)	NUMBER OF GRANTEE	AMOUNT GRANTED (LPS)	NUMBER OF GRANTEE	AMOUNT GRANTED (LPS)	NUMBER OF GRANTEE	AMOUNT GRANTED (LPS)	NUMBER OF GRANTEE	AMOUNT GRANTED (LPS)	NUMBER OF GRANTEE	AMOUNT GRANTED (LPS)	NUMBER OF GRANTEE	AMOUNT GRANTED (LPS)	NUMBER OF GRANTEE	AMOUNT GRANTED (LPS)	NUMBER OF GRANTEE	AMOUNT GRANTED (LPS)	NUMBER OF GRANTEE	AMOUNT GRANTED (LPS)	NUMBER OF GRANTEE	AMOUNT GRANTED (LPS)	NUMBER OF GRANTEE	AMOUNT GRANTED (LPS)	
NCR	GW	785	3328,279	12	73,160	1	1,500,000	2	110	1064,750	16	22,893	1	1,000	1	128,200	1	2,000	1	2,000	20	16,225,450	933	4488,022		
	SW	7																								
1	GW	309	4722,040	161	1968,330				13	227,950	1	6,660		0,130	3	0,750		0,080	1	0,080	486	6025,849				
	SW	64	1160,200	985	10332,627	28	14,688,190	21	1775,300										4	6,560	1,022	232,487,767				
2	GW	92	456,115	111	586,110																205	1044,225				
	SW	13	67,220	1222	16554,960	28	59375,240	10	1,08,600												1203	620757,850				
3	GW	398	3216,732	444	6423,390				64	1377,560	2	1,010		6,090	5	11,700		9	149,720		942	11,902,212				
	SW	11	13917,060	614	366380,530	5	16,243,000	15	18722,800												2	24,000				
4	GW	770	6643,990	188	2,462,320	5	570,000	139	2534,250	17	127,968										26	171,290				
	SW	43	80326,134	1168	19,1282,760	26	508286,940	42	9765,730													8	77,140			
5	GW	150	3417,868	79	2722,740				7	52,340	1	0,167			3	900,860		1	4,140		241	7097,915				
	SW	5	87,360	584	85618,960	14	18257,830	12	508,840													840	106012,820			
6	GW	166	2016,387	74	2058,570				51	1228,050	9	64,410			2	7,000					36	402,430				
	SW	10	65,650	766	269033,950	10	22350,690	27	16458,760												149	4198,280				
7	GW	489	2907,061	125	2162,750				34	1439,030	4	24,160			3	108,000					35	485,820				
	SW	7	748,060	384	59665,730	13	38615,150	15	2462,820												48	3153,830				
8	GW	63	296,948	32	410,750				16	687,370	2	14,670			1	5,000					7	55,570				
	SW	12	25,690	375	86960,960	5	2610,000	20	363,300													419	89018,540			
9	GW	126	465,620	4	164,220				10	41,290					5	66,010					1	1,000				
	SW	5	3823,190	158	36280,200	3	4512,000	4	134,650												28	3757,140				
10	GW	187	768,849	23	983,960				18	150,450	1	646,000			4	26,890					13	235,330				
	SW	15	229,440	243	70451,310	7	103087,700	13	2396,800													6	262,840			
11	GW	116	2067,870	22	1651,530				13	266,830					11	4,630					25	859,590				
	SW	15	1377,100	329	18070,140	11	48700,000	14	6244,040												2	17,580				
12	GW	160	1298,870	96	2819,180				14	115,850	2	9,910			1	13,500					11	726,100				
	SW	9	445,880	437	237990,100	23	1223941,000	14	4146,500													494	1467353,580			
SUB.	GW	383	31624,639	1372	24817,950				486	9174,660	55	1217,886			92	156,750					99	1430,920				
	SW	217	107965,184	7443	1550948,747	174	2892582,660	210	64488,870	2	46,740				6	42,540					359	14546,270				
TOTAL		4048	138689,823	8815	1575666,897	180	2883174,890	706	73863,539	57	1264,806				96	189,280					435	15976,200				
																						1432	4704111,206			

Table 5-2 DAMS ADOPTED AS THE CANDIDATES FOR WATER RESOURCES DEVELOPMENT SCHEMES (1/2)

No	WRR	Name of Dam	River System	CA (km ²)	Type	Dam			Reservoir			Irrigation (ha)	Cost (US\$ 10 ⁶)	Consultant Agency	Status							
						Height (m)	Crest Length (m)	Volume (10 ⁶ m ³)	FWL (EL.m)	LWL (EL.m)	Tail WL (EL.m)					F/C Space (10 ⁶ m ³)	Gross Active (10 ⁶ m ³)	Dead (10 ⁶ m ³)	Area (km ²)	Hydroelectric Power (MW)		
1		Cura-Tina-Cayagan	Abaya	233	Rockfill	58.0	254	1.5	188	178	140	34	33	1	1.6	6,000	140 Abaya	FS				
2		Palingan/Puera	Abaya/Abaya	153	rock fill/Conc. Gr.	143.5	480	9.1	335	325	275	232	189	43	5	76	12,400	JICA	FS			
3		Hinoyan/Tiay	Abaya	683	Rockfill/Conc. Weir	112.0	375	3.4	363	350	350	9	121	76	42	175	714	468 Shawin/ADR	FS			
4		Supo	Abaya	1,293	Rockfill	138.0	440	6.0	375	320	280	300	1,132	832	300	32	120	340	365 NK/JICA	Master Plan		
5		Agpito	Abaya/Abaya	773	Rockfill	213.0	610	23.1	373	370	310	136	3,524	2,164	1,260	49	360	1,679	964 ELC	FS		
6		Genel	Abaya/Abaya	1,661	Conc. Arch	175.0	472	2.0	180	160	160	2,800	1,200	1,600	63	600	1,832	392 New JIC	D/D			
7		Bansay	Cagayan	742	Earthfill	64.0	320	2.6	67	62	45	354	1,646	1,276	308	103	40	68	148 NK/JICA	Master Plan		
8		Chico IV	Cagayan	1,410	Rockfill	160.0	890	17.8	451	417	417	240	430	310	14	300	955	238 Labmayr	D/D			
9		Abean	Cagayan	487	Rockfill	100.0	300	2.0	136	131	110	240	124	126	60	172	0.0	159 Labmayr/WHK	FS			
10		Mallig II	Cagayan	302+1,951	Rockfill	64.0	300	2.4	185.5	140	160	112	1,037	545	41	41	-	99 NK/JICA	Master Plan			
11		Siffal	Cagayan	546	Earthfill	58.0	240	1.7	155	106	97	115	314	93	19	5.4	41	67 NK/JICA	Master Plan			
12		Migal	Cagayan/Migal	4,143	Rock/Grn	114.0	2,975	10.0	197	193	158	210	1,254	969	210	300	991	104,000	Buena U.S.	Existing (1983)		
13		Mucno	Cagayan/Migal	593	Rockfill	147.0	560	10.0	525	520	460	171	97	40	160	526	13,000	608 NK/JICA	FS			
14		Akhalim A.	Cagayan/Adalam	849	RCC	60.0	-	-	-	-	-	32	32	-	45	102	75	608 NK/JICA	FS			
15		Bazzen B	Cagayan/Alayuan	477	RCC	111.0	375	1.2	648	620	162	579	454	175	40	102	-	66d New JIC	FS			
16		Dakayan	Cagayan	100	Rockfill	147.0	400	9.5	900	885	76	102	76	76	19	352	917	400 JICA	Map Study			
17		Makong	Amburayan	175	Rockfill	137.0	400	8.0	760	720	-	104	94	40	2.1	-	-	300 JICA	Map Study			
18		Amburayan	Amburayan	306	Rockfill	177.0	570	20.0	1,010	1,015	870	240	64	216	46	36	66	0.14 JICA	Map Study			
19		Babe II	Agno	392	Rockfill	142.0	400	9.0	860	860	750	120	46	74	2.8	40	73	136 JICA	Map Study			
20		Mount Chua	Agno	612	Rockfill	129.0	452	5.8	752	694	574	327	238	69	7	100	-	Harza	Existing (1966)			
21		Ambakilo	Agno	854	Rockfill	102.4	315	1.9	525	555	417	91	33	58	-	100	516	Harza	Existing (1966)			
22		Bunga	Agno	48.6	Rockfill	75.0	300	3.3	414	411	371	13.9	3.0	10.9	0.5	-	-	JICA	Map Study			
23		Luboy II	Agulutan/Abaya	1,072	Rockfill	142.0	320	7.0	415	395	280	265	110	175	6.0	170	219	267 JICA	Map Study			
24		Trebes	Agno	1,235	Rockfill	200.0	1,130	38.5	790	290	255	140	850	390	140	13	345	1,030	1,940 ELC	On-Going		
25		San Roque	Balabagan	225	Rockfill	88.5	530	4.1	65	63	38	545	240	105	15	-	-	11,500	-	On-Going		
26		Balabagan	Balabagan	583	Rockfill	133.5	1,460	11.8	241	238	160	45	625	528	50	33	98	44,300	292 ELC	FS		
27		Balabagan	Agno/Turay	853	Earthfill	107.0	1,615	12.0	230	221	172	2310	1,973	377	18	200	210	102,000	USAID/IBRD	Existing (1977)		
28		Pampanga	Pampanga	500	Rockfill	107.0	500	4.2	499	490	473	-	130	38	72	-	270	465	632 ELC/IBRD	On-Going		
29		Abaca (Chacuan)	Cagayan/Pampanga	1,150	Rockfill	168.5	913	19.4	304	360	375	-	1,207	321	888	-	442	66,500	593 ELC/IBRD	On-Going		
30		Chacuan (Chacuan)	Cagayan/Pampanga	508	Rockfill	131.0	565	7.1	219	217	180	1,075	660	225	23	218	376	30,000	Harza/IBRD	Existing (1967)		
31		Alayuan	Pampanga/Alayuan	160	Concrete Weir	226.0	690	8.4	-	-	-	-	-	-	-	-	-	-	C Loma/ADB	On-Going		
32		Umily/Alayuan	Pampanga/Alayuan	228	Rockfill	107.0	609	6.0	191	180	120	48	148	-	-	-	-	-	ELC/Asian World Bank	Pre-FS		
33		Balabagan	Pampanga/Sumbaco	54	Rockfill	57.0	1,400	10.0	82	80	55	10	100	-	-	-	-	-	ADB/Asian World Bank	Pre-FS		
34		Bajalar	Pampanga	276	Rockfill	141.0	588	9.7	278	270	235	134	472	-	-	-	-	-	1,084 Electrowatt	D/D		
35		Masam	Agos/Kalawa	290	Rockfill	157.2	430	2.0	-	316	267	-	1,526	1,137	369	40	-	-	243 JICA	Map Study		
36		Kanan	Agos/Kanan	92	Earthfill	42.0	-	-	-	-	-	-	-	-	-	-	-	-	-	Electrowatt (1982)	Map Study	
37		Calitaya	Culayon	145	Rockfill	67.0	1,400	14.0	204	200	180	20	155	30	78	4	13	76	445 JICA	Map Study		
38		Amay/Puac	Bea/Supeac	447	Rockfill	64.0	600	2.3	60	57	35	150	270	870	400	52	30	55	18,000	133 JICA	Map Study	
39		Sinook	Bea/Supeac	160	Rockfill	58.0	400	1.2	90	85	70	125	315	231	84	25	4.8	8	3,000	36 JICA	Map Study	
40		Talay	Puay	319	Con. Gravity	52.4	260	-	55	57	-	90	31	-	-	-	-	-	-	40 NK/JICA	FS	
41		Puay	Puay	199	Arch	145.0	405	-	221	158.7	-	370	337	33	10	34	22,000	ELCONK	D/D			
42		Jalau	Bago	402	Rockfill	125.0	605	5.3	300	285	-	64	-	-	-	-	-	-	202 Shawin/ADR	FS		
43		Jalau	Bago	81.0	Rockfill	81.0	750	5.0	80	75	55	10	650	370	240	35	52	95	24,000	337 JICA	D/D	
44		Mag No. 1	Mag-Mabangan	319	Con. Arch	26.0	-	-	-	-	-	-	0.36	-	-	-	-	-	-	148 JICA	Existing (1966)	
45		Bahian	Bahian	70	Rockfill	65.0	520	-	180	162	-	81	46	21	3	-	-	-	-	150 Electrowatt/ADB	Map Study	
46		Mag No. 2	Sipang Daku	68	Rockfill	90.0	340	0.5	161	154	110	-	48	41	2	1.5	-	-	-	83 Camp Overseas/ELC	FS	
47		Mag No. 3	Munaga	67	Rockfill	100.0	315	3.2	232	238	163	126	116	10	-	-	-	-	-	82 JICA	Map Study	
48		Mag No. 4	Dalamban	21	Rockfill	55.0	300	-	98	95	85	7	6	2	1	0.3	-	-	-	156 JICA	Map Study	
49		Mag No. 5	Inabuyan	300	Con. Gravity	60.0	-	-	75	65	65	210	120	90	15	-	-	-	-	156 JICA	Map Study	
50		Mag No. 6	Tunaga	101	Rockfill	86.0	-	-	109	98	-	-	17	30.3	1.3	-	-	-	-	-	156 JICA	Map Study
51		Mag No. 7	Cagayan de Oro	531	RCC	136.0	1.4	-	475	460	-	-	28.3	-	-	-	-	-	-	ELC	D/D	
52		Mag No. 8	Tugayan	288	Rockfill	117.0	500	8.0	524	520	500	412	164	85.0	101	5.6	22	38	282 JICA	Map Study		
53		Mag No. 9	Tugayan	166	Rockfill	80.0	400	3.5	129	125	100	88	150	1,070	720.0	300	40	63	160 JICA	Map Study		

Note: Map Study in the column of Status means that the scheme was formulated in this study at a map study level.

Table 5-2 DAMS ADOPTED AS THE CANDIDATES FOR WATER RESOURCES DEVELOPMENT SCHEMES (2/2)

No	WRK	Name of Dam	River System	CA (km ²)	Type	Dam		Height (m)	Crest Length (km)	Volume (10 ⁶ m ³)	FWL (EL.m)	HWL (EL.m)	LWL (EL.m)	Tail WL (EL.m)	B.C. Space (10 ⁶ m ³)	Gross (10 ⁶ m ³)	Active (10 ⁶ m ³)	Dead (10 ⁶ m ³)	Area (km ²)	Hydroelectric power (MW)	Irrigation (ha)	Cost (US\$ 10 ³)	Consultant/Agency	Status
						Thin (m)	Thick (m)																	
56	XI	Davao I	Davao	307	Rockfill	90.0	450	410	400	435	445	410	360	135	740	465	26	70	66	189	JICA	Map Study		
57	XI	Davao II	Davao	820	Rockfill	112.0	750	510	365	436	380	360	265	14	436	274	14	100	180	265	JICA	Map Study		
58	XI	Davao III	Davao	163	Rockfill	132.0	430	7.5	465	111	465	445	35	3.5	111	36	35	24	44	266	JICA	Map Study		
59	XI	Dimaok	Bugtan-Mulayon	99	Rockfill	120.0	450	6.0	384	45	393	390	390	9	45	193	100	9	30	456	200	JICA	Map Study	
60	XII	Agua I	Agua(Lake Lanao)	1,045	Earthfill	29.0										1,215			180	750			Existing (1979)	
61	XII	Agua II	Agua	1,444	Rockfill	38.0					524	516				67	235	1,665					ELC → Landline	
62	XII	Agua III	Agua	1,444	Rockfill	32.0										24	158	762					Existing (1985)	
63	XII	Agua IV	Agua		Concrete Gravity											55	265						Existing (1977)	
64	XII	Agua V	Agua		Rockfill	12.5					203					200	1,016						Existing (1983)	
65	XII	Agua VI	Agua(Maria Cristina)		Concrete Gravity											34	274						Existing (1983)	
66	XII	Agua VII	Agua	376	Rockfill	100.0					660	609				1715	24	106					Softex	Pre-FS
67	XII	Pulang I	Mindanao-Pulang	737	Rockfill	110.0					557	527				535	70	257					Softex	Pre-FS
68	XII	Pulang II	Mindanao-Pulang	1,339	Rockfill	90.0	637	7.6	417	1,156						71	90	382					477 MERALCO	FS
69	XII	Pulang III	Mindanao-Pulang	3,633	Rockfill	115.0										255	1,072							Existing (1985)
70	XII	Pulang IV	Mindanao-Pulang	4,652	Gravity	125.0	328				160	123				1,100							Softex	Pre-FS
71	XII	Pulang V	Mindanao-Pulang	5,216	Gravity	30.0	139									70	340						Softex	Pre-FS
72	XII	Pulang VI	Mindanao-Pulang	550	Earthfill	45.0	276				687	600				67	10						34 Astaire	FS

Note: Map Study in the column of Status means that the scheme was formulated in this study at a map study level.

Table 5-3 BALANCE OF WATER RESOURCES POTENTIALS AND WATER DEMAND IN YEAR 2025

i) Case 1 : High Economic Growth Scenario Based on NEDA's Projection

No.	Water Resources Region	Water Resources Potentials (MC/Year)					Water Demand (MC/Year)*					Ratio of Potential to Demand		Water Balance (MC/Year)				
		Grounds Water (1)	Surface Water (2)		Total (5)=(1)+(2)		M&I Water Demand (6)+(7)		Agricultural Water Demand (10)+(11)		Total (13)=(8)+(9)+(10)+(11)	50% Depend. (4)=(1)+(2)	80% Depend. (5)=(1)+(3)	50% Depend. (4)=(1)+(3)	80% Depend. (5)=(1)+(3)			
			80% Depend. (3)	50% Depend. (4)	80% Depend. (6)	50% Depend. (7)	80% Depend. (10)	50% Depend. (11)	50% Depend. (8)	80% Depend. (9)								
1	WRR I	1,248	10,100	3,250	11,348	4,498	170	120	290	2,653	16	82	2,732	3,041	3.73	1.48	8,307	1,457
2	WRR II	2,825	16,800	8,510	19,625	11,335	140	27	168	12,170	31	98	12,299	12,466	1.57	0.91	7,159	-1,131
3	WRR III	1,721	10,800	7,890	12,521	9,611	955	758	1,713	12,546	72	3,837	16,455	18,168	0.69	0.53	-5,647	-8,557
4	WRR IV	1,410	19,700	6,370	21,110	7,780	3,101	1,929	5,030	4,184	63	770	5,032	10,052	2.10	0.77	11,058	-2,272
5	WRR V	1,085	9,960	3,060	11,045	4,145	261	41	302	3,492	24	348	3,864	4,167	2.65	0.99	6,878	-22
6	WRR VI	1,144	19,500	14,200	20,644	15,344	500	609	1,110	3,784	36	2,665	6,486	7,595	2.72	2.02	13,049	7,749
7	WRR VII	879	3,770	2,060	4,649	2,939	564	541	1,105	945	38	641	1,624	2,729	1.70	1.08	7,920	210
8	WRR VIII	2,557	15,900	9,350	18,457	11,907	237	196	432	1,343	28	152	1,524	1,956	9.44	6.09	16,501	9,951
9	WRR IX	1,082	16,200	12,100	17,282	13,182	381	78	458	1,491	29	2,620	4,140	4,598	3.76	2.87	12,684	8,584
10	WRR X	2,116	42,100	29,000	44,216	31,116	389	325	714	2,671	20	278	2,969	3,682	12.01	8.45	40,534	27,434
11	WRR XI	2,375	16,300	11,300	18,675	13,675	258	263	521	2,913	42	665	3,620	4,141	4.51	3.30	14,534	9,534
12	WRR XII	1,758	25,100	18,700	26,858	20,458	475	111	586	11,691	29	500	12,220	12,806	2.10	1.60	14,052	7,652
Total		20,200	206,230	125,790	226,430	145,990	7,430	4,998	12,428	59,885	434	12,655	72,973	85,401	2.65	1.71	141,029	60,589

Notes : 1. * : The water demand in high economic growth scenario which is estimated based on the NEDA's projection is applied.

2. The potentials for surface water were estimated for the two cases, in which the maximum available discharges are a daily discharge with 80% and 50 % dependability, respectively.

ii) Case 2 : Low Economic Growth Scenario

No.	Water Resources Region	Water Resources Potentials (MC/Year)					Water Demand (MC/Year)**					Ratio of Potential to Demand		Water Balance (MC/Year)				
		Grounds Water (1)	Surface Water (2)		Total (5)=(1)+(2)		M&I Water Demand (6)+(7)		Agricultural Water Demand (10)+(11)		Total (13)=(8)+(9)+(10)+(11)	50% Depend. (4)=(1)+(2)	80% Depend. (5)=(1)+(3)	50% Depend. (4)=(1)+(3)	80% Depend. (5)=(1)+(3)			
			80% Depend. (3)	50% Depend. (4)	80% Depend. (6)	50% Depend. (7)	80% Depend. (10)	50% Depend. (11)	50% Depend. (8)	80% Depend. (9)								
1	WRR I	1,248	10,100	3,250	11,348	4,498	170	93	263	2,532	9	70	2,611	2,874	3.95	1.57	8,474	1,624
2	WRR II	2,825	16,800	8,510	19,625	11,335	140	21	162	7,357	16	83	7,457	7,618	2.58	1.49	12,007	3,717
3	WRR III	1,721	10,800	7,890	12,521	9,611	955	433	1,387	9,920	35	3,276	13,231	14,618	0.86	0.66	-2,097	-5,007
4	WRR IV	1,410	19,700	6,370	21,110	7,780	3,101	1,154	4,255	2,423	33	658	3,113	7,368	2.87	1.06	13,742	412
5	WRR V	1,085	9,960	3,060	11,045	4,145	261	29	291	2,241	13	297	2,551	2,841	3.89	1.46	8,204	1,304
6	WRR VI	1,144	19,500	14,200	20,644	15,344	500	865	1,065	2,846	19	2,276	5,141	6,206	3.33	2.47	14,438	9,138
7	WRR VII	879	3,770	2,060	4,649	2,939	564	305	867	793	19	547	1,359	2,226	2.09	1.32	2,423	713
8	WRR VIII	2,557	15,900	9,350	18,457	11,907	237	101	337	1,644	15	130	1,807	1,644	11.22	7.24	16,813	10,563
9	WRR IX	1,082	16,200	12,100	17,282	13,182	381	40	421	944	15	2,237	3,616	3,616	4.78	3.65	13,666	9,566
10	WRR X	2,116	42,100	29,000	44,216	31,116	389	244	632	1,375	10	217	1,620	2,253	19.63	13.81	41,963	28,863
11	WRR XI	2,375	16,300	11,300	18,675	13,675	258	230	488	1,314	20	567	1,902	2,390	7.81	5.72	16,285	11,285
12	WRR XII	1,758	25,100	18,700	26,858	20,458	475	98	573	5,930	16	427	6,373	6,946	3.87	2.95	19,912	13,512
Total		20,200	206,230	125,790	226,430	145,990	7,430	3,310	10,740	38,837	218	10,806	49,860	60,600	3.74	2.41	165,830	85,390

Notes : 1. ** : The water demand in low economic growth scenario is applied.

2. The potentials for surface water were estimated for the two cases, in which the maximum available discharges are a daily discharge with 80% and 50 % dependability, respectively.

Table 5-4 SURFACE WATER DEMAND FOR LOAG RIVER BASIN :WRR I

Case 1: High Economic Growth

Sector of Water Use		(Unit : million m ³ /year)							Ratio in 2025 (%)
		1996	2000	2005	Year				
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Industry	3.4	3.4	3.4	3.4	3.4	3.4	3.4	0.4
ii) Agriculture	Irrigation	402.0	483.0	674.0	760.0	809.0	839.0	870.0	99.1
	Livestock	1.4	1.9	2.0	2.4	3.0	3.8	4.9	0.6
	(Fishery)	(6.2)	(8.1)	(8.7)	(9.1)	(9.4)	(9.5)	(10.5)	-
Grand Total		413.0	496.4	688.1	774.9	824.8	855.7	888.8	
Total									
(Excluding water demand for fishery)		406.8	488.3	679.4	765.8	815.4	846.2	878.3	100.0

Case 2: Low Economic Growth

Sector of Water Use		(Unit : million m ³ /year)							Ratio in 2025 (%)
		1996	2000	2005	Year				
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Industry	3.4	3.4	3.4	3.4	3.4	3.4	3.4	0.4
ii) Agriculture	Irrigation	402.0	483.0	674.0	739.0	758.0	758.0	758.0	99.2
	Livestock	1.4	1.9	1.9	2.0	2.2	2.4	2.6	0.3
	(Fishery)	(6.2)	(7.8)	(8.2)	(8.5)	(8.7)	(8.9)	(9.0)	-
Grand Total		413.0	496.1	687.5	752.9	772.3	772.7	773.0	
Total									
(Excluding water demand for fishery)		406.8	488.3	679.3	744.4	763.6	763.8	764.0	100.0

Table 5-5 SURFACE WATER DEMAND FOR ABULOG RIVER BASIN : WRR I

Case 1: High Economic Growth

Sector of Water Use		(Unit : million m ³ /year)							Ratio in 2025 (%)
		1996	2000	2005	Year				
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Industry	5.1	5.1	5.1	5.1	5.1	5.1	5.1	0.5
ii) Agriculture	Irrigation	193.0	517.0	528.0	603.0	709.0	821.0	933.0	99.2
	Livestock	0.7	0.8	0.8	1.0	1.3	1.6	2.2	0.2
	(Fishery)	(0.6)	(0.8)	(0.9)	(0.9)	(1.0)	(1.0)	(1.1)	-
Grand Total		199.4	523.7	534.8	610.0	716.4	828.7	941.4	
Total									
(Excluding water demand for fishery)		198.8	522.9	533.9	609.1	715.4	827.7	940.3	100.0

Case 2: Low Economic Growth

Sector of Water Use		(Unit : million m ³ /year)							Ratio in 2025 (%)
		1996	2000	2005	Year				
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Industry	5.1	5.1	5.1	5.1	5.1	5.1	5.1	0.9
ii) Agriculture	Irrigation	193.0	517.0	528.0	528.0	552.0	552.0	552.0	98.9
	Livestock	0.7	0.8	0.8	0.8	0.9	1.0	1.1	0.2
	(Fishery)	(0.6)	(0.8)	(0.8)	(0.9)	(0.9)	(0.9)	(0.9)	-
Grand Total		199.4	523.6	534.7	534.8	558.9	559.0	559.1	
Total									
(Excluding water demand for fishery)		198.8	522.9	533.9	533.9	558.0	558.1	558.2	100.0

Table 5-6 SURFACE WATER DEMAND FOR CAGAYAN RIVER BASIN :WRR II

Case 1: High Economic Growth

(Unit : million m³/year)

Sector of Water Use		Year							Ratio in 2025 (%)
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Industry	1.1	1.1	1.1	1.1	1.1	1.1	18.0	0.1
ii)Agriculture	Irrigation	4,312.0	6,654.0	7,703.0	8,995.0	10,904.0	12,523.0	14,141.0	99.7
	Livestock	8.0	10.4	11.0	13.6	16.9	21.5	28.5	0.2
	Fishery	(54.6)	(74.9)	(80.2)	(83.8)	(86.8)	(87.8)	(96.7)	-
Grand Total		4,375.7	6,740.4	7,795.3	9,093.5	11,008.8	12,633.4	14,284.2	
Total									
(Excluding water demand for fishery		4,321.1	6,665.5	7,715.1	9,009.7	10,922.0	12,545.6	14,187.5	100.0

Case 2: Low Economic Growth

(Unit : million m³/year)

Sector of Water Use		Year							Ratio in 2025 (%)
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Industry	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.0
ii)Agriculture	Irrigation	4,312.0	6,654.0	7,703.0	7,996.0	8,286.0	8,286.0	8,286.0	99.8
	Livestock	8.0	10.4	10.8	11.0	12.3	13.6	14.9	0.2
	Fishery	(54.6)	(71.9)	(75.3)	(78.1)	(80.2)	(81.7)	(82.6)	-
Grand Total		4,375.7	6,737.4	7,790.2	8,086.2	8,379.6	8,382.4	8,384.6	
Total									
(Excluding water demand for fishery		4,321.1	6,665.5	7,714.9	8,008.1	8,299.4	8,300.7	8,302.0	100.0

Table 5-7 SURFACE WATER DEMAND FOR ABRA RIVER BASIN : WRR II

Case 1: High Economic Growth

(Unit : million m³/year)

Sector of Water Use		Year							Ratio in 2025 (%)
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Industry	19.4	19.4	19.4	19.4	19.4	19.4	19.4	5.8
ii)Agriculture	Irrigation	215.0	248.0	284.0	295.0	306.0	308.0	311.0	93.5
	Livestock	0.7	0.9	0.9	1.1	1.4	1.7	2.3	0.7
	Fishery	(0.2)	(0.3)	(0.3)	(0.3)	(0.3)	(0.4)	(0.4)	-
Grand Total		235.3	268.6	304.6	315.8	327.1	329.5	333.1	
Total									
(Excluding water demand for fishery		235.1	268.3	304.3	315.5	326.8	329.1	332.7	100.0

Case 2: Low Economic Growth

(Unit : million m³/year)

Sector of Water Use		Year							Ratio in 2025 (%)
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Industry	19.4	19.4	19.4	19.4	19.4	19.4	19.4	6.0
ii)Agriculture	Irrigation	215.0	248.0	284.0	293.0	302.0	302.0	302.0	93.6
	Livestock	0.7	0.9	0.9	1.0	1.0	1.1	1.2	0.4
	Fishery	(0.2)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	-
Grand Total		235.3	268.6	304.6	313.7	322.7	322.8	322.9	
Total									
(Excluding water demand for fishery		235.1	268.3	304.3	313.4	322.4	322.5	322.6	100.0

Table 5-8 SURFACE WATER DEMAND FOR AGNO RIVER BASIN : WRR III

Case 1: High Economic Growth

Sector of Water Use		(Unit : million m ³ /year)							Ratio in 2025 (%)
		Year							
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	1.0	18.2	40.3	75.1	129.4	225.5	336.9	5.9
	Industry	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.0
ii)Agriculture	Irrigation	1,281.0	2,314.0	3,270.0	3,677.0	4,329.0	4,833.0	5,377.0	93.8
	Livestock	4.3	6.0	6.5	7.9	9.6	12.1	15.8	0.3
	Fishery	(249.8)	(330.7)	(353.9)	(369.7)	(383.2)	(387.7)	(426.8)	-
Grand Total		1,536.8	2,669.6	3,671.4	4,130.4	4,851.9	5,459.0	6,157.2	
Total									
(Excluding water demand for fishery)		1,287.0	2,338.9	3,317.5	3,760.7	4,468.7	5,071.3	5,730.4	100.0

Case 2: Low Economic Growth

Sector of Water Use		(Unit : million m ³ /year)							Ratio in 2025 (%)
		Year							
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	1.0	18.3	40.6	71.9	122.2	211.1	307.4	9.5
	Industry	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.0
ii)Agriculture	Irrigation	1,281.0	2,254.7	2,946.9	2,985.0	3,166.6	3,095.1	2,923.7	90.3
	Livestock	4.3	5.8	5.7	6.1	6.4	6.7	7.0	0.2
	Fishery	(249.8)	(317.5)	(332.4)	(344.6)	(353.8)	(360.6)	(364.5)	-
Grand Total		1,536.8	2,597.0	3,326.3	3,408.3	3,649.7	3,674.2	3,603.2	
Total									
(Excluding water demand for fishery)		1,287.0	2,279.5	2,993.9	3,063.7	3,295.9	3,313.6	3,238.7	100.0

Table 5-9 SURFACE WATER DEMAND FOR PAMPANGA RIVER BASIN :WRR III

Case 1: High Economic Growth

Sector of Water Use		(Unit : million m ³ /year)							Ratio in 2025 (%)
		Year							
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	0.0	4.2	10.8	64.0	123.1	177.3	266.2	4.2
	Industry	14.1	14.1	14.1	14.1	14.1	14.1	14.1	0.2
ii)Agriculture	Irrigation	2,205.0	3,859.0	4,973.0	5,234.0	5,634.0	5,803.0	5,972.0	94.7
	Livestock	10.0	14.7	16.0	21.0	27.5	36.7	50.8	0.8
	Fishery	1,559.8	2,234.7	2,391.5	2,498.3	2,589.1	2,619.6	2,884.1	-
Grand Total		3,788.9	6,126.7	7,405.4	7,831.4	8,387.8	8,650.7	9,187.2	
Total									
(Excluding water demand for fishery)		2,229.1	3,892.0	5,013.9	5,333.1	5,798.7	6,031.1	6,303.1	100.0

Case 2: Low Economic Growth

Sector of Water Use		(Unit : million m ³ /year)							Ratio in 2025 (%)
		Year							
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	0.0	4.9	12.3	48.4	88.1	107.0	122.8	2.2
	Industry	14.1	14.1	14.1	14.1	14.1	14.1	14.1	0.3
ii)Agriculture	Irrigation	2,205.0	3,859.0	4,973.0	5,121.0	5,352.0	5,352.0	5,352.0	97.1
	Livestock	10.0	14.6	15.4	16.1	18.6	21.1	23.5	0.4
	Fishery	(1,559.8)	(2,145.2)	(2,246.0)	(2,328.4)	(2,390.3)	(2,436.2)	(2,462.6)	-
Grand Total		3,788.9	6,037.8	7,260.8	7,528.0	7,863.1	7,930.4	7,975.0	
Total									
(Excluding water demand for fishery)		2,229.1	3,892.6	5,014.8	5,199.6	5,472.8	5,494.2	5,512.4	100.0

Table 5-10 SURFACE WATER DEMAND FOR PASIG-LAGUNA BAY BASIN : WRR IV

Case 1: High Economic Growth

Sector of Water Use		(Unit : million m ³ /year)							Ratio in 2025 (%)
		1996	2000	2005	Year				
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Industry	223.3	200.0	150.0	100.0	50.0	25.0	0.0	0.0
ii) Agriculture	Irrigation	149.0	255.0	278.0	300.0	337.0	363.0	390.0	97.6
	Livestock	1.7	2.7	3.0	3.9	5.2	6.9	9.6	2.4
	Fishery	85.9	113.0	120.9	126.3	130.9	132.4	145.8	-
Grand Total		459.9	570.7	551.9	530.2	523.1	527.3	545.4	
Total									
(Excluding water demand for fishery)		374.0	457.7	431.0	403.9	392.2	394.9	399.6	100.0

Case 2: Low Economic Growth

Sector of Water Use		(Unit : million m ³ /year)							Ratio in 2025 (%)
		1996	2000	2005	Year				
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Industry	0.0	200.0	150.0	100.0	50.0	25.0	0.0	0.0
ii) Agriculture	Irrigation	149.0	255.0	278.0	283.0	293.8	293.8	293.8	98.5
	Livestock	1.7	2.7	2.8	3.0	3.4	3.9	4.4	1.5
	Fishery	(85.9)	(108.4)	(113.5)	(117.7)	(120.8)	(123.2)	(124.5)	-
Grand Total		236.6	566.1	544.3	503.7	468.0	445.9	422.7	
Total									
(Excluding water demand for fishery)		150.7	457.7	430.8	386.0	347.2	322.7	298.2	100.0

Table 5-11 SURFACE WATER DEMAND FOR AMNAY-PATRICK : WRR IV

Case 1: High Economic Growth

Sector of Water Use		(Unit : million m ³ /year)							Ratio in 2025 (%)
		1996	2000	2005	Year				
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Industry	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
ii) Agriculture	Irrigation	53.0	116.0	134.0	238.0	397.0	549.0	702.0	99.6
	Livestock	0.8	1.1	1.1	1.3	1.6	2.0	2.6	0.4
	Fishery	(65.3)	(86.4)	(92.5)	(96.6)	(100.1)	(101.3)	(111.5)	-
Grand Total		119.2	203.6	227.7	336.0	498.8	652.4	816.2	
Total									
(Excluding water demand for fishery)		53.9	117.2	135.2	239.4	398.7	551.1	704.7	100.0

Case 2: Low Economic Growth

Sector of Water Use		(Unit : million m ³ /year)							Ratio in 2025 (%)
		1996	2000	2005	Year				
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Industry	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ii) Agriculture	Irrigation	53.0	116.0	134.0	137.0	144.0	144.0	144.0	99.0
	Livestock	0.8	1.1	1.1	1.1	1.2	1.3	1.4	1.0
	Fishery	(65.3)	(83.0)	(86.9)	(90.1)	(92.5)	(94.2)	(95.3)	-
Grand Total		119.2	200.2	222.1	228.3	237.8	239.6	240.8	
Total									
(Excluding water demand for fishery)		53.9	117.2	135.2	138.2	145.3	145.4	145.5	100.0

Table 5-12 SURFACE WATER DEMAND FOR BICOL RIVER BASIN : WRR V

Case 1: High Economic Growth

(Unit : million m³/year)

Sector of Water Use		Year						Ratio in 2025 (%)	
		1996	2000	2005	2010	2015	2020		2025
i) M&I	Municipal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Industry	2.1	2.1	2.1	2.1	2.1	2.1	2.1	0.1
ii) Agriculture	Irrigation	616.0	794.0	997.0	1,170.0	1,397.0	1,570.0	1,742.0	99.2
	Livestock	3.5	4.5	4.7	5.8	7.3	9.3	12.4	0.7
	Fishery	(59.8)	(83.3)	(89.1)	(93.1)	(96.5)	(97.6)	(107.4)	-
Grand Total		681.4	883.9	1,092.9	1,271.0	1,502.9	1,679.0	1,863.9	
Total									
(Excluding water demand for fishery)		621.6	800.6	1,003.8	1,177.9	1,406.4	1,581.4	1,756.5	100.0

Case 2: Low Economic Growth

(Unit : million m³/year)

Sector of Water Use		Year						Ratio in 2025 (%)	
		1996	2000	2005	2010	2015	2020		2025
i) M&I	Municipal	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.2
	Industry	2.1	2.1	2.1	2.1	2.1	2.1	14.8	1.3
ii) Agriculture	Irrigation	616.0	794.0	997.0	1,099.0	1,155.0	1,155.0	1,155.0	98.0
	Livestock	3.5	4.5	4.6	4.7	5.3	5.8	6.4	0.5
	Fishery	(59.8)	(79.9)	(83.7)	(86.8)	(89.1)	(90.8)	(91.8)	-
Grand Total		681.4	880.5	1,087.4	1,192.6	1,251.5	1,253.7	1,270.2	
Total									
(Excluding water demand for fishery)		621.6	800.6	1,003.7	1,105.8	1,162.4	1,162.9	1,178.4	100.0

Table 5-13 SURFACE WATER DEMAND FOR PANAY RIVER BASIN : WRR VI

Case 1: High Economic Growth

(Unit : million m³/year)

Sector of Water Use		Year						Ratio in 2025 (%)	
		1996	2000	2005	2010	2015	2020		2025
i) M&I	Municipal	2.3	4.4	7.2	10.8	15.2	20.3	26.2	8.1
	Industry	1.9	1.9	1.9	1.9	1.9	1.9	1.9	0.6
ii) Agriculture	Irrigation	52.0	156.0	226.0	249.0	267.0	280.0	293.0	90.3
	Livestock	0.9	1.2	1.3	1.6	2.0	2.6	3.4	1.0
	Fishery	(203.2)	(275.7)	(295.2)	(308.4)	(319.6)	(323.4)	(356.0)	-
Grand Total		260.3	439.2	531.6	571.7	605.7	628.2	680.5	
Total									
(Excluding water demand for fishery)		57.1	163.5	236.4	263.3	286.1	304.8	324.5	100.0

Case 2: Low Economic Growth

(Unit : million m³/year)

Sector of Water Use		Year						Ratio in 2025 (%)	
		1996	2000	2005	2010	2015	2020		2025
i) M&I	Municipal	2.3	4.4	7.2	10.8	15.2	20.3	26.2	9.5
	Industry	1.9	1.9	1.9	1.9	1.9	1.9	1.9	0.7
ii) Agriculture	Irrigation	52.0	156.0	226.0	241.0	246.0	246.0	246.0	89.2
	Livestock	0.9	1.2	1.3	1.3	1.4	1.6	1.8	0.7
	Fishery	(203.2)	(264.8)	(277.3)	(287.4)	(295.1)	(300.7)	(304.0)	-
Grand Total		260.3	428.3	513.7	542.4	559.6	570.5	579.9	
Total									
(Excluding water demand for fishery)		57.1	163.5	236.4	255.0	264.5	269.8	275.9	100.0

Table 5-14 SURFACE WATER DEMAND FOR JALAU RIVER BASIN :WRR VI

Case 1: High Economic Growth

(Unit : million m³/year)

Sector of Water Use		Year							Ratio in 2025 (%)
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Industry	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0
ii)Agriculture	Irrigation	216.0	319.0	456.0	593.0	746.0	878.0	1,010.0	98.6
	Livestock	3.3	4.7	5.1	6.4	8.0	10.3	13.7	1.3
	Fishery	(244.7)	(337.5)	(361.2)	(377.4)	(391.1)	(395.7)	(435.6)	-
Grand Total		464.2	661.4	822.5	977.0	1,145.3	1,284.2	1,459.5	
Total									
(Excluding water demand for fishery)		219.5	323.9	461.3	599.6	754.2	888.5	1,023.9	100.0

Case 2: Low Economic Growth

(Unit : million m³/year)

Sector of Water Use		Year							Ratio in 2025 (%)
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Industry	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0
ii)Agriculture	Irrigation	216.0	319.0	456.0	593.0	614.0	614.0	614.0	99.0
	Livestock	3.3	4.5	4.5	5.0	5.4	5.7	6.0	1.0
	Fishery	(244.7)	(324.0)	(339.3)	(351.7)	(361.1)	(368.0)	(372.0)	-
Grand Total		464.2	647.7	800.0	949.9	980.7	987.9	992.2	
Total									
(Excluding water demand for fishery)		219.5	323.7	460.7	598.2	619.6	619.9	620.2	100.0

Table 5-15 SURFACE WATER DEMAND FOR ILOG-HILABANGAN : WRR VI

Case 1: High Economic Growth

(Unit : million m³/year)

Sector of Water Use		Year							Ratio in 2025 (%)
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Industry	140.7	140.7	140.7	140.7	140.7	140.7	140.7	22.0
ii)Agriculture	Irrigation	2.0	2.0	73.0	193.0	294.0	396.0	497.0	77.6
	Livestock	0.8	1.0	1.1	1.4	1.8	2.3	3.1	0.5
	Fishery	(173.4)	(254.3)	(272.1)	(284.3)	(294.6)	(298.1)	(328.2)	-
Grand Total		316.9	398.0	486.9	619.4	731.1	837.1	969.0	
Total									
(Excluding water demand for fishery)		143.5	143.7	214.8	335.1	436.5	539.0	640.8	100.0

Case 2: Low Economic Growth

(Unit : million m³/year)

Sector of Water Use		Year							Ratio in 2025 (%)
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Industry	140.7	140.7	140.7	140.7	140.7	140.7	140.7	52.7
ii)Agriculture	Irrigation	2.0	2.0	73.0	125.0	125.0	125.0	125.0	46.8
	Livestock	0.8	1.0	1.0	1.1	1.2	1.3	1.4	0.5
	Fishery	(173.4)	(244.1)	(255.6)	(264.9)	(272.0)	(277.2)	(280.2)	-
Grand Total		316.9	387.8	470.3	531.7	538.9	544.2	547.3	
Total									
(Excluding water demand for fishery)		143.5	143.7	214.7	266.8	266.9	267.0	267.1	100.0

Table 5-16 SURFACE WATER DEMAND FOR AGUSAN RIVER BASIN : WRR X

Case 1: High Economic Growth

(Unit : million m³/year)

Sector of Water Use		Year							Ratio in 2025 (%)
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Industry	1.8	1.8	1.8	1.8	1.8	1.8	1.8	0.1
ii) Agriculture	Irrigation	310.0	495.0	859.0	1,099.0	1,421.0	1,730.0	2,040.0	99.6
	Livestock	1.8	2.4	2.5	3.2	4.1	5.4	7.3	0.4
	Fishery	(66.3)	(94.3)	(100.9)	(105.4)	(109.3)	(110.6)	(121.7)	-
Grand Total		379.9	593.5	964.2	1,209.4	1,536.2	1,847.8	2,170.8	
Total									
(Excluding water demand for fishery)		313.6	499.2	863.3	1,104.0	1,426.9	1,737.2	2,049.1	100.0

Case 2: Low Economic Growth

(Unit : million m³/year)

Sector of Water Use		Year							Ratio in 2025 (%)
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Industry	1.8	1.8	1.8	1.8	1.8	1.8	1.8	0.2
ii) Agriculture	Irrigation	310.0	495.0	859.0	893.0	906.0	906.0	906.0	99.4
	Livestock	1.8	2.3	2.2	2.5	2.7	3.0	3.2	0.4
	Fishery	(66.3)	(90.5)	(94.8)	(98.3)	(100.9)	(102.8)	(103.9)	-
Grand Total		379.9	589.6	957.8	995.6	1,011.4	1,013.6	1,014.9	
Total									
(Excluding water demand for fishery)		313.6	499.1	863.0	897.3	910.5	910.8	911.0	100.0

Table 5-17 SURFACE WATER DEMAND FOR TAGOLOAN RIVER BASIN : WRR X

Case 1: High Economic Growth

(Unit : million m³/year)

Sector of Water Use		Year							Ratio in 2025 (%)
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	0.8	4.7	8.2	12.9	17.2	22.0	33.9	19.4
	Industry	29.7	29.7	29.7	29.7	29.7	29.7	29.7	17.0
ii) Agriculture	Irrigation	7.0	40.0	58.0	70.0	82.0	94.0	105.0	60.1
	Livestock	1.5	2.2	2.4	2.9	3.6	4.6	6.0	3.4
	Fishery	(27.0)	(39.8)	(42.6)	(44.5)	(46.1)	(46.7)	(51.4)	-
Grand Total		66.0	116.4	140.9	160.0	178.6	197.0	226.0	
Total									
(Excluding water demand for fishery)		39.0	76.6	98.3	115.5	132.5	150.3	174.6	100.0

Case 2: Low Economic Growth

(Unit : million m³/year)

Sector of Water Use		Year							Ratio in 2025 (%)
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	0.8	4.7	8.2	12.9	17.2	21.8	29.8	23.5
	Industry	29.7	29.7	29.7	29.7	29.7	29.7	29.7	23.4
ii) Agriculture	Irrigation	7.0	40.0	58.0	62.0	64.0	64.0	64.0	50.5
	Livestock	1.5	2.2	2.3	2.4	2.7	2.9	3.2	2.5
	Fishery	(27.0)	(38.2)	(40.0)	(41.5)	(42.6)	(43.4)	(43.9)	-
Grand Total		66.0	114.8	138.2	148.5	156.2	161.8	170.6	
Total									
(Excluding water demand for fishery)		39.0	76.6	98.2	107.0	113.6	118.4	126.7	100.0

Table 5-18 SURFACE WATER DEMAND FOR CAGAYAN DE ORO RIVER BASIN : WRR X

Case 1: High Economic Growth

Sector of Water Use		(Unit : million m ³ /year)							Ratio in 2025 (%)
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	1.8	10.4	18.1	28.4	37.7	47.9	71.1	24.7
	Industry	39.4	39.4	39.4	39.4	39.4	39.4	39.4	13.7
ii) Agriculture	Irrigation	3.0	39.0	73.0	95.0	121.0	148.0	174.0	60.3
	Livestock	1.1	1.5	1.6	1.9	2.4	3.0	3.9	1.4
	Fishery	(1.2)	(1.6)	(1.7)	(1.8)	(1.9)	(1.9)	(2.1)	-
Grand Total		46.5	91.9	133.8	166.5	202.4	240.2	290.5	
Total									
(Excluding water demand for fishery)		45.3	90.3	132.1	164.7	200.5	238.3	288.4	100.0

Case 2: Low Economic Growth

Sector of Water Use		(Unit : million m ³ /year)							Ratio in 2025 (%)
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	1.8	10.4	18.1	28.4	37.7	47.7	65.3	35.5
	Industry	39.4	39.4	39.4	39.4	39.4	39.4	39.4	21.4
ii) Agriculture	Irrigation	3.0	39.0	73.0	77.0	77.0	77.0	77.0	41.9
	Livestock	1.1	1.5	1.6	1.6	1.8	1.9	2.1	1.1
	Fishery	(1.2)	(1.5)	(1.6)	(1.7)	(1.7)	(1.7)	(1.8)	-
Grand Total		46.5	91.8	133.7	148.1	157.6	167.7	185.6	
Total									
(Excluding water demand for fishery)		45.3	90.3	132.1	146.4	155.9	166.0	183.8	100.0

Table 5-19 SURFACE WATER DEMAND FOR DAVAO RIVER BASIN : WRR XI

Case 1: High Economic Growth

Sector of Water Use		(Unit : million m ³ /year)							Ratio in 2025 (%)
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	7.6	15.5	27.0	40.5	55.6	72.3	90.6	25.2
	Industry	10.6	10.6	10.6	10.6	10.6	10.6	10.6	3.0
ii) Agriculture	Irrigation	17.0	50.0	91.0	125.0	165.0	203.0	241.0	67.1
	Livestock	3.8	5.4	5.8	7.4	9.5	12.4	16.9	4.7
	Fishery	(74.2)	(105.7)	(113.1)	(118.2)	(122.5)	(123.9)	(136.4)	-
Grand Total		113.2	187.2	247.5	301.7	363.2	422.2	495.5	
Total									
(Excluding water demand for fishery)		39.0	81.5	134.4	183.5	240.7	298.3	359.1	100.0

Case 2: Low Economic Growth

Sector of Water Use		(Unit : million m ³ /year)							Ratio in 2025 (%)
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	7.6	15.5	27.0	40.5	55.6	72.3	90.6	43.1
	Industry	10.6	10.6	10.6	10.6	10.6	10.6	10.6	5.0
ii) Agriculture	Irrigation	17.0	50.0	91.0	99.0	101.0	101.0	101.0	48.0
	Livestock	3.8	5.3	5.6	5.8	6.6	7.4	8.2	3.9
	Fishery	(74.2)	(101.5)	(106.2)	(110.1)	(113.1)	(115.2)	(116.5)	-
Grand Total		113.2	182.9	240.4	266.0	286.9	306.5	326.9	
Total									
(Excluding water demand for fishery)		39.0	81.4	134.2	155.9	173.8	191.3	210.4	100.0

Table 5-20 SURFACE WATER DEMAND FOR TAGUM-LIBUGANON RIVER BASIN : WRR XI

Case 1: High Economic Growth

(Unit : million m³/year)

Sector of Water Use		Year							Ratio in 2025 (%)
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Industry	39.1	39.1	39.1	39.1	39.1	39.1	39.1	4.1
ii) Agriculture	Irrigation	224.0	230.0	238.0	359.0	543.0	725.0	906.0	94.9
	Livestock	2.1	2.9	3.1	4.0	5.1	6.7	9.1	1.0
	Fishery	(55.0)	(71.8)	(76.8)	(80.3)	(83.2)	(84.1)	(92.6)	-
Grand Total		320.2	343.8	357.0	482.4	670.4	854.9	1,046.8	
Total									
(Excluding water demand for fishery)		265.2	272.0	280.2	402.1	587.2	770.8	954.2	100.0

Case 2: Low Economic Growth

(Unit : million m³/year)

Sector of Water Use		Year							Ratio in 2025 (%)
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Industry	39.1	39.1	39.1	39.1	39.1	39.1	39.1	13.7
ii) Agriculture	Irrigation	224.0	230.0	238.0	239.0	241.0	241.0	241.0	84.7
	Livestock	2.1	2.9	3.0	3.1	3.5	4.0	4.4	1.5
	Fishery	(55.0)	(68.9)	(72.2)	(74.8)	(76.8)	(78.3)	(79.1)	-
Grand Total		320.2	340.9	352.3	356.0	360.4	362.4	363.6	
Total									
(Excluding water demand for fishery)		265.2	272.0	280.1	281.2	283.6	284.1	284.5	100.0

Table 5-21 SURFACE WATER DEMAND FOR BUAYAN-MALUNGUN RIVER BASIN : WRR XI

Case 1: High Economic Growth

(Unit : million m³/year)

Sector of Water Use		Year							Ratio in 2025 (%)
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	1.0	2.0	3.5	5.3	7.3	9.5	11.9	1.7
	Industry	129.1	129.1	129.1	129.1	129.1	129.1	129.1	18.4
ii) Agriculture	Irrigation	57.0	61.0	73.0	161.0	294.0	423.0	552.0	78.8
	Livestock	2.0	2.7	2.8	3.5	4.4	5.7	7.6	1.1
	Fishery	(3.4)	(4.4)	(4.8)	(5.0)	(5.2)	(5.2)	(5.7)	-
Grand Total		192.5	199.2	213.2	303.9	440.0	572.5	706.3	
Total									
(Excluding water demand for fishery)		189.1	194.8	208.4	298.9	434.8	567.3	700.6	100.0

Case 2: Low Economic Growth

(Unit : million m³/year)

Sector of Water Use		Year							Ratio in 2025 (%)
		1996	2000	2005	2010	2015	2020	2025	
i) M&I	Municipal	1.0	2.0	3.5	5.3	7.3	9.5	11.9	5.3
	Industry	129.1	129.1	129.1	129.1	129.1	129.1	129.1	57.9
ii) Agriculture	Irrigation	57.0	61.0	73.0	74.0	78.0	78.0	78.0	35.0
	Livestock	2.0	2.7	2.7	2.8	3.2	3.5	3.9	1.7
	Fishery	(3.4)	(4.3)	(4.5)	(4.6)	(4.8)	(4.8)	(4.9)	-
Grand Total		192.5	199.1	212.8	215.8	222.4	224.9	227.8	
Total									
(Excluding water demand for fishery)		189.1	194.8	208.3	211.2	217.6	220.1	222.9	100.0

Table 5-22 SURFACE WATER DEMAND FOR AGUS RIVER BASIN : WRR XII

Case 1: High Economic Growth

Sector of Water Use		(Unit : million m ³ /year)							Ratio in 2025 (%)
		1996	2000	2005	Year			2025	
		1996	2000	2005	2010	2015	2020	2025	(%)
i) M&I	Municipal	0.0	0.0	0.0	9.0	21.6	57.3	103.5	7.0
	Industry	72.2	72.2	72.2	72.2	72.2	72.2	72.2	4.9
ii)Agriculture	Irrigation	71.0	315.0	553.0	715.0	920.0	1,114.0	1,308.0	87.9
	Livestock	1.6	2.2	2.3	2.7	3.2	3.8	4.8	0.3
	Fishery	(228.2)	(333.0)	(356.3)	(372.2)	(385.8)	(390.3)	(429.7)	-
Grand Total		373.0	722.4	983.8	1,171.1	1,402.8	1,637.6	1,918.2	
Total									
(Excluding water demand for fishery		144.8	389.4	627.5	798.9	1,017.0	1,247.3	1,488.5	100.0

Case 2: Low Economic Growth

Sector of Water Use		(Unit : million m ³ /year)							Ratio in 2025 (%)
		1996	2000	2005	Year			2025	
		1996	2000	2005	2010	2015	2020	2025	(%)
i) M&I	Municipal	0.0	0.0	0.0	9.0	21.6	57.3	103.5	13.3
	Industry	72.2	72.2	72.2	72.2	72.2	72.2	72.2	9.3
ii)Agriculture	Irrigation	71.0	315.0	553.0	587.0	597.0	597.0	597.0	77.0
	Livestock	1.6	2.2	2.3	2.3	2.5	2.7	2.9	0.4
	Fishery	(228.2)	(319.6)	(334.6)	(346.9)	(356.1)	(363.0)	(366.9)	-
Grand Total		373.0	709.0	962.1	1,017.4	1,049.4	1,092.2	1,142.5	
Total									
(Excluding water demand for fishery		144.8	389.4	627.5	670.5	693.3	729.2	775.6	100.0

Table 5-23 SURFACE WATER DEMAND FOR MINDANAO RIVER BASIN : WRR XII

Case 1: High Economic Growth

Sector of Water Use		(Unit : million m ³ /year)							Ratio in 2025 (%)
		1996	2000	2005	Year			2025	
		1996	2000	2005	2010	2015	2020	2025	(%)
i) M&I	Municipal	0.0	0.0	0.0	0.0	0.0	0.9	1.2	0.0
	Industry	9.6	9.6	9.6	9.6	9.6	9.6	9.6	0.1
ii)Agriculture	Irrigation	2,387.0	4,082.0	6,203.0	7,613.0	9,558.0	11,557.0	13,456.0	99.8
	Livestock	6.1	7.7	8.0	9.8	12.1	15.3	20.2	0.1
	Fishery	(40.0)	(54.8)	(58.6)	(61.3)	(63.5)	(64.2)	(70.7)	-
Grand Total		2,442.7	4,154.1	6,279.2	7,693.7	9,643.2	11,647.0	13,557.7	
Total									
(Excluding water demand for fishery		2,402.7	4,099.3	6,220.6	7,632.4	9,579.7	11,582.8	13,487.0	100.0

Case 2: Low Economic Growth

Sector of Water Use		(Unit : million m ³ /year)							Ratio in 2025 (%)
		1996	2000	2005	Year			2025	
		1996	2000	2005	2010	2015	2020	2025	(%)
i) M&I	Municipal	0.0	0.0	0.0	0.0	0.0	0.5	0.6	0.0
	Industry	9.6	9.6	9.6	9.6	9.6	9.6	9.6	0.1
ii)Agriculture	Irrigation	2,387.0	4,082.0	6,203.0	6,354.0	6,499.0	6,499.0	6,499.0	99.7
	Livestock	6.1	7.7	7.9	8.1	9.0	9.9	10.7	0.2
	Fishery	(40.0)	(52.6)	(55.1)	(57.1)	(58.6)	(59.7)	(60.4)	-
Grand Total		2,442.7	4,151.9	6,275.6	6,428.8	6,576.2	6,578.7	6,580.3	
Total									
(Excluding water demand for fishery		2,402.7	4,099.3	6,220.5	6,371.7	6,517.6	6,519.0	6,519.9	100.0

Table S-24 DISBURSEMENT SCHEDULE FOR DEVELOPMENT OF PROPOSED STORAGE TYPE DAMS

No.	Region Code	Project Name	Present-Day Project Cost (Million US\$)	Disbursement Schedule																											
				98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1	WRK I	Palyuan-Nueva Multi-Purpose Dam Project Lanog/Ano River	71.6	35.8	107.4	125.3	143.2	145.2	107.4																						
2	WRK I	Curu-Tiro-Cangilan Multi-Purpose Dam Project Lanog/Um, Tiro River	140																												
3	WRK I	Binongan/Tiagu Multi-Purpose Project Abra River	468																												
4	WRK II	Maug II Multi-Purpose Dam Project Cajayan River	99	5.0	7.4	14.9	17.5	19.8	19.8	14.9																					
5	WRK II	Maseno Multi-Purpose Dam Project Cajayan River	404	33.4	50.1	100.2	116.9	133.6	103.6	100.2																					
6	WRK II	Abdullah A Dam Hydroelectric Power Project Cajayan River	92																												
7	WRK II	Isgani B Dam Hydroelectric Power Project Cajayan River	11.6																												
8	WRK II	Aphala Dam Project Aphala/Arayan River	194	49.7	74.6	149.3	174.0	198.8	198.8	149.3																					
9	WRK III	Balog-Balog Multi-Purpose Dam Project Dagupan River	292																												
10	WRK III	Balansagan Multi-Purpose Dam Project Pampanga River	270	13.5	20.3	40.5	47.3	54.0	54.0	40.5																					
11	WRK III	Bayabas Dam Project Baysan & Masam River	165	5.0	5.0	5.0	49.5	79.4	19.8	16.5																					
12	WRK IV	Armay Dam Armay/Pang River	445																												
13	WRK V	Talaya Multi-Purpose Dam Project Bicol River	54																												
14	WRK VI	Panay Multi-Purpose Dam Project Panay River	40																												
15	WRK VI	Jalaur Multi-Purpose Dam Project Jalaur River	140																												
16	WRK XI	Ilog No. I Dam Project Ilog-Halabangan River	237																												
17	WRK X	Bulaya-Batang Dam Project Cajayan de Oro	378	18.9	28.4	56.7	66.2	75.6	56.7																						
18	WRK X	Tagaboon Dam Tagaboon River	292																												
19	WRK XI	Buhoson Dam Tagum-Lugabon River	180																												
20	WRK XI	Davao II Multi-Purpose Dam Project Davao River	265																												
21	WRK XI	Davao Multi-Purpose Dam Project Bulaya-Malibangan River	200																												
22	WRK XII	Palang V Dam Project Mindanao River	397	15.9	29.8	59.6	69.5	79.4	59.6																						
Yearly Total Present-Day Cost				6,610	39	98	246	391	666	733	763	583	381	149	55	68	61	34	45	51	140	171	265	309	353	376	298	67	76	89	67
Total Present-Day Cost at 5-Year Intervals				3,077																											
				445																											
				1,402																											

Notes: 1. The project costs of the proposed storage type dam projects are shown in Table S-2. 2. With regard to the projects other than those whose project costs are listed in the table, the present-day project costs were estimated by updating the cost data collected from NPC and NIA.

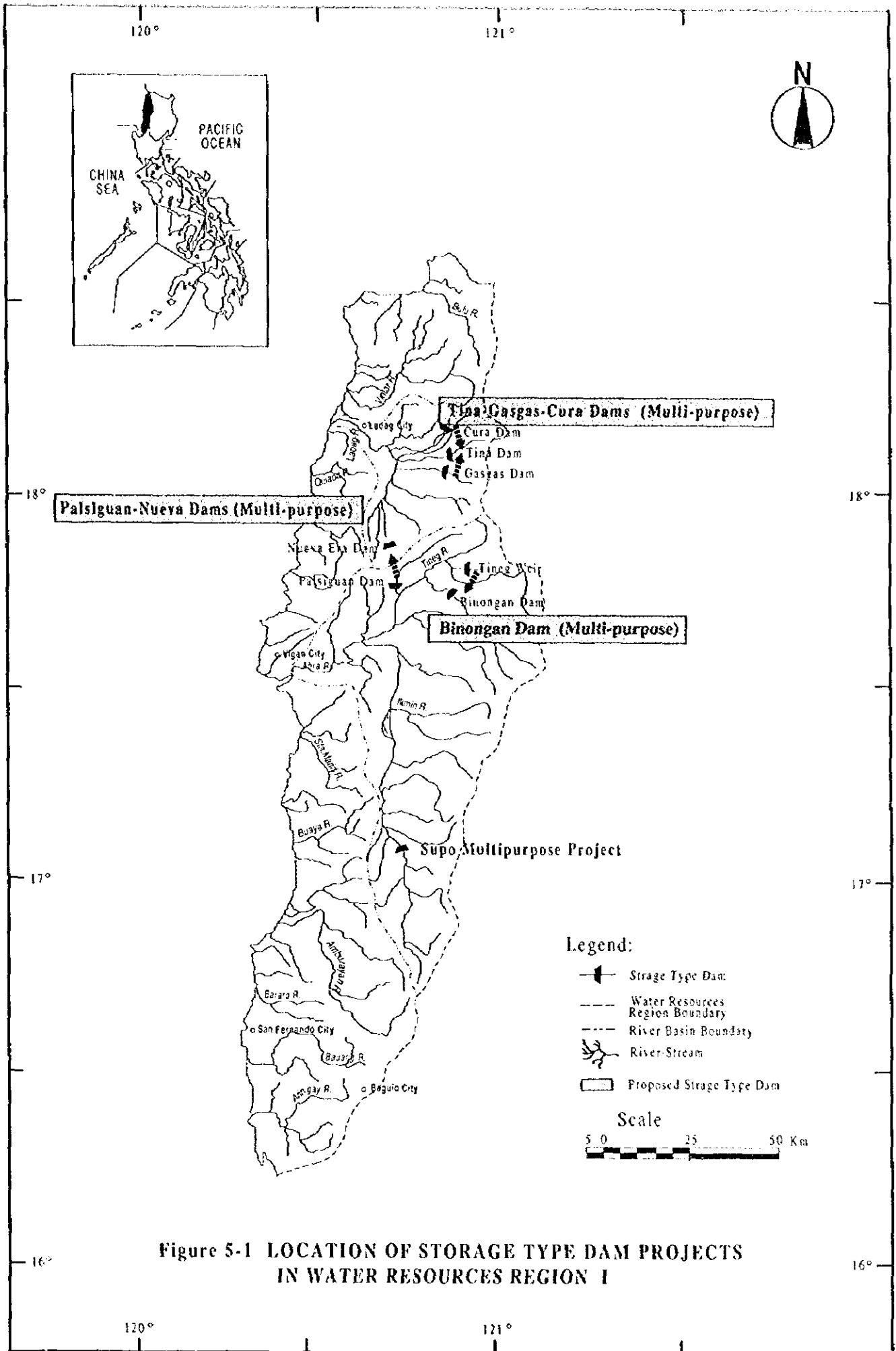
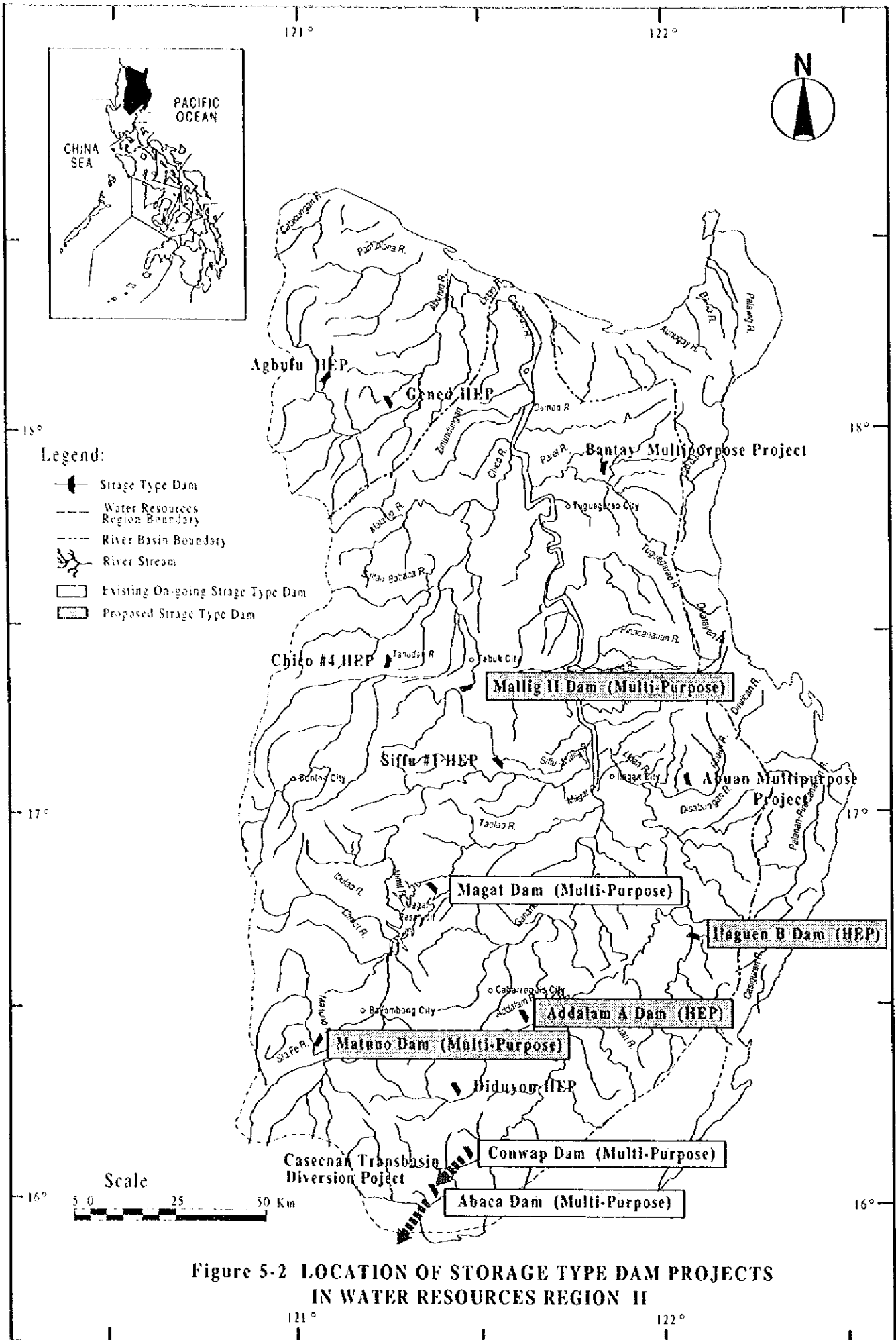
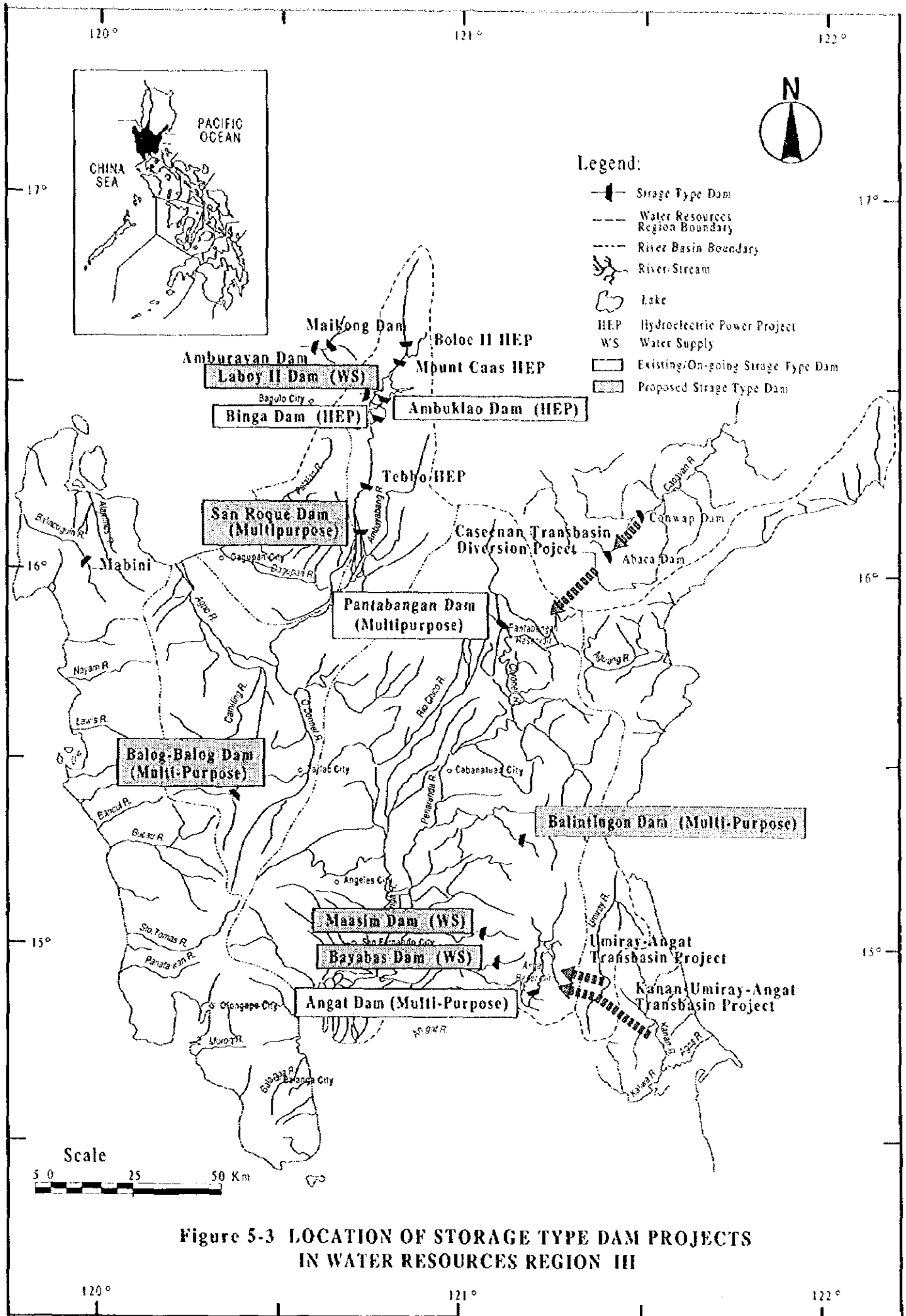
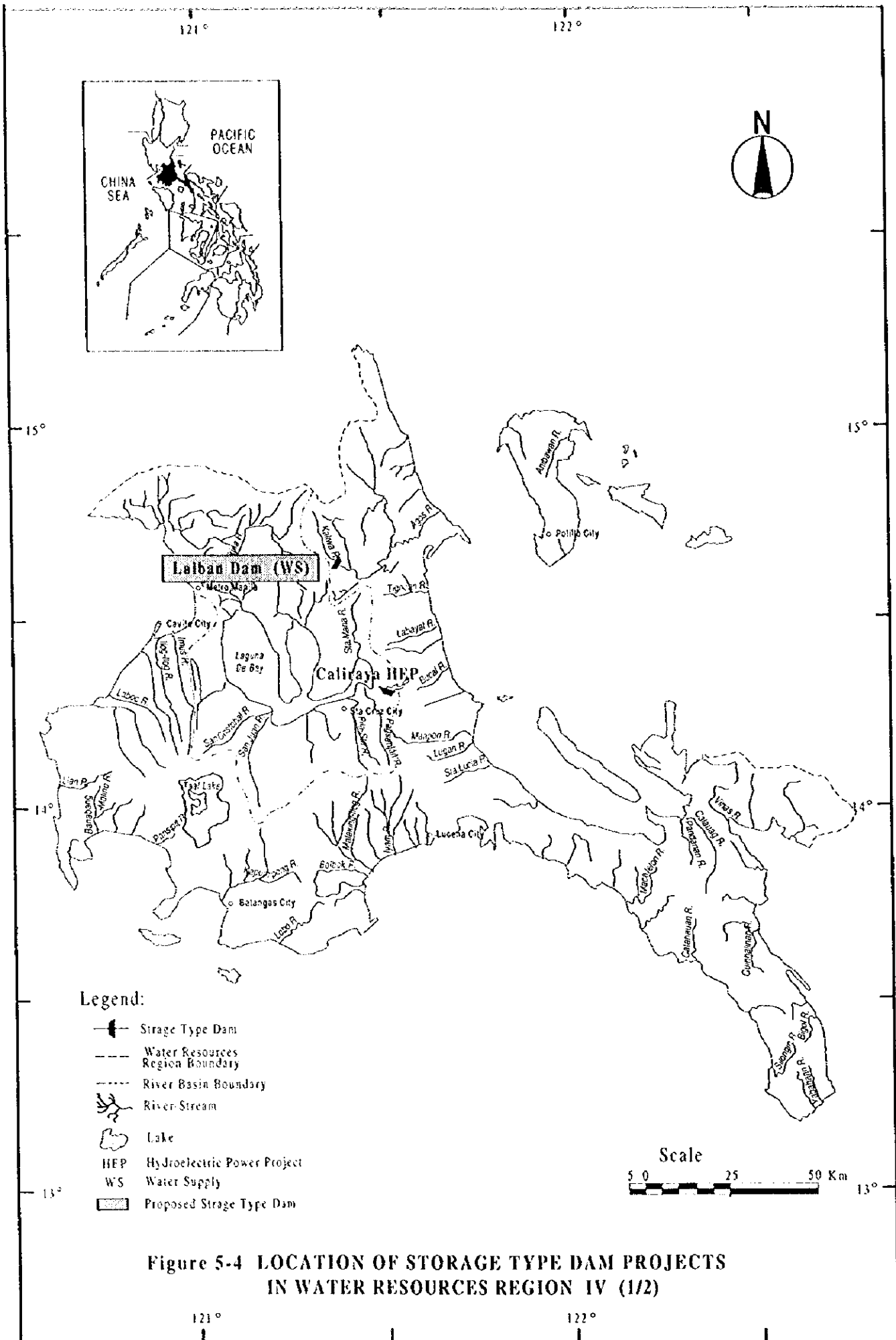
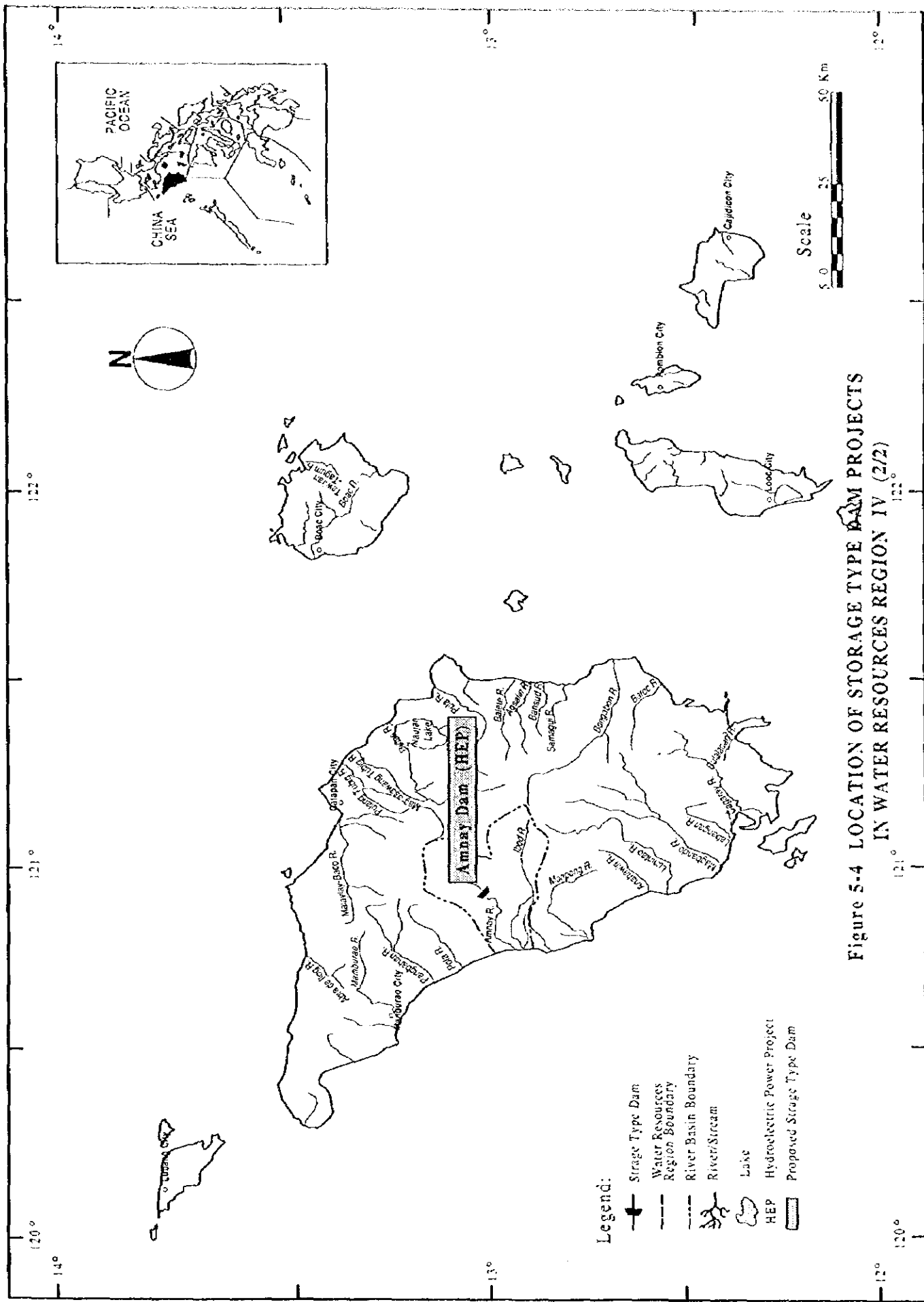


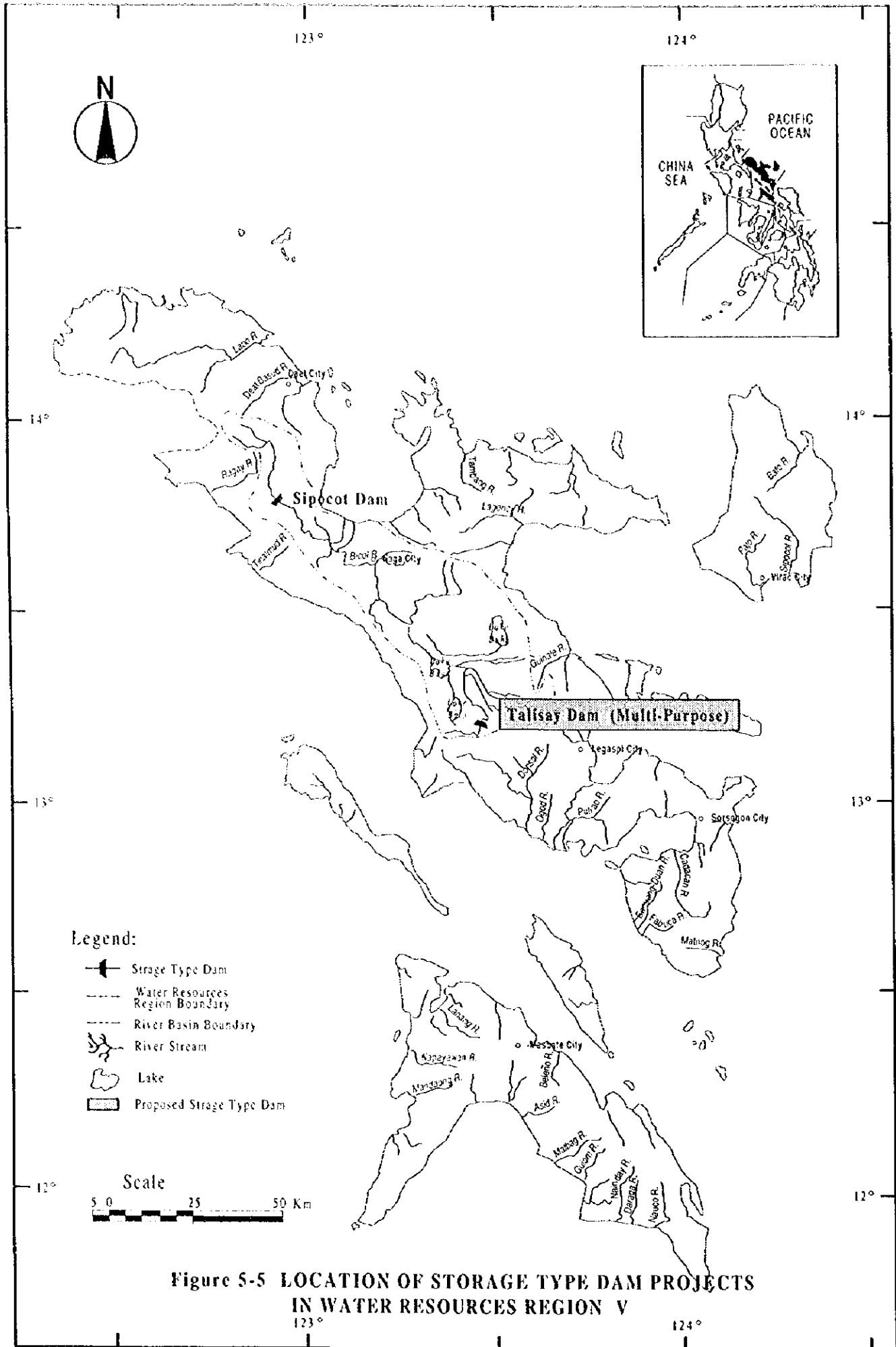
Figure 5-1 LOCATION OF STORAGE TYPE DAM PROJECTS IN WATER RESOURCES REGION I



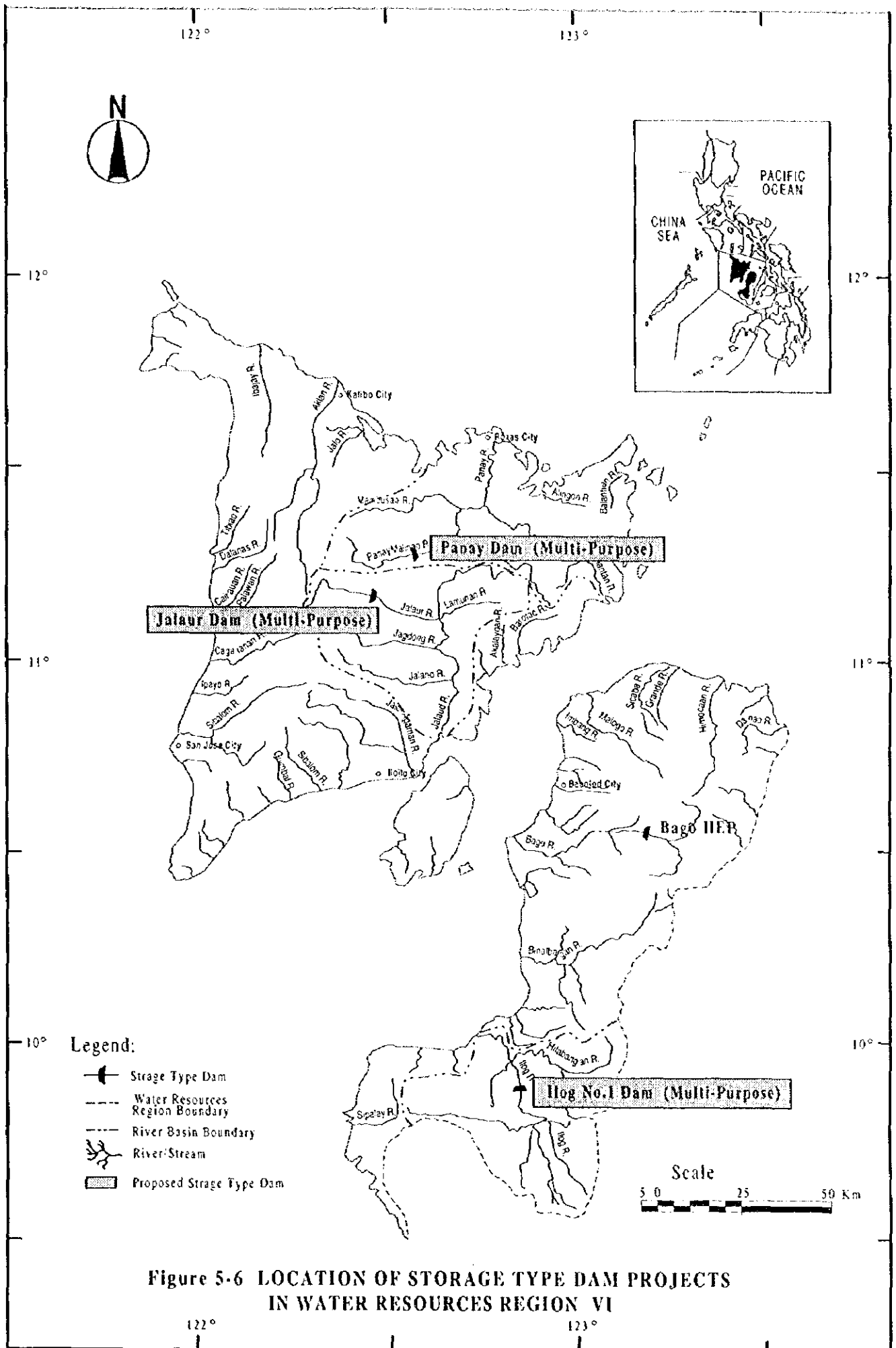




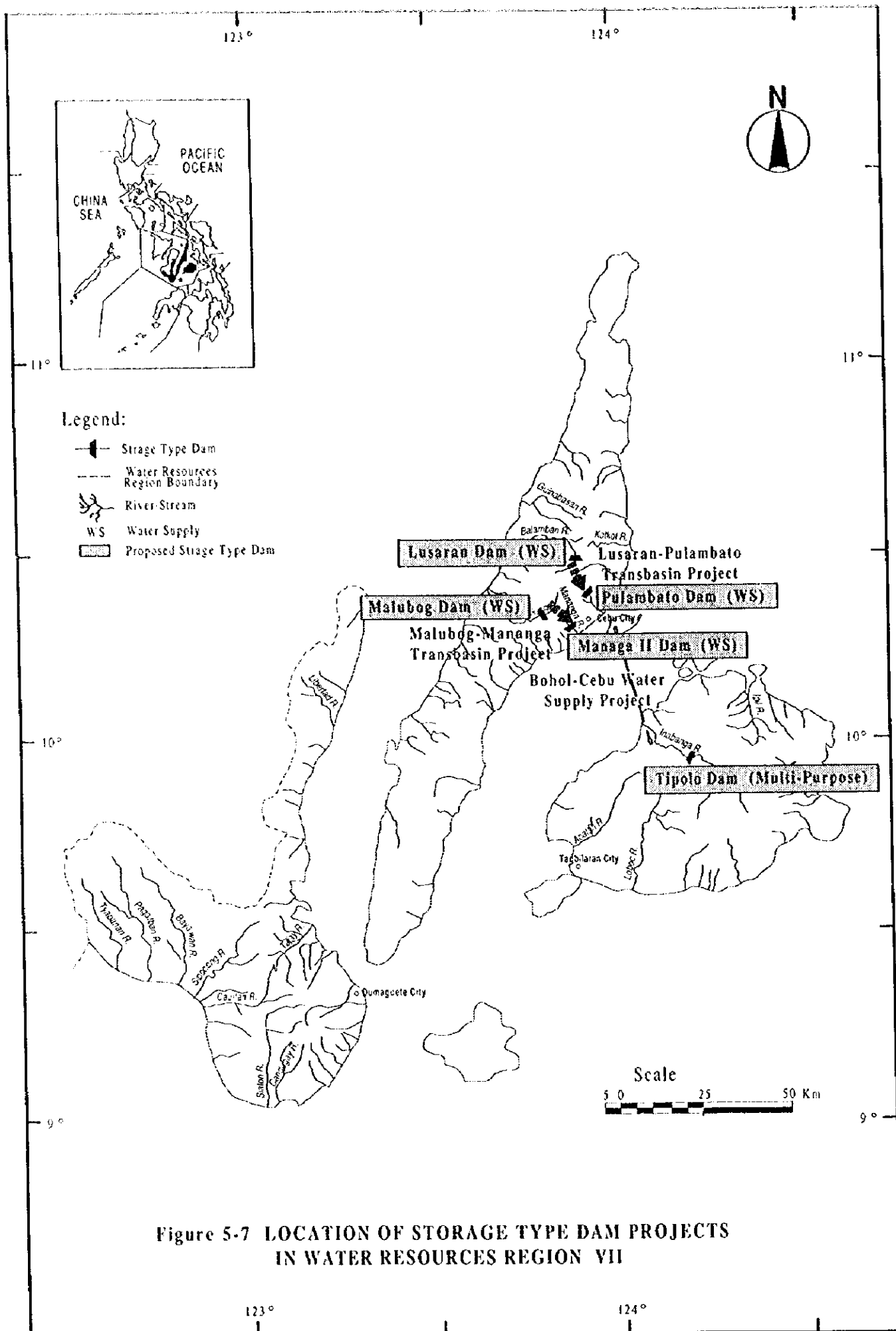




**Figure 5-5 LOCATION OF STORAGE TYPE DAM PROJECTS
IN WATER RESOURCES REGION V**



**Figure 5-6 LOCATION OF STORAGE TYPE DAM PROJECTS
IN WATER RESOURCES REGION VI**



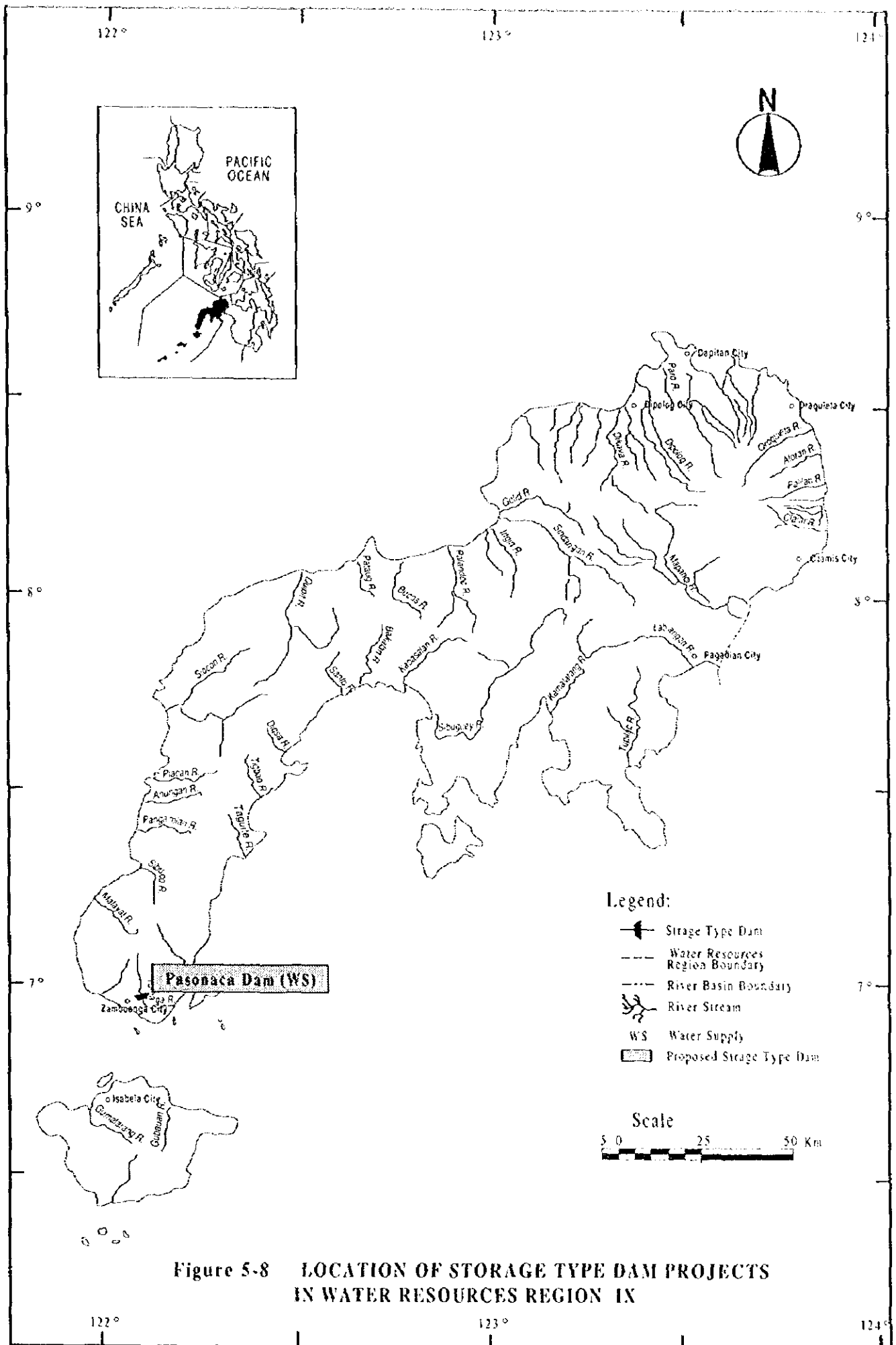
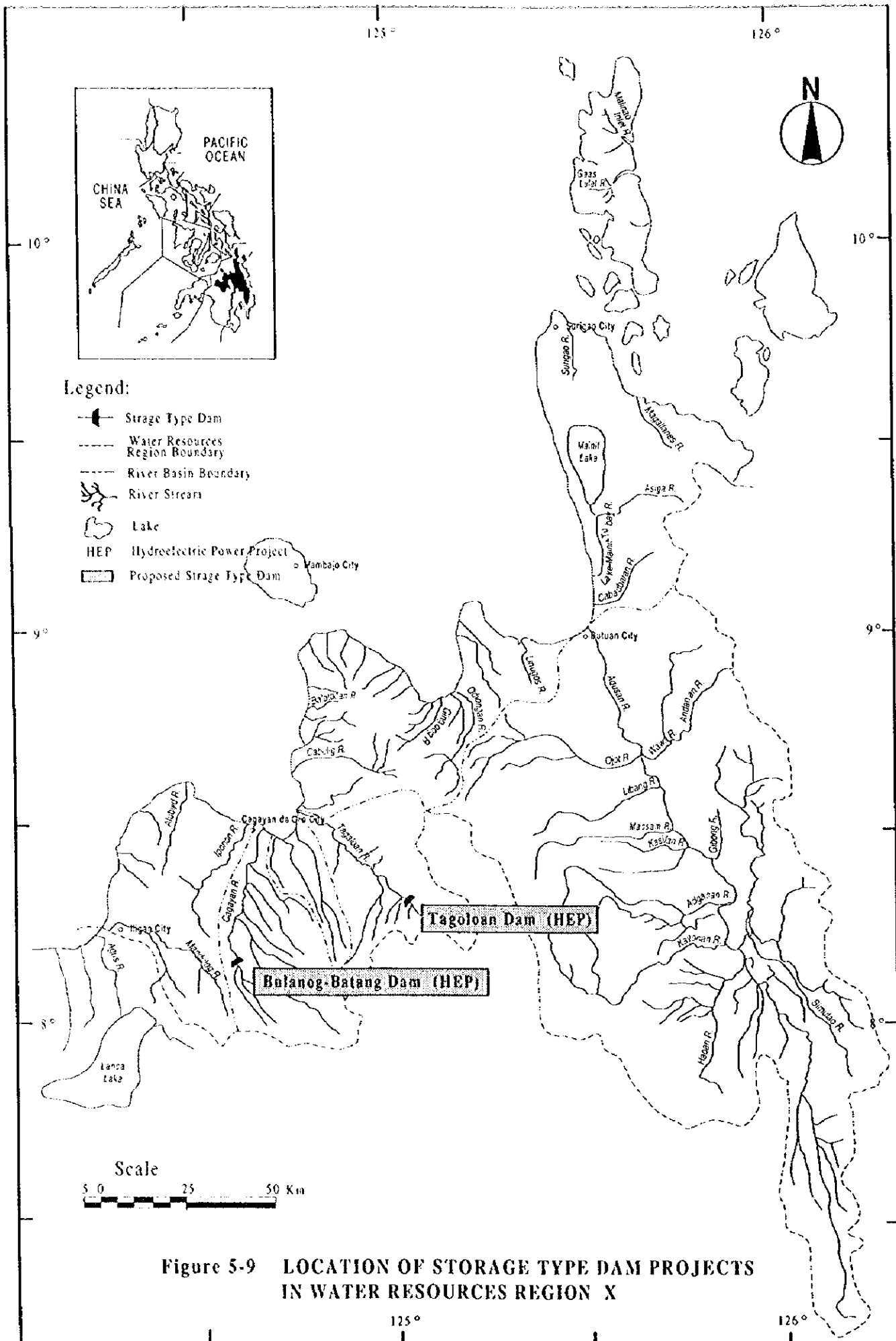


Figure 5-8 LOCATION OF STORAGE TYPE DAM PROJECTS IN WATER RESOURCES REGION IX



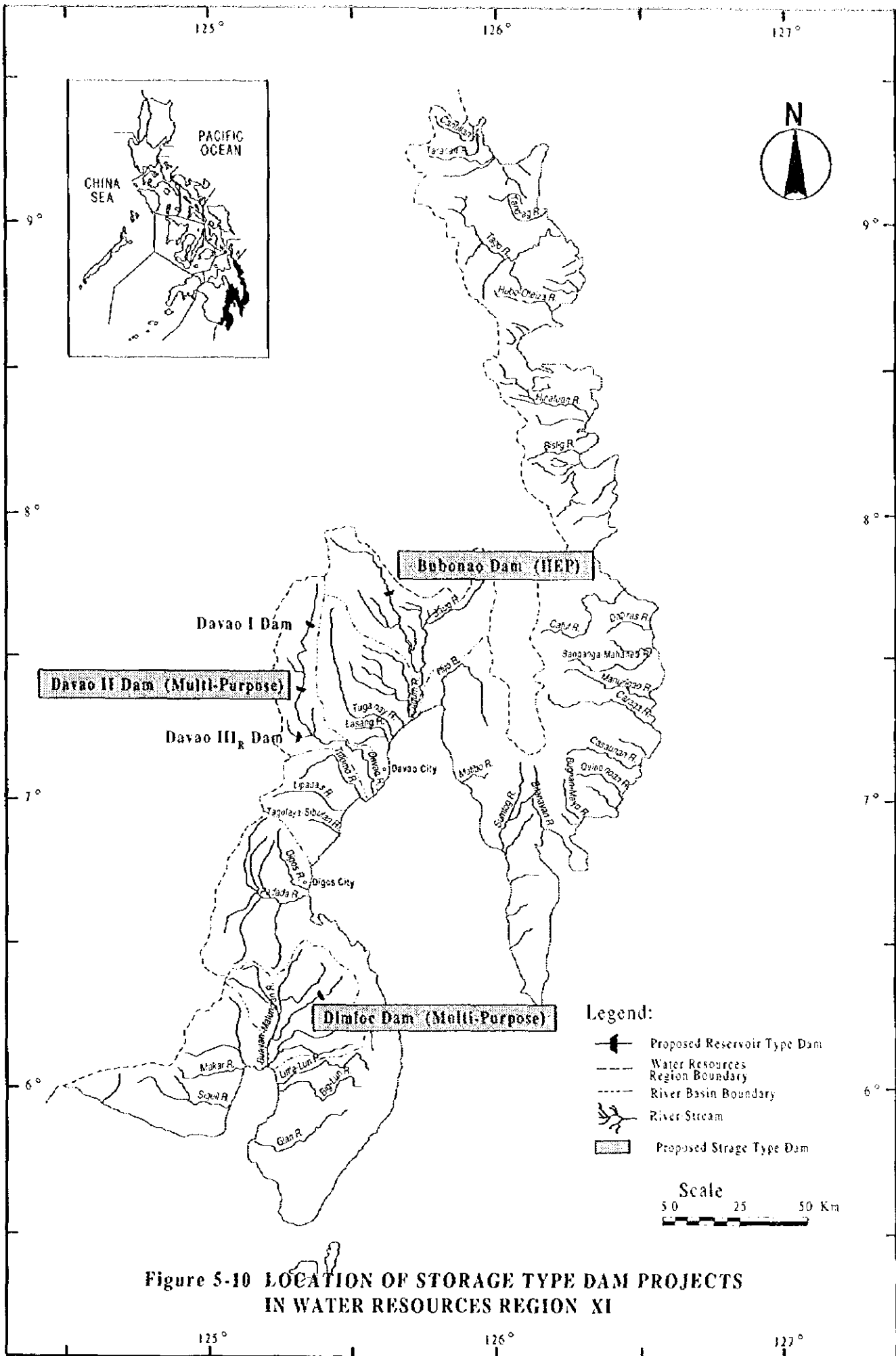
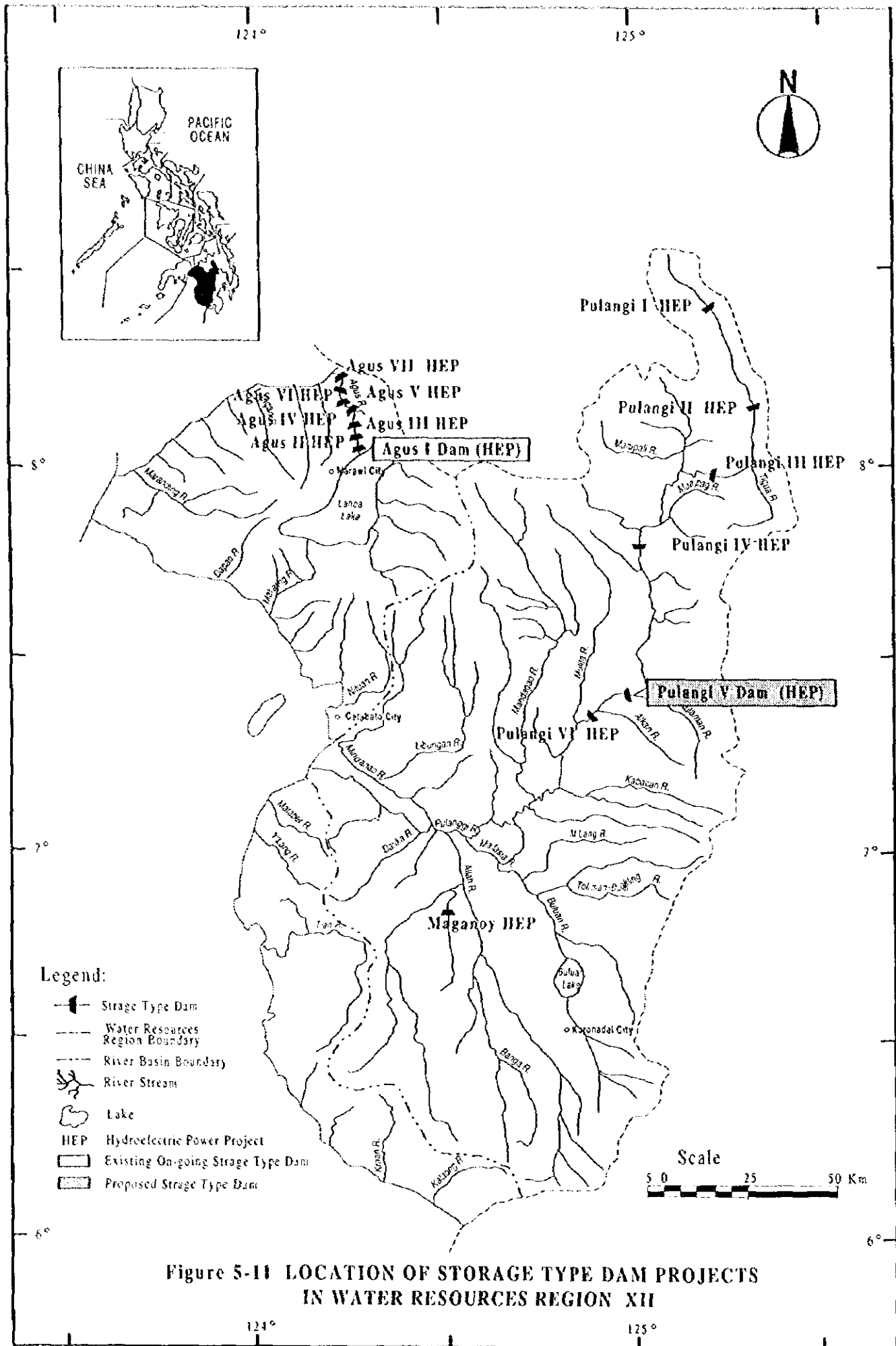
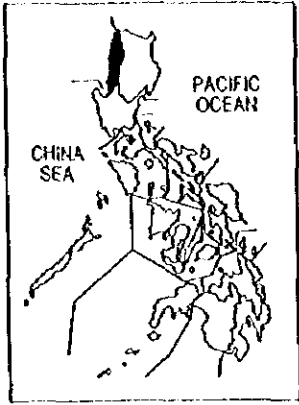
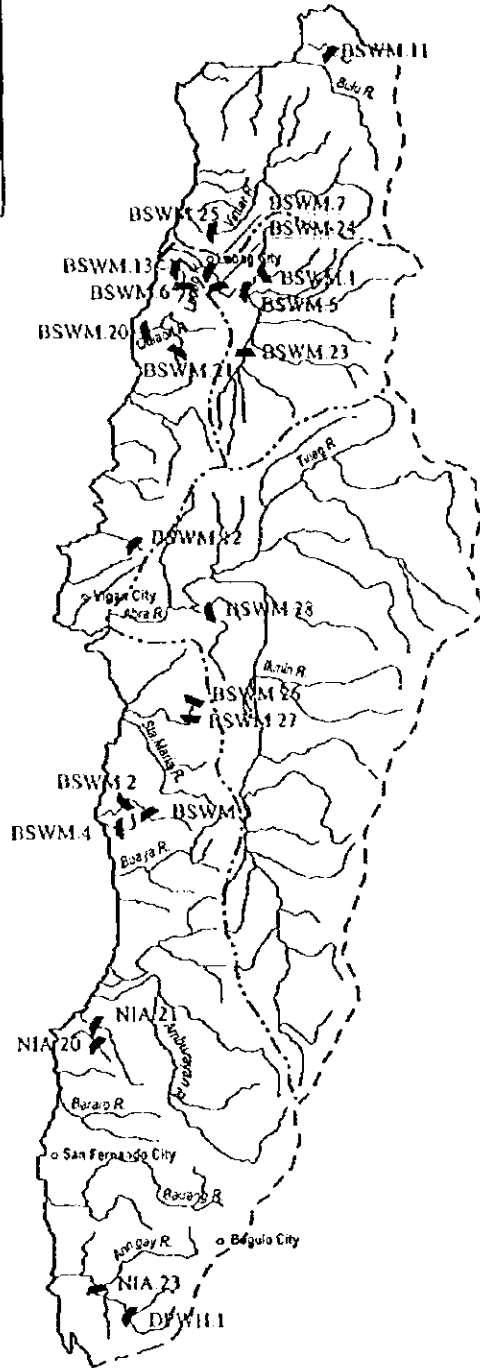


Figure 5-10 LOCATION OF STORAGE TYPE DAM PROJECTS IN WATER RESOURCES REGION XI





Data Source:
 The Master Plan on the
 Small Impounding
 Management (SWIM)
 Projects, Annex
 March 1990, Japan
 International Agency
 (JICA)



Legend:

- ▬ Dam Site
- - - Water Resources Region Boundary
- ⋯ River Basin Boundary
- ⊎ River/Stream

Scale

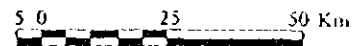
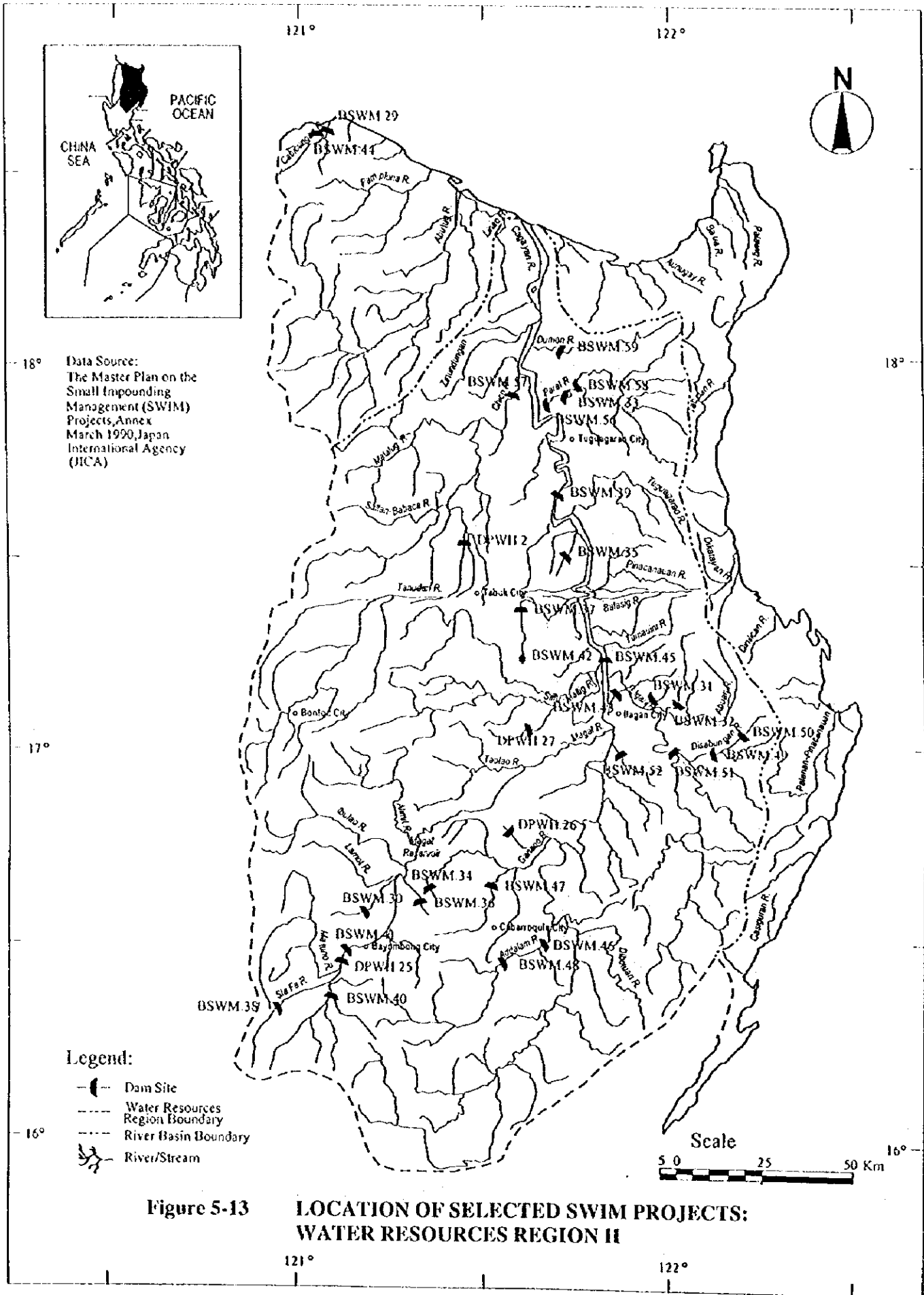
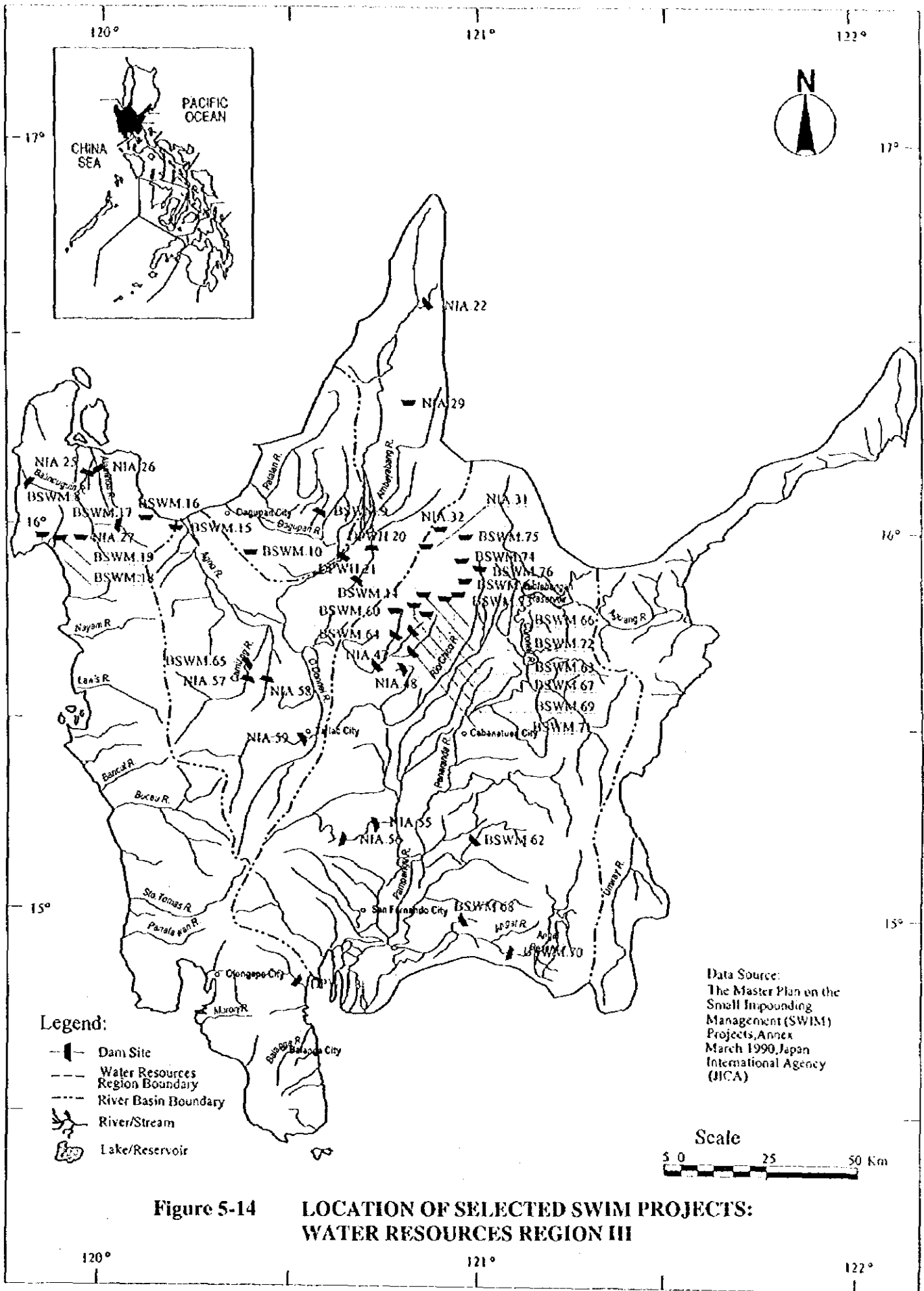
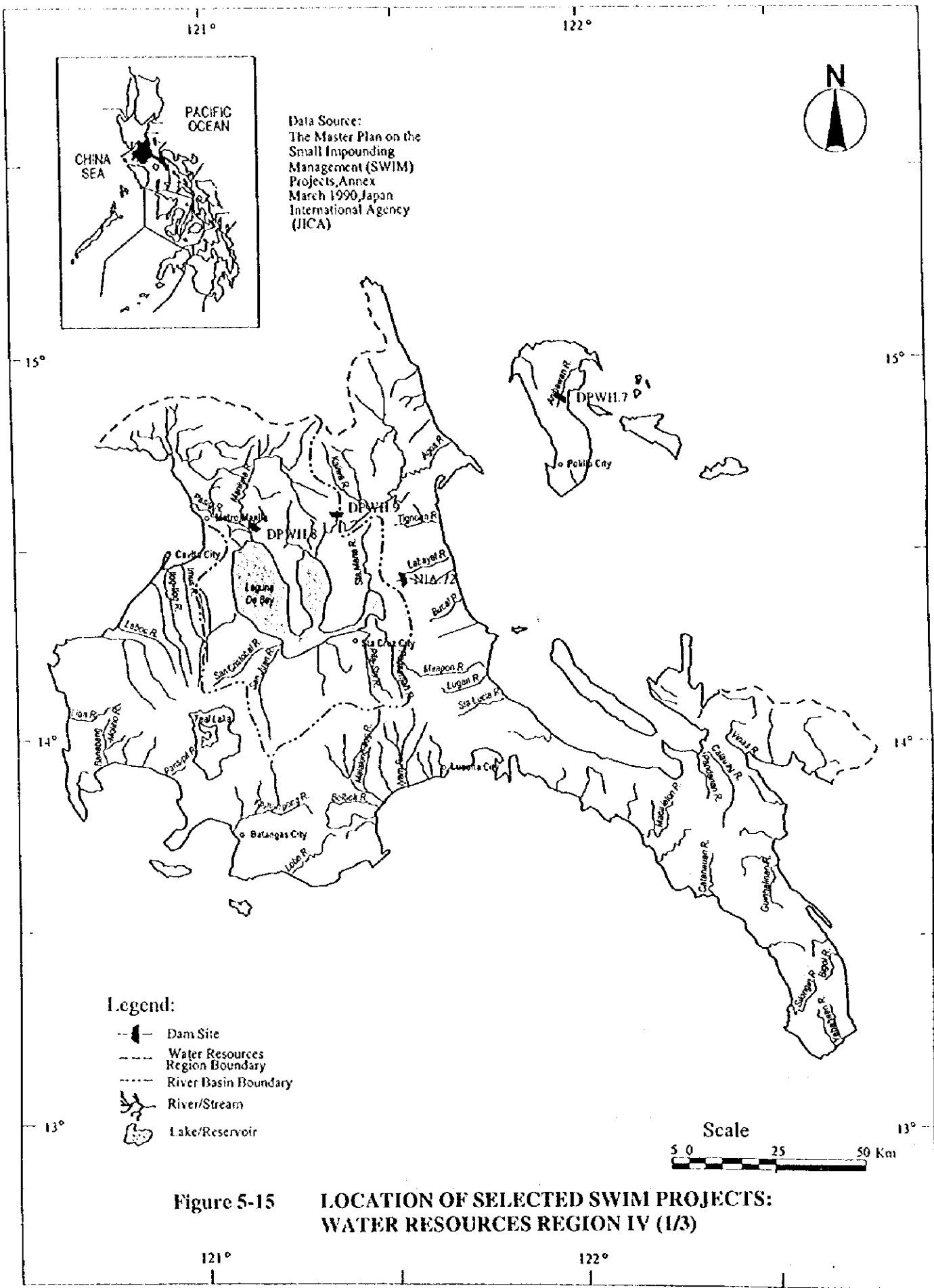


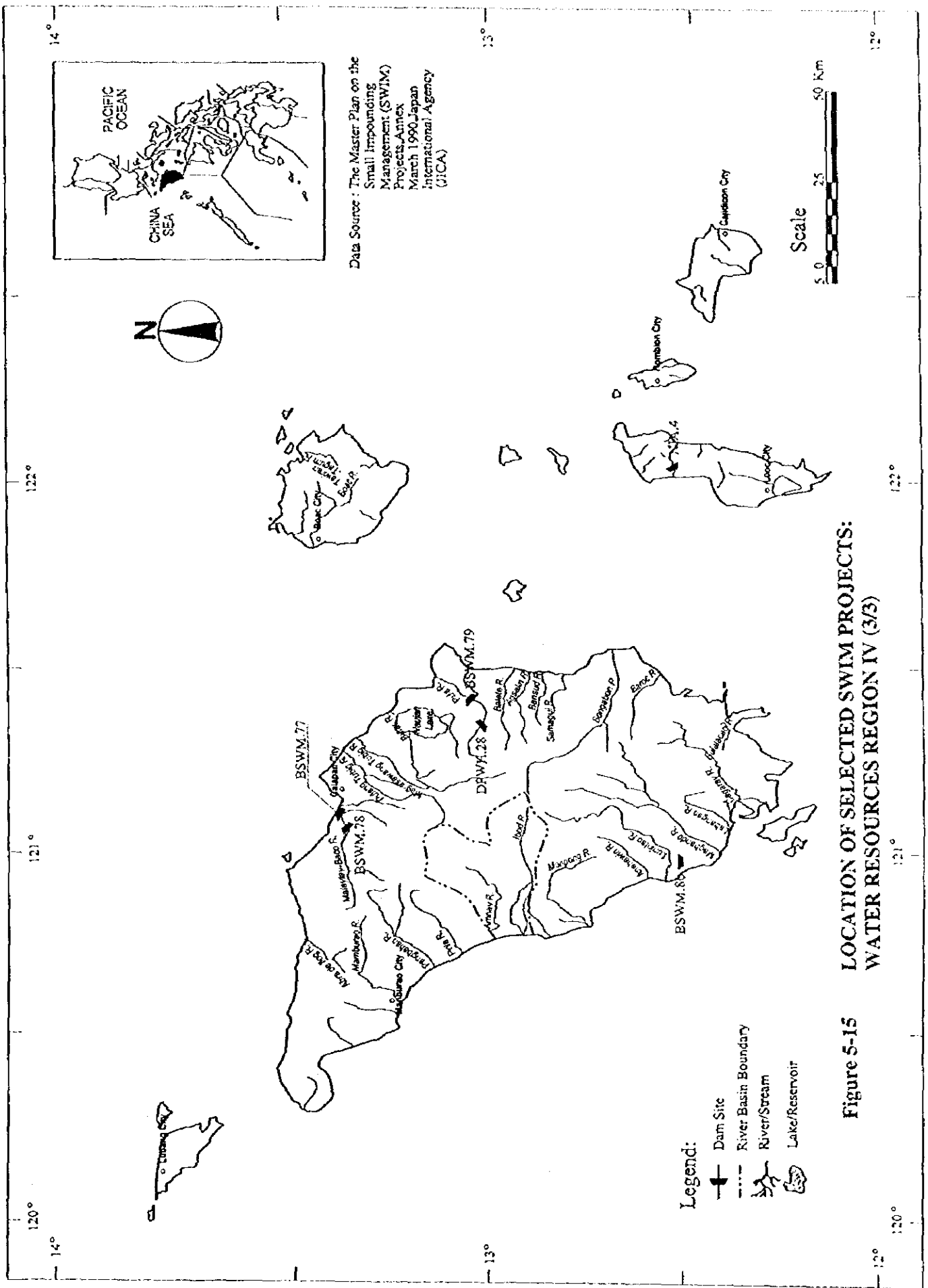
Figure 5-12

**LOCATION OF SELECTED SWIM PROJECTS:
 WATER RESOURCES REGION I**





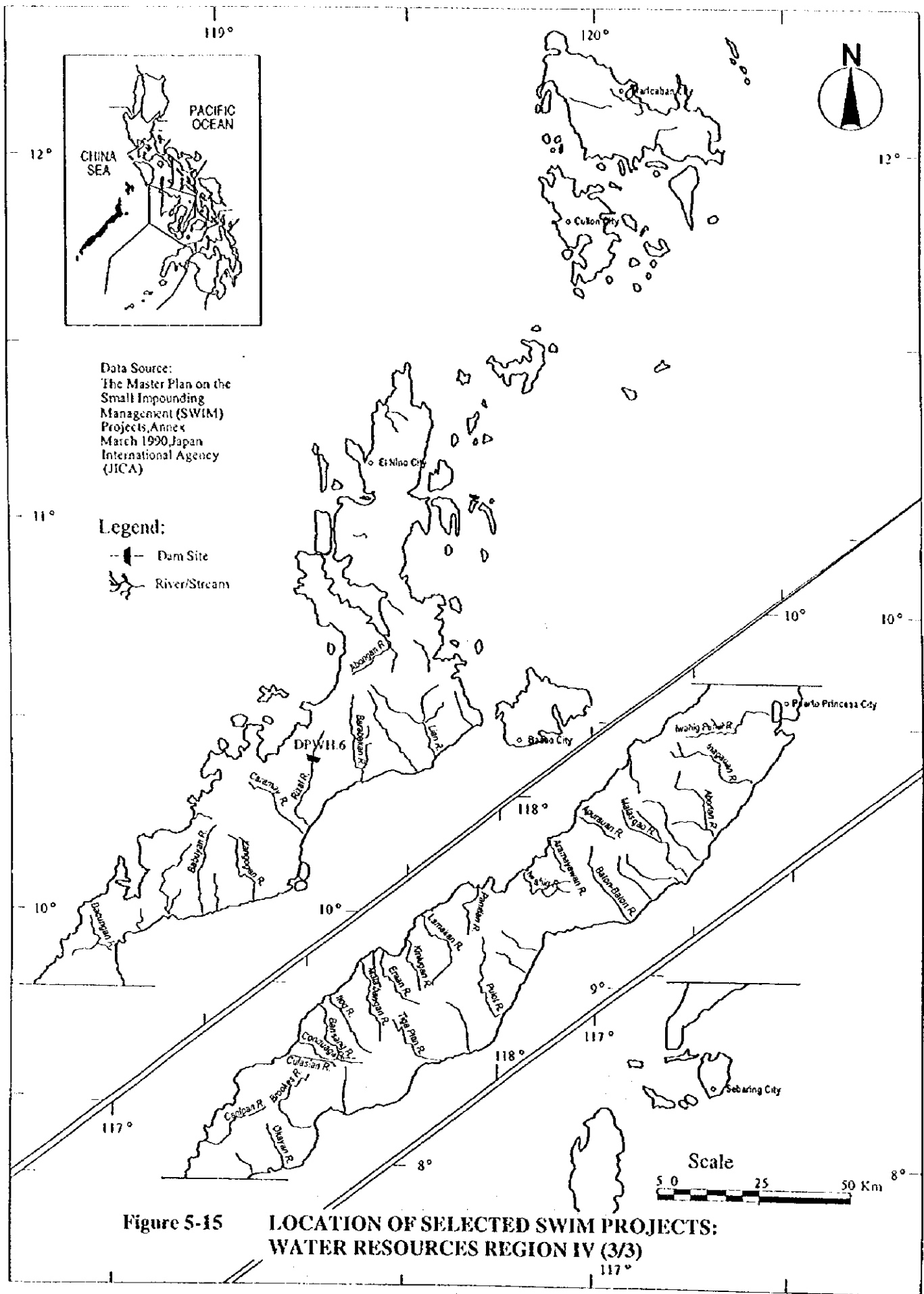


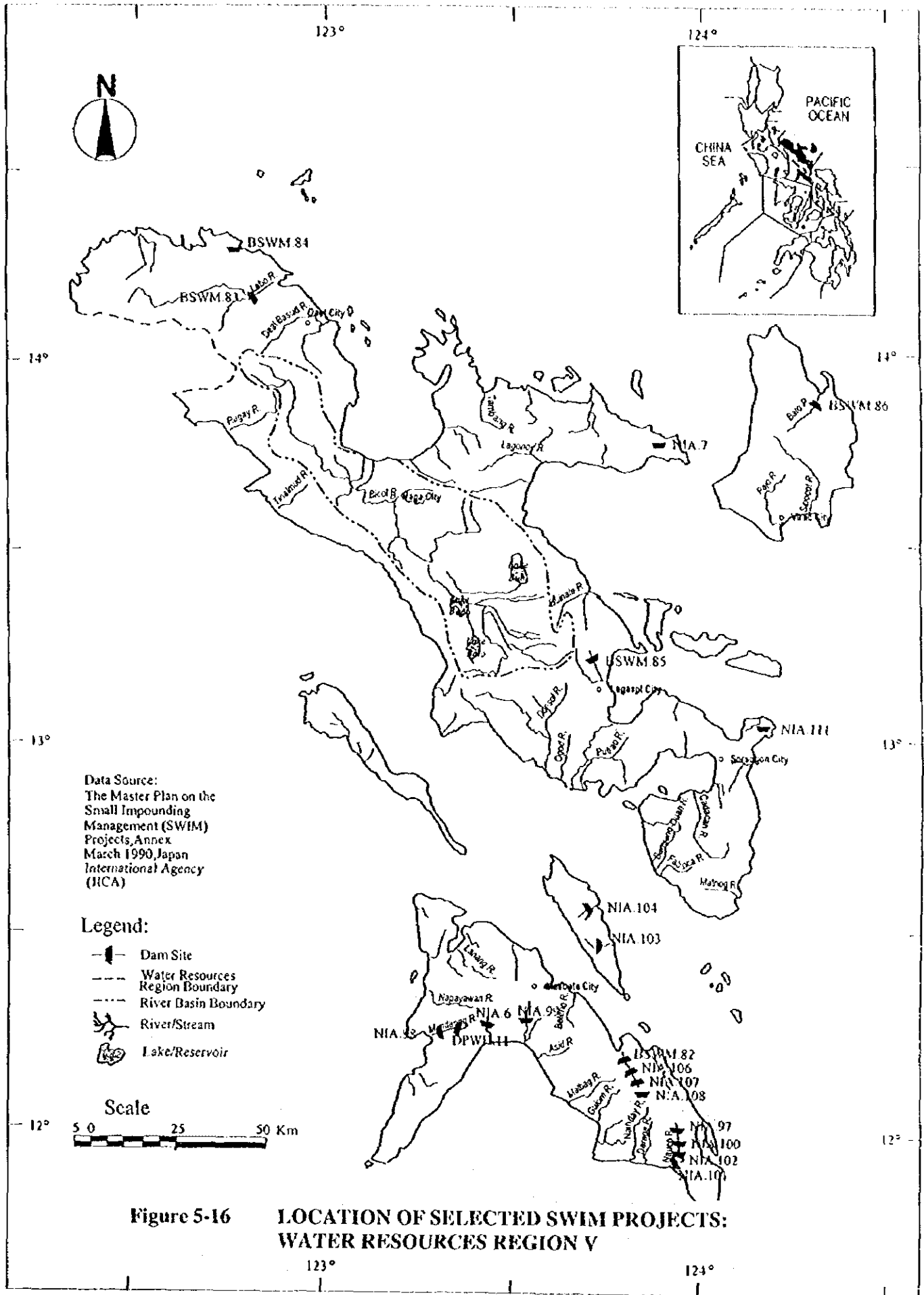


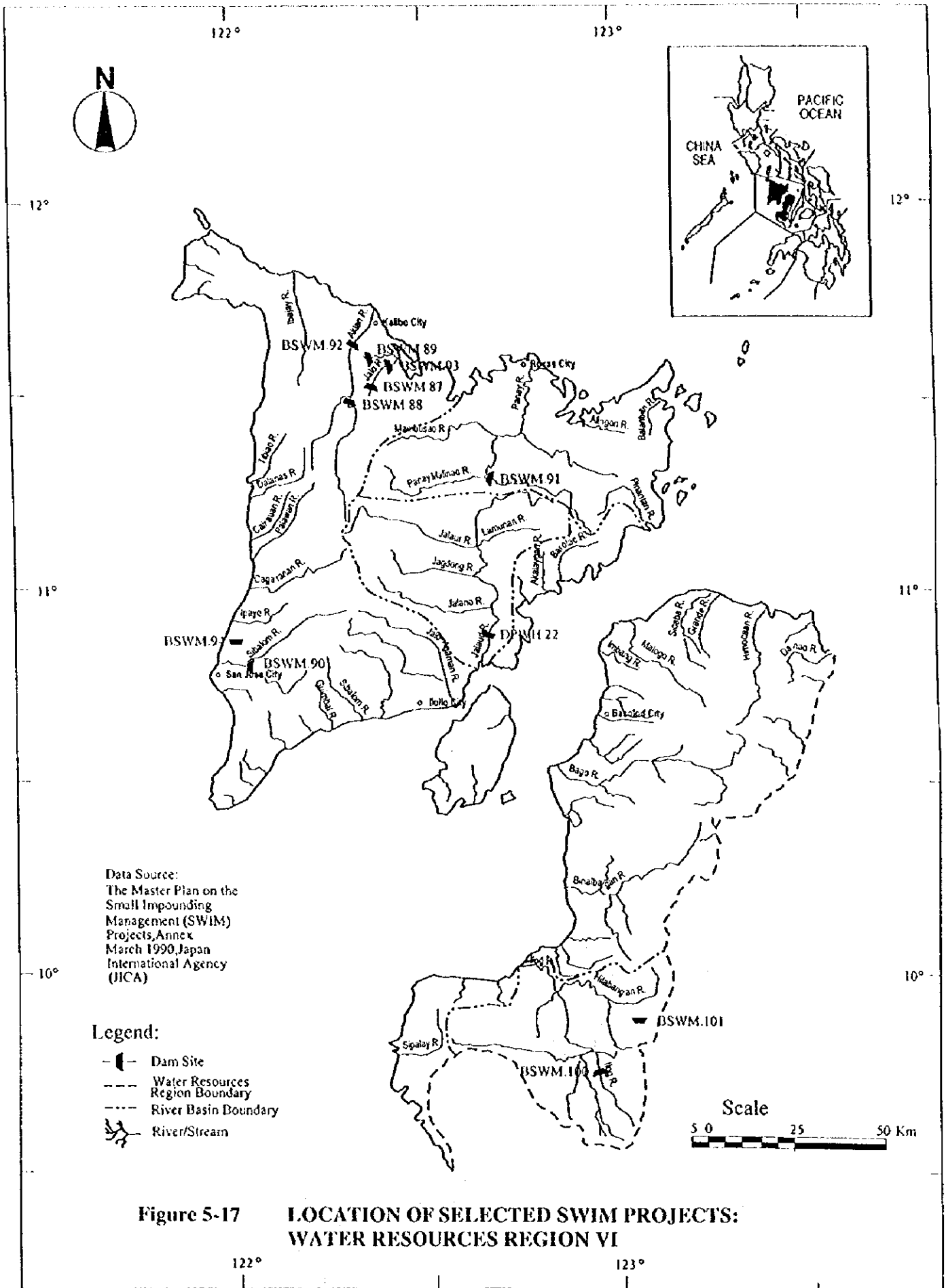
Data Source: The Master Plan on the Small Impounding Management (SWIM) Projects Annex, March 1990, Japan International Agency (JICA)

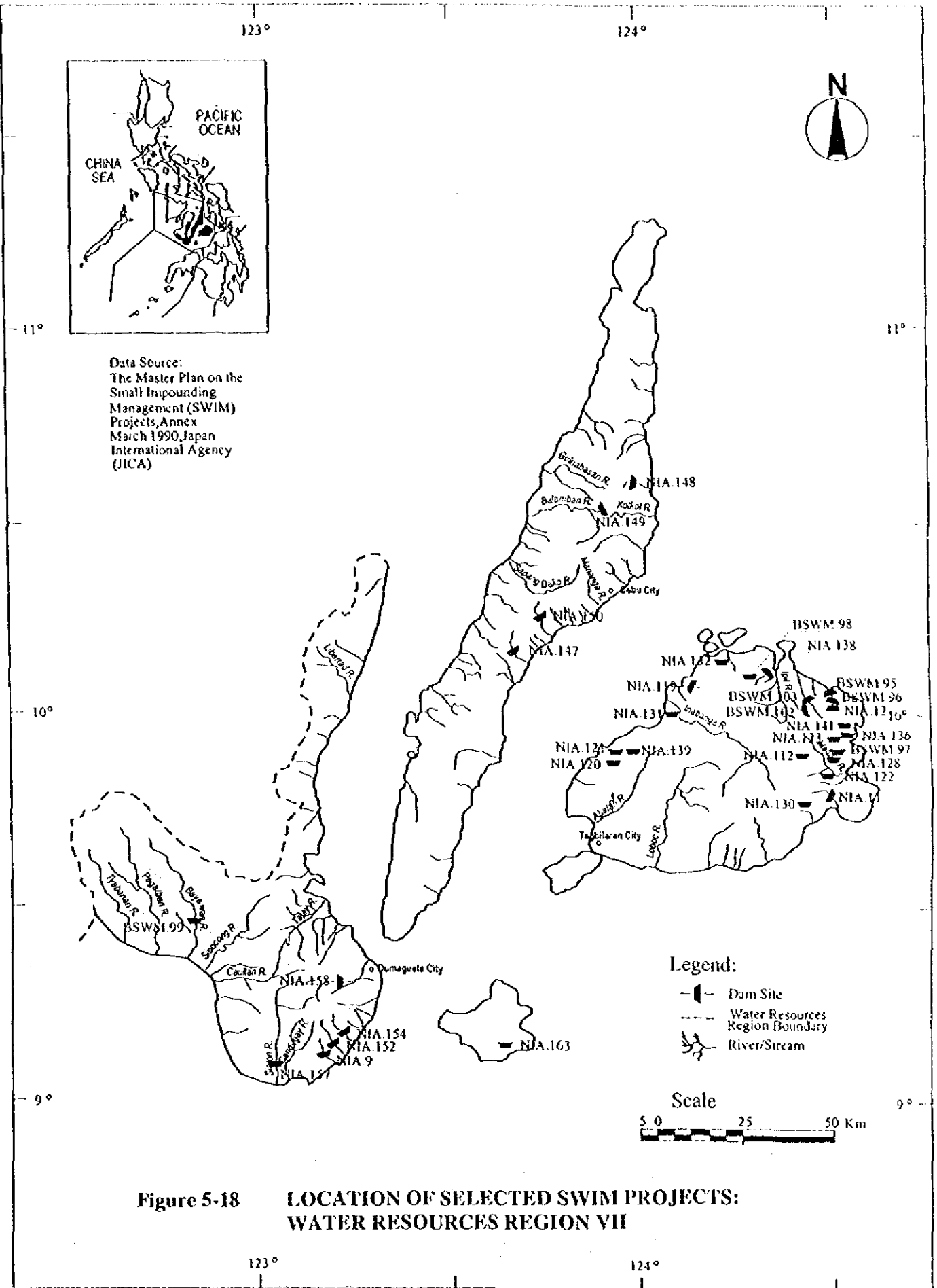
Figure 5-15 LOCATION OF SELECTED SWIM PROJECTS: WATER RESOURCES REGION IV (3/3)

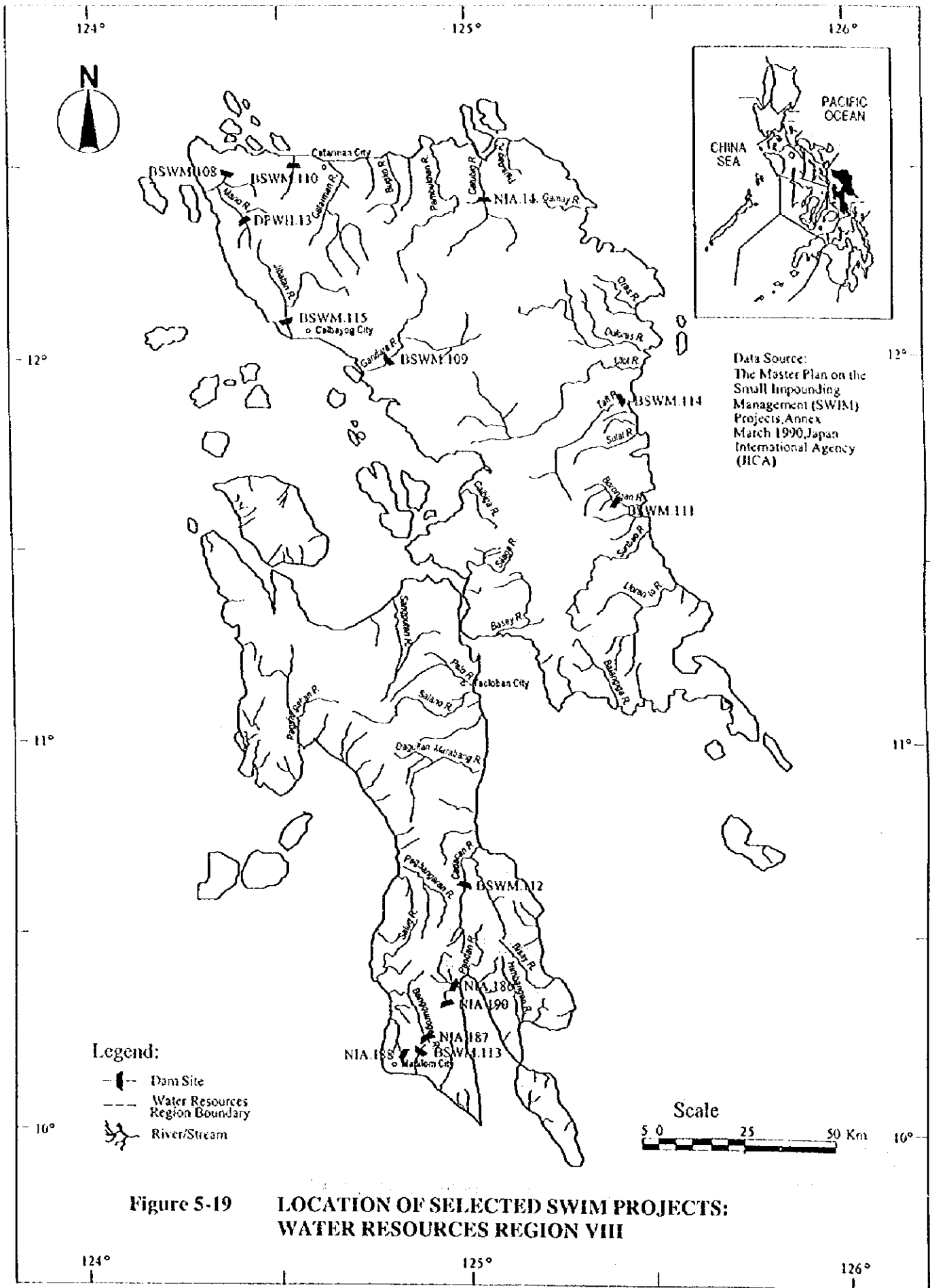
- Legend:
- ▬ Dam Site
 - River Basin Boundary
 - ~ River/Stream
 - ◐ Lake/Reservoir











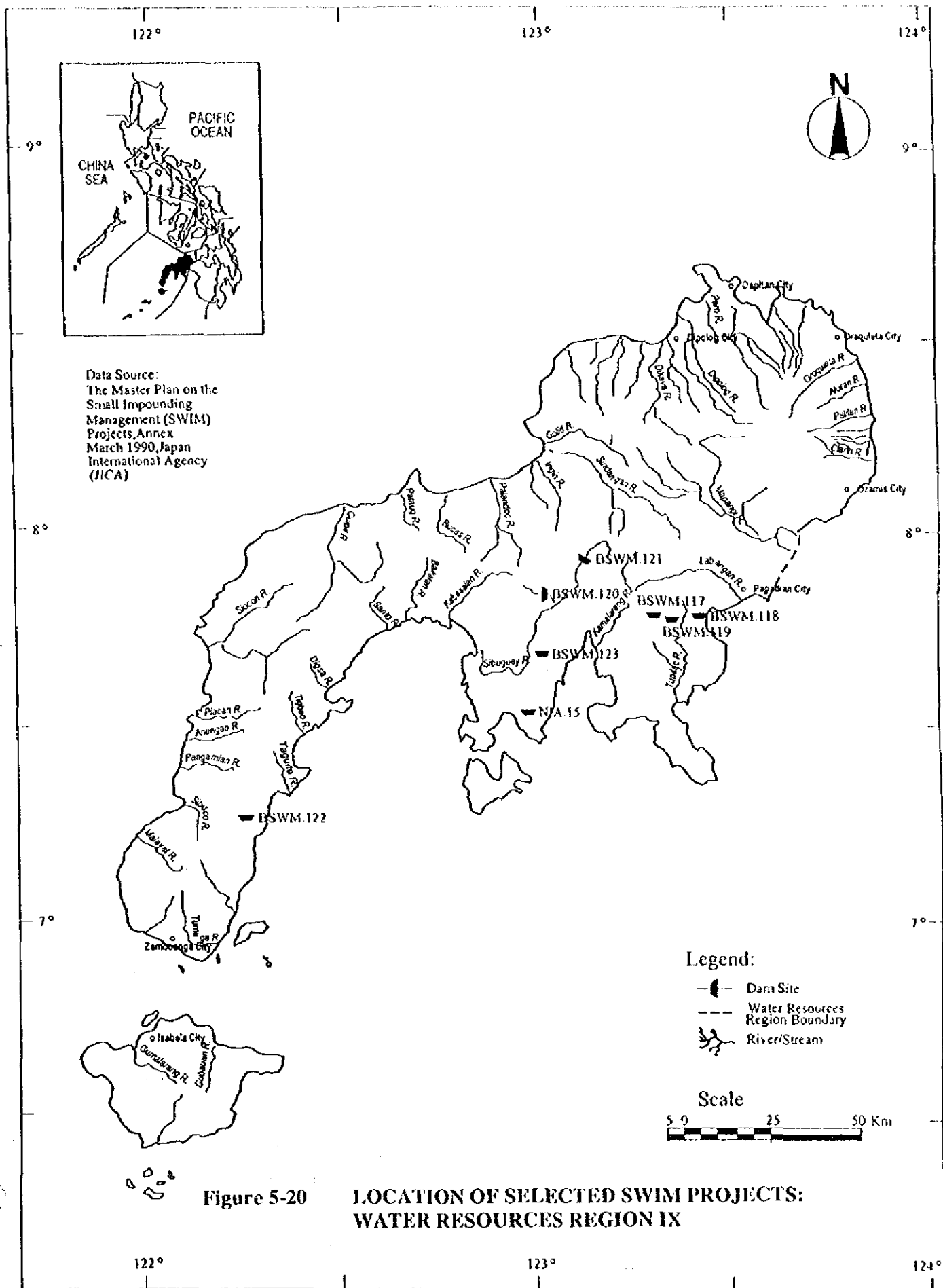
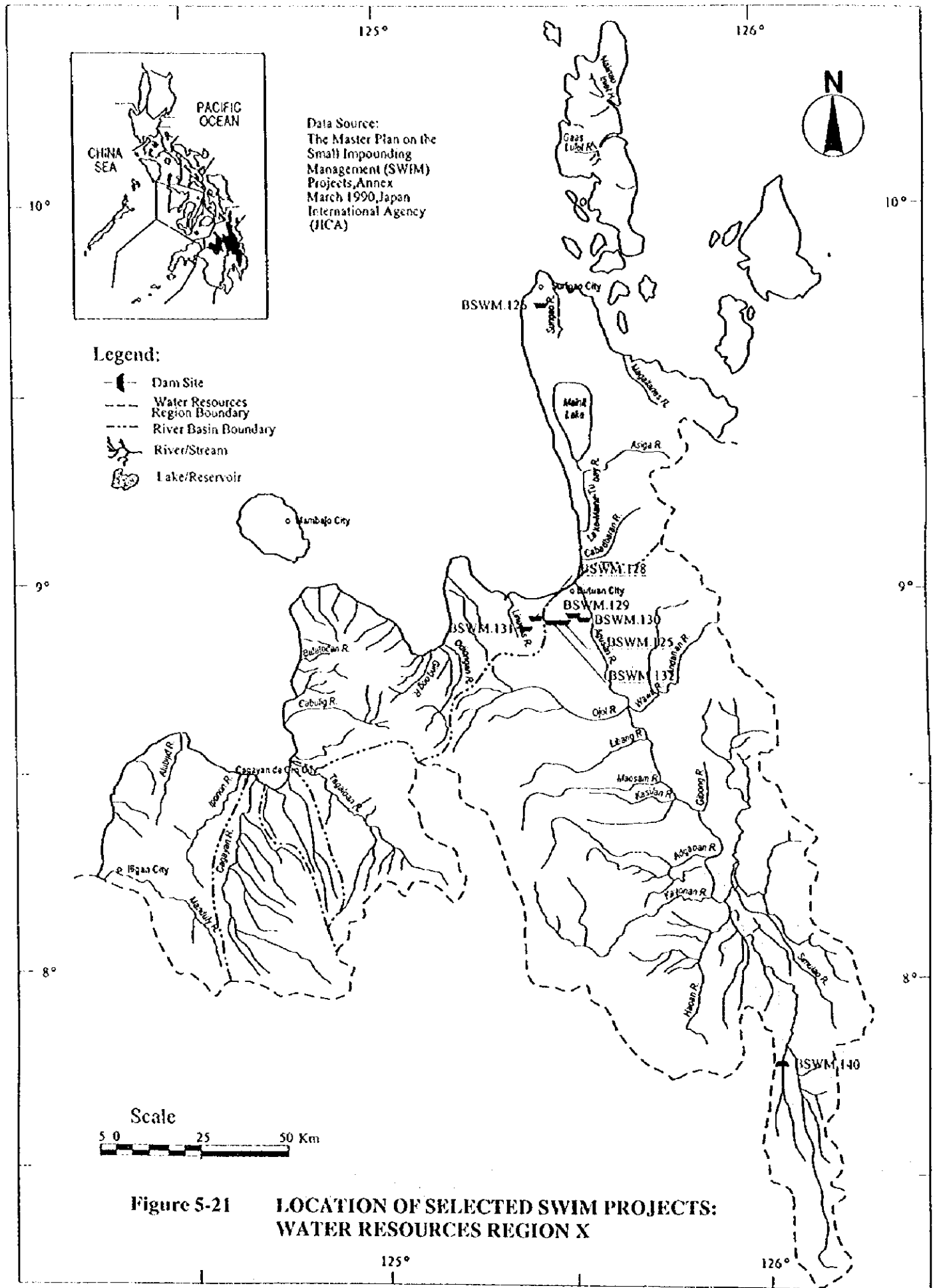
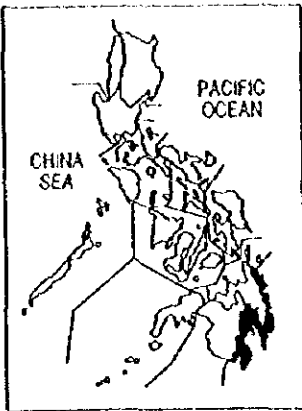
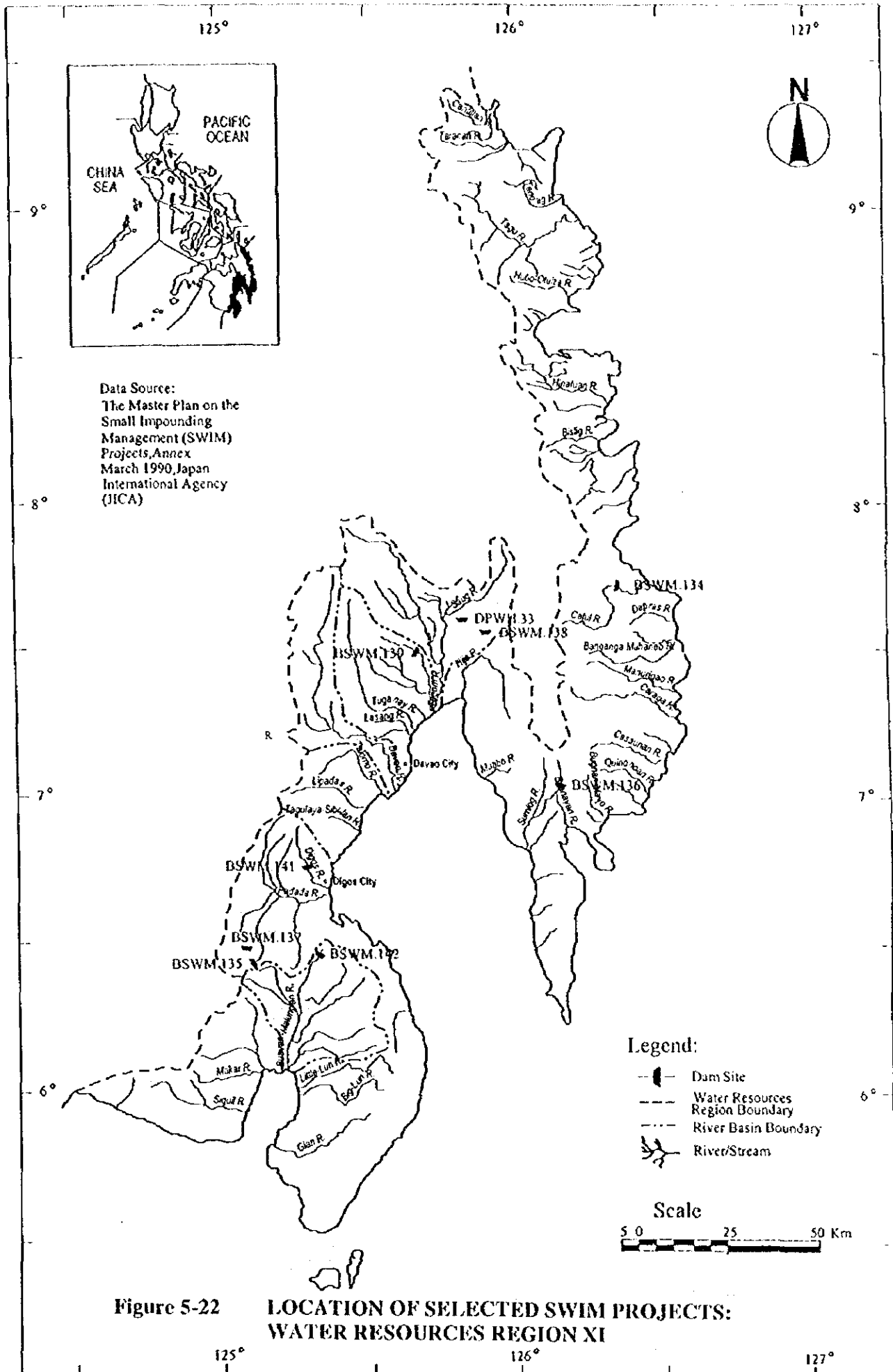


Figure 5-20

**LOCATION OF SELECTED SWIM PROJECTS:
WATER RESOURCES REGION IX**





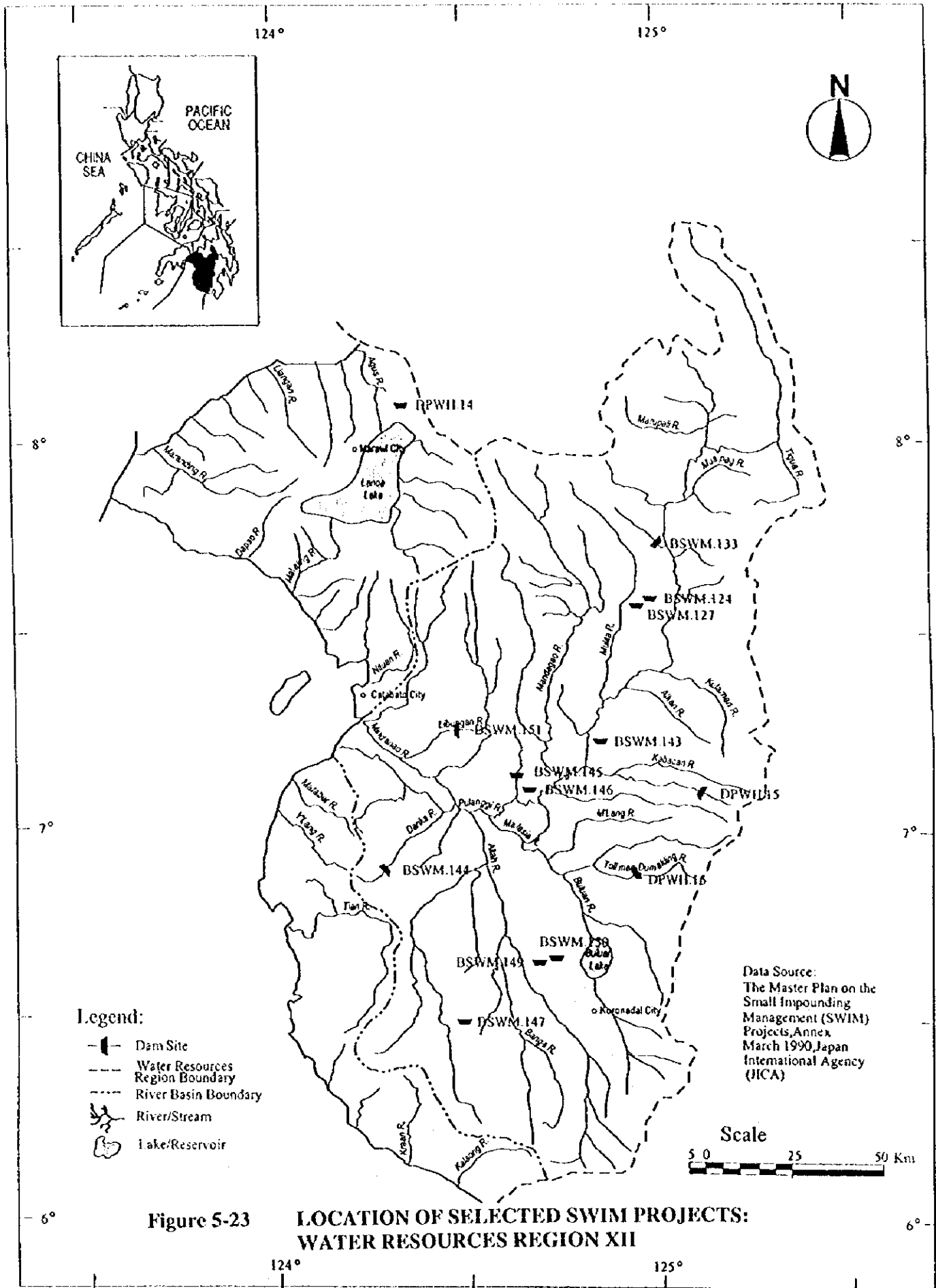
Data Source:
 The Master Plan on the
 Small Impounding
 Management (SWIM)
 Projects, Annex
 March 1990, Japan
 International Agency
 (JICA)

Legend:

- Dam Site
- Water Resources Region Boundary
- - - River Basin Boundary
- ~ River/Stream



**Figure 5-22 LOCATION OF SELECTED SWIM PROJECTS:
 WATER RESOURCES REGION XI**



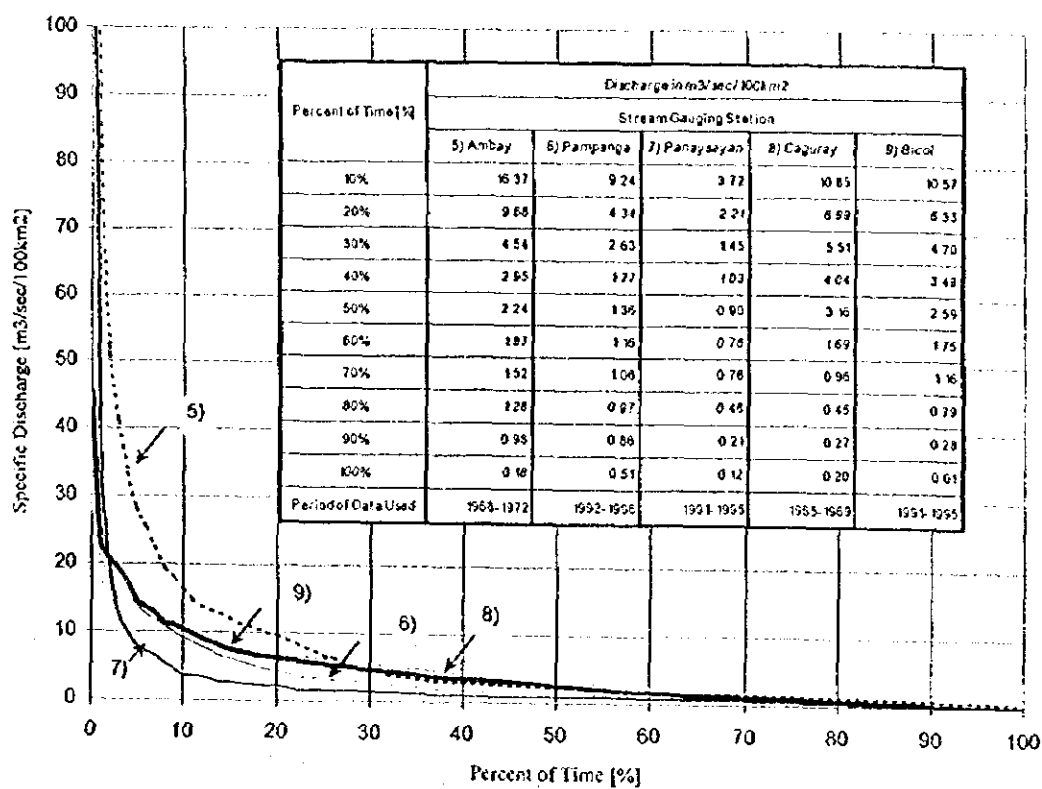
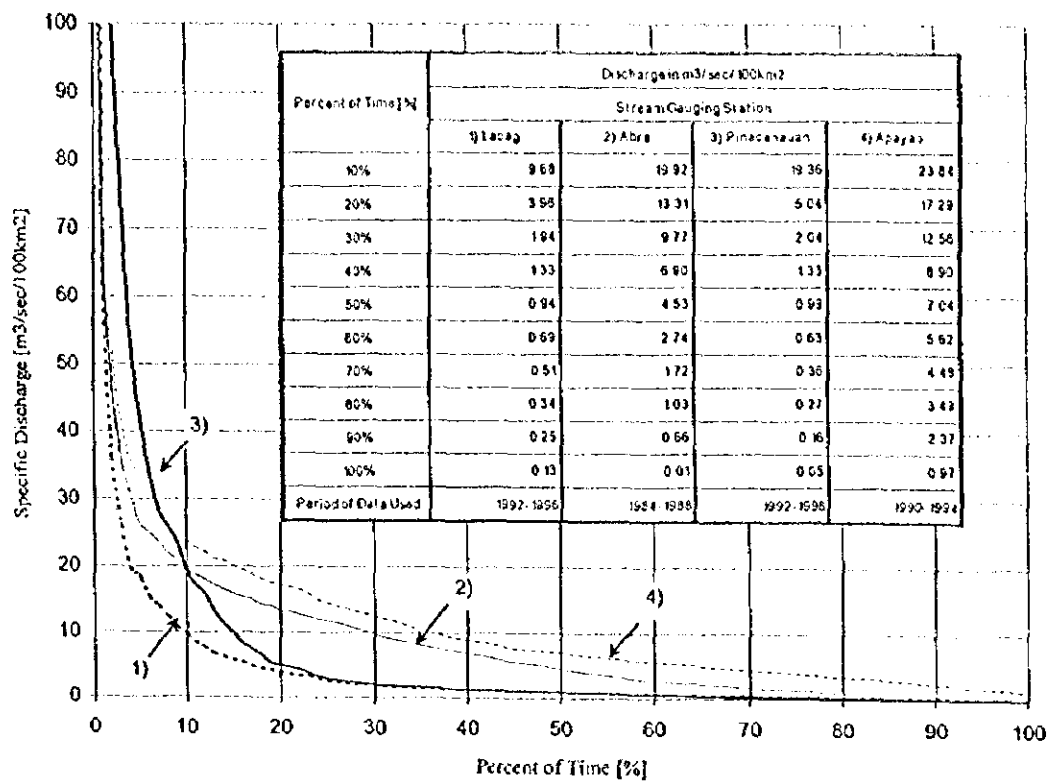


Figure 5 - 24 FLOW DURATION CURVE OF MAJOR RIVER BASIN IN LUZON ISLAND

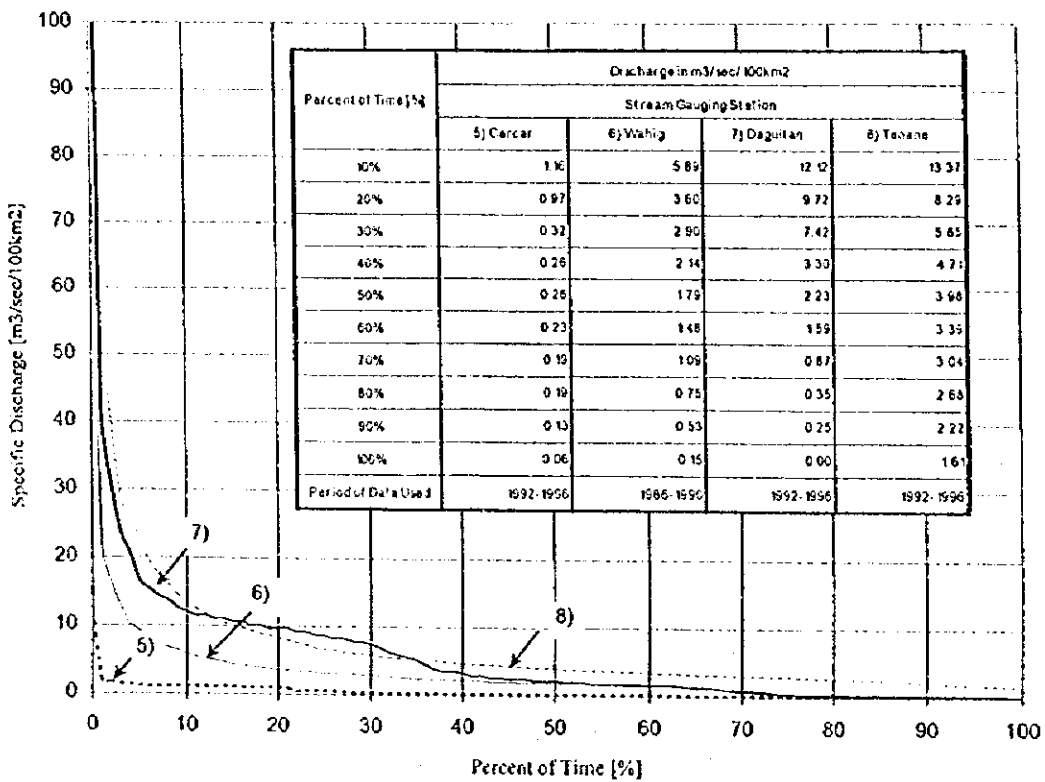
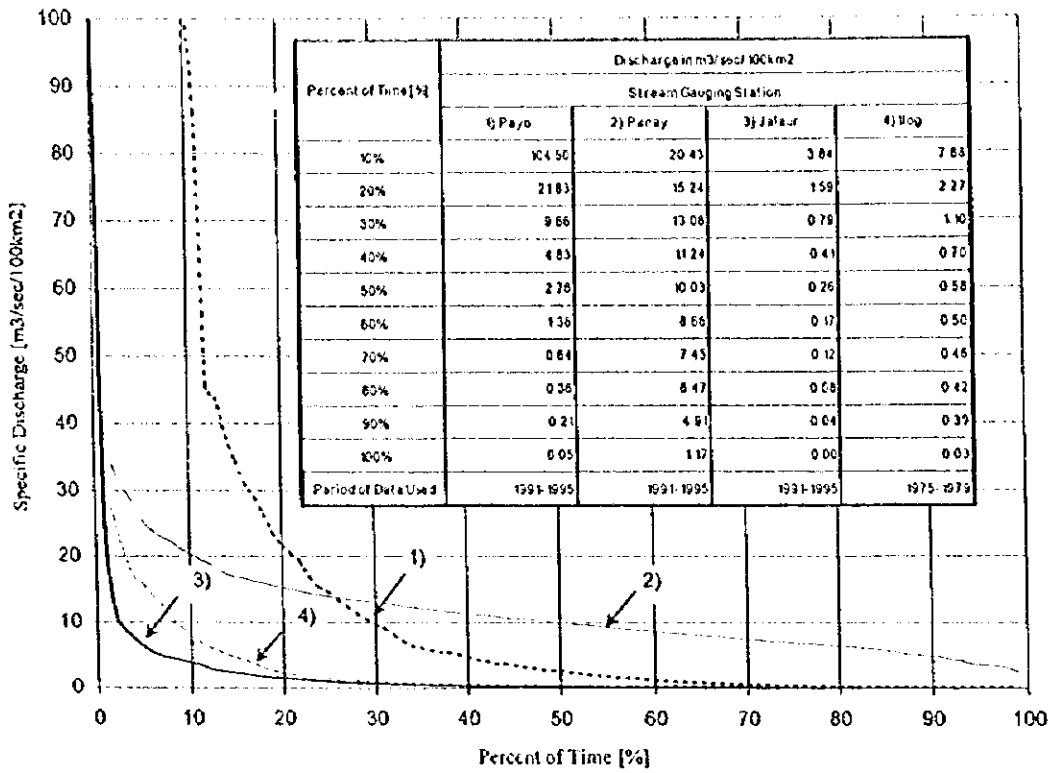


Figure 5 - 25 FLOW DURATION CURVE OF MAJOR RIVER BASIN IN VISAYAS ISLAND

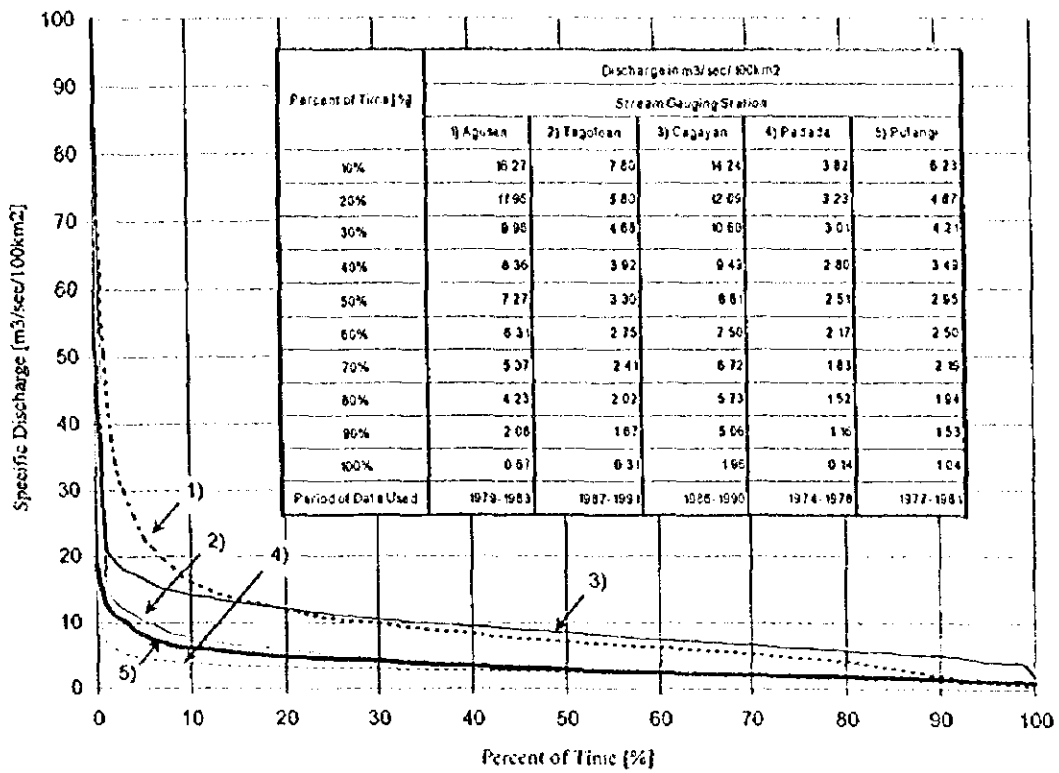
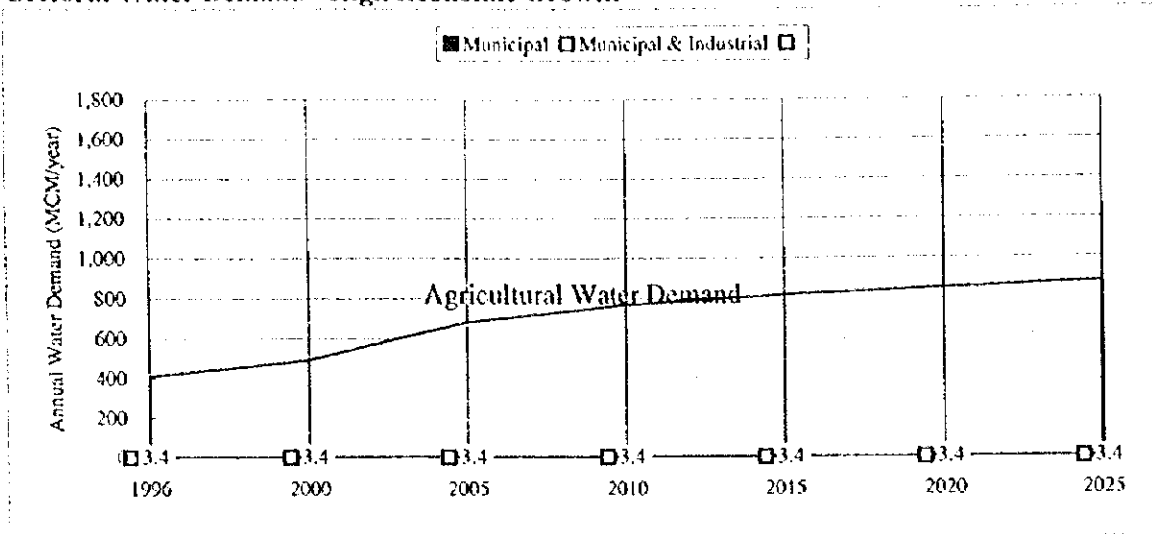
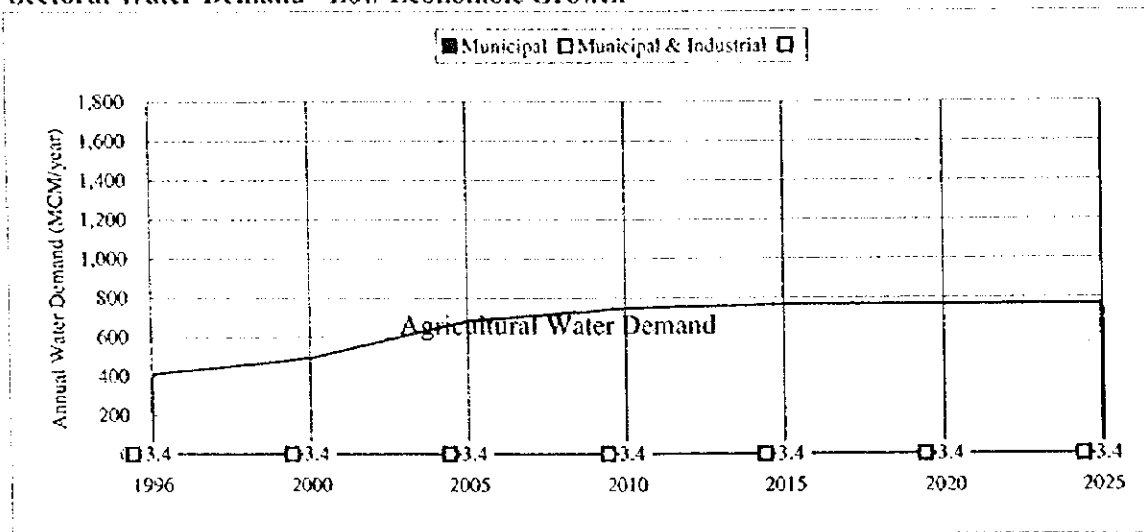


Figure 5 - 26 FLOW DURATION CURVE OF MAJOR RIVER BASIN IN MINDANAO ISLAND

Sectoral Water Demand - High Economic Growth



Sectoral Water Demand - Low Economic Growth



Comparison of 10-day Runoff and Water Demand in 2025-High Economic Growth

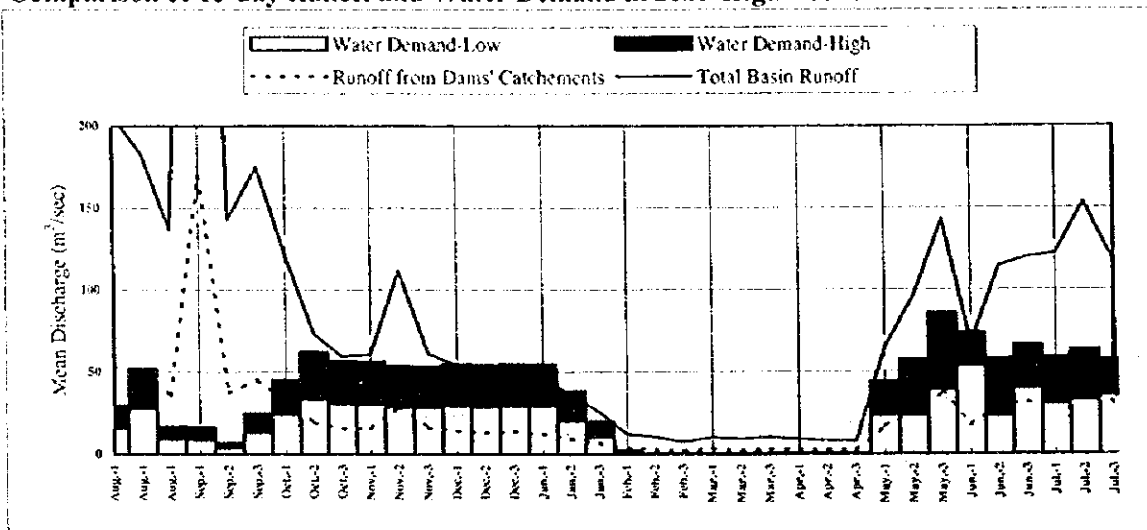
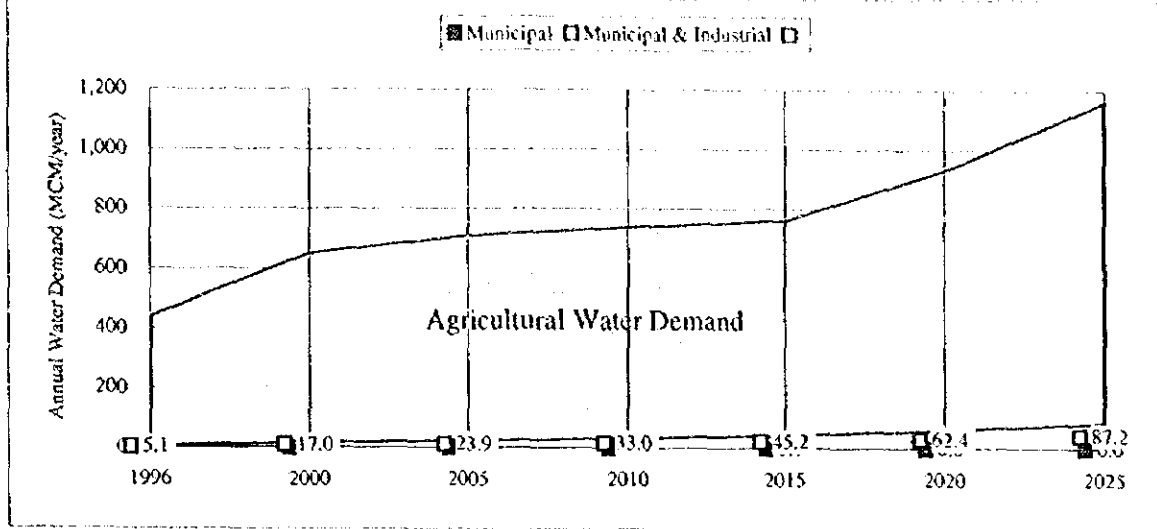
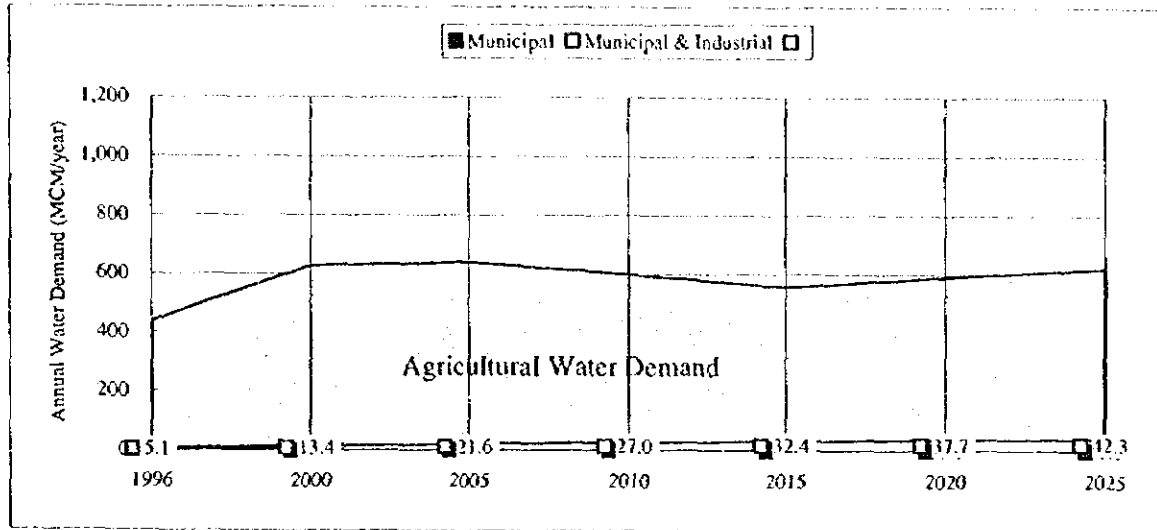


Figure 5-27 WATER BALANCE FOR LAOAG RIVER BASIN

Sectoral Water Demand - High Economic Growth



Sectoral Water Demand - Low Economic Growth



Comparison of 10-day Runoff and Water Demand in 2025-High Economic Growth

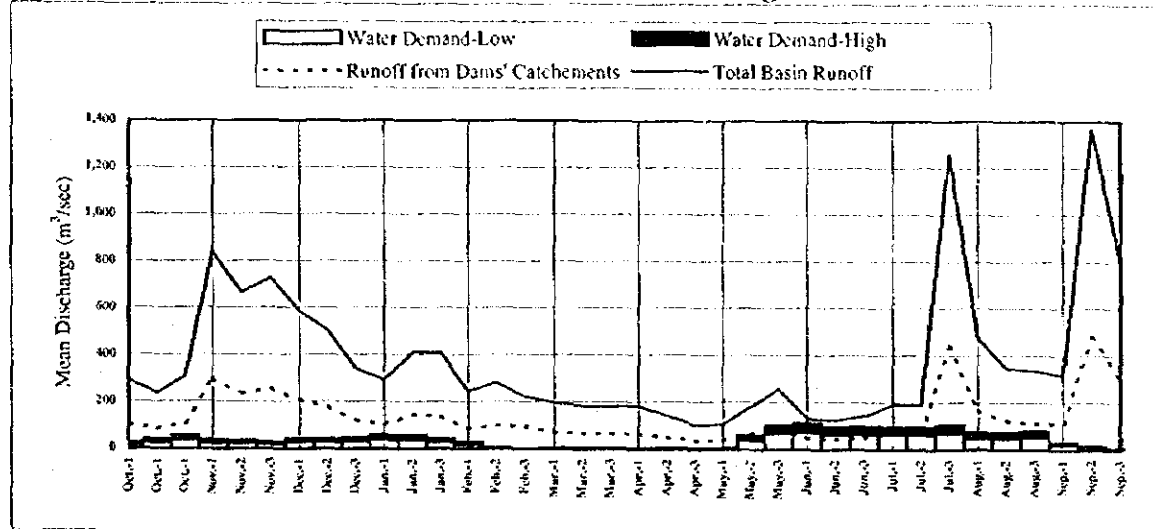
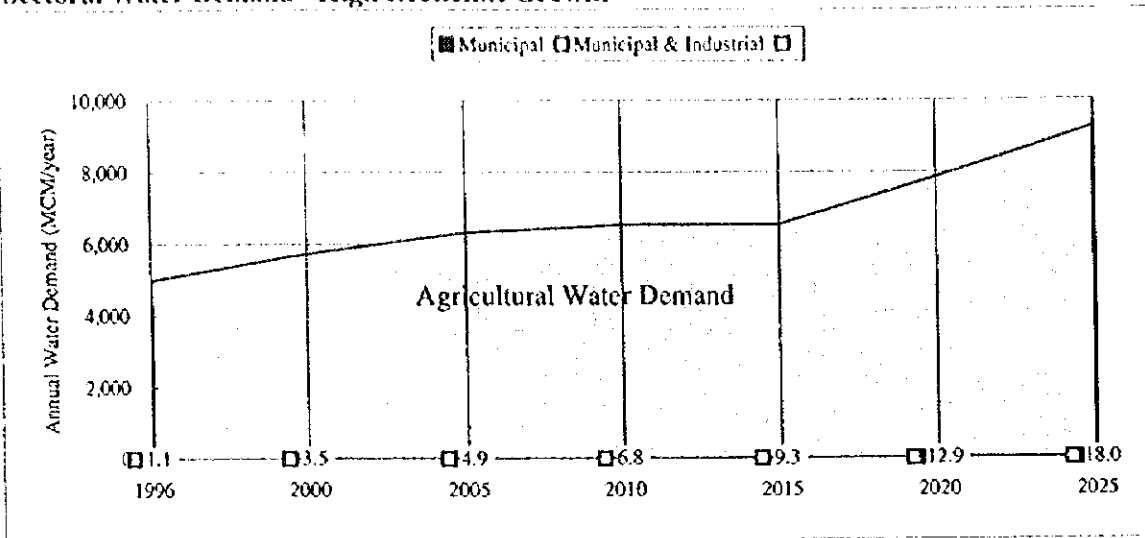
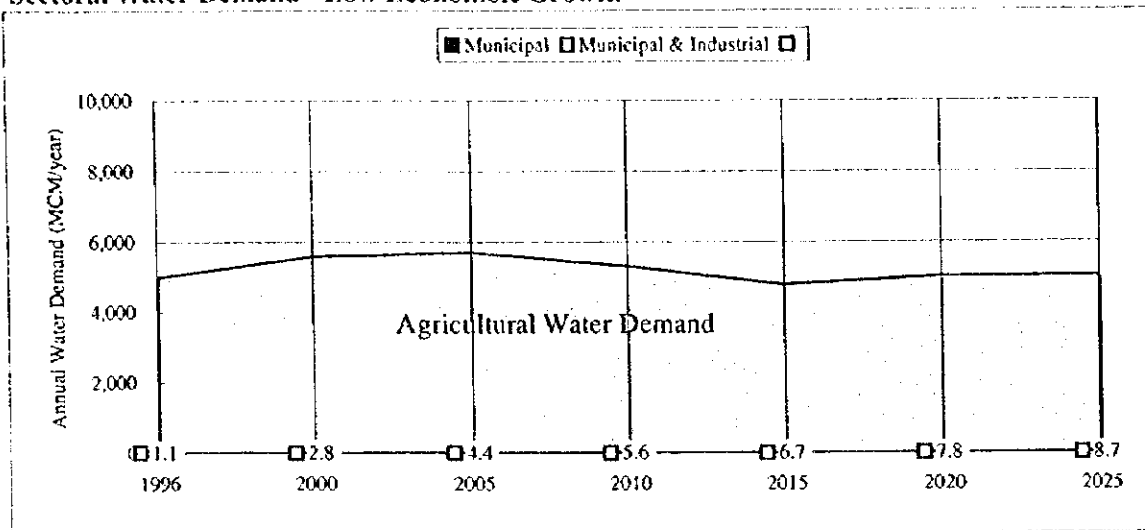


Figure 5-28 WATER BALANCE FOR ABULOG RIVER BASIN

Sectoral Water Demand - High Economic Growth



Sectoral Water Demand - Low Economic Growth



Comparison of 10-day Runoff and Water Demand in 2025-High Economic Growth

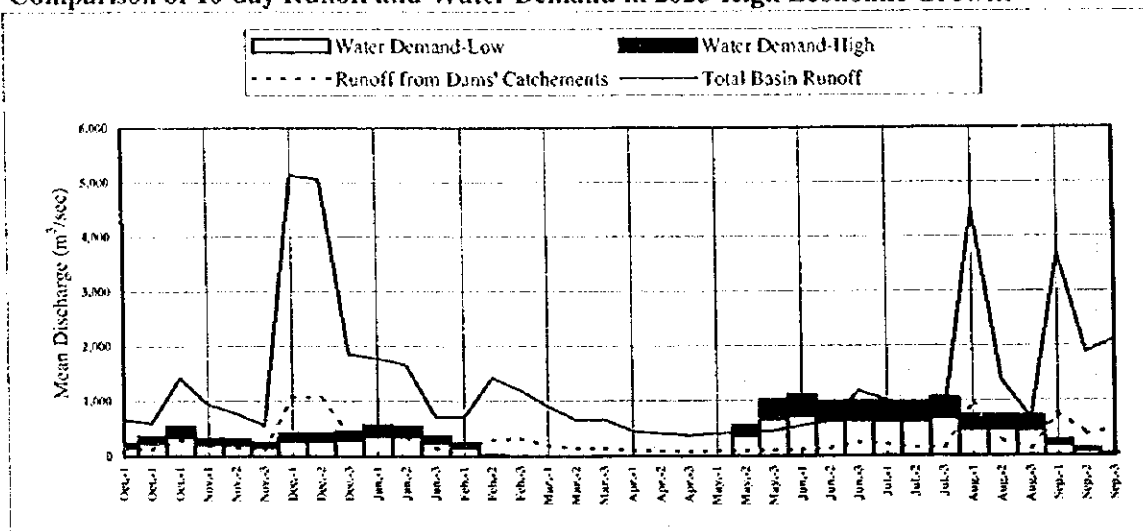
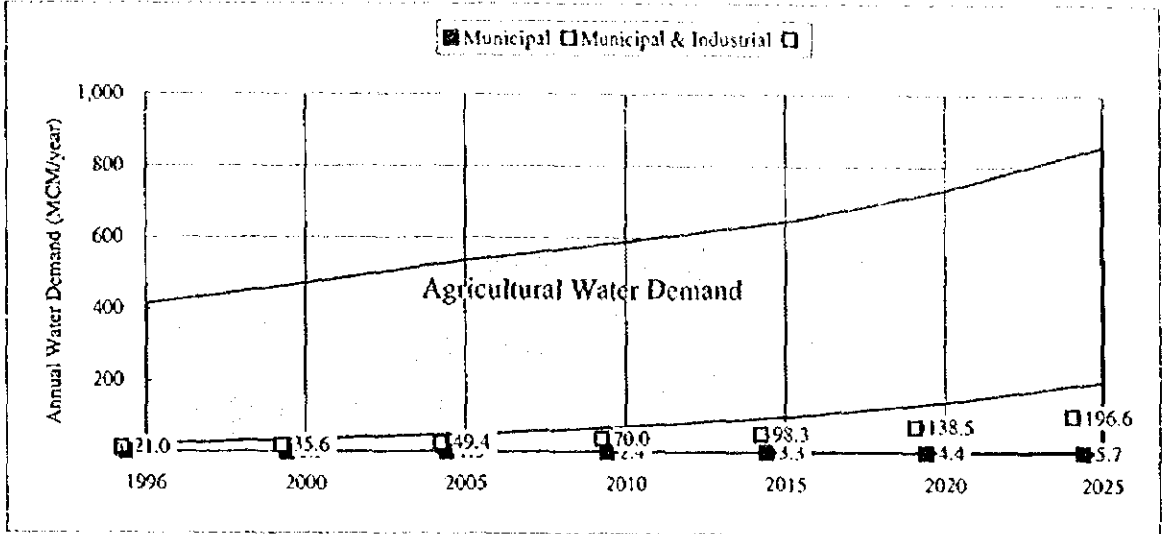
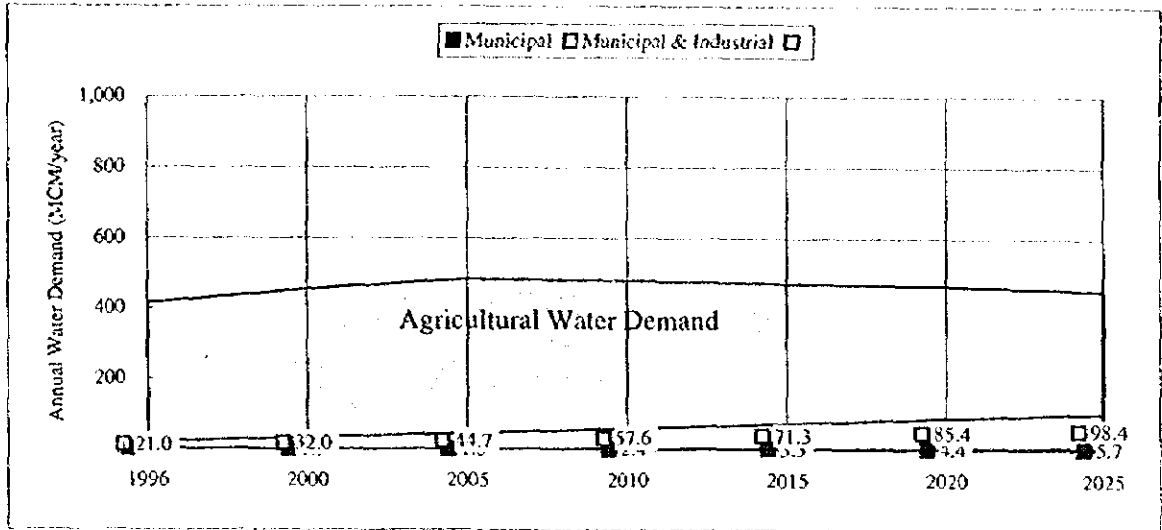


Figure 5-29 WATER BALANCE FOR CAGAYAN RIVER BASIN

Sectoral Water Demand - High Economic Growth



Sectoral Water Demand - Low Economic Growth



Comparison of 10-day Runoff and Water Demand in 2025-High Economic Growth

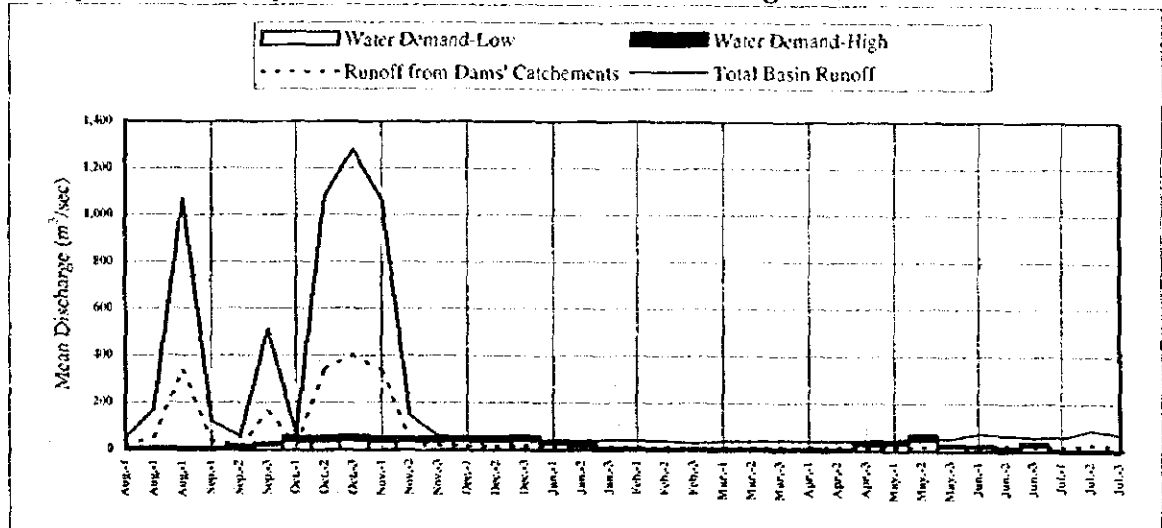
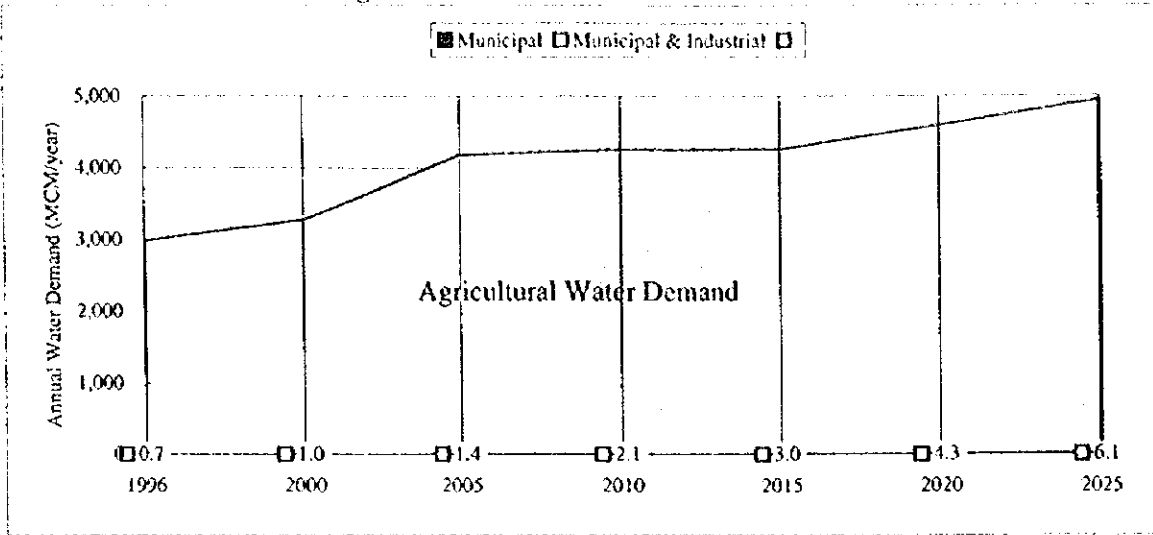
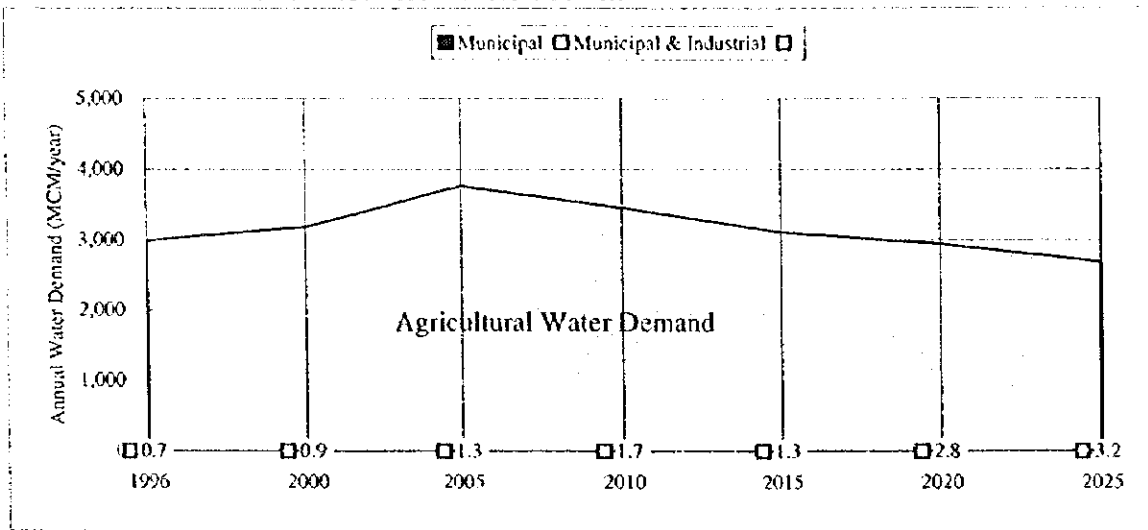


Figure 5-30 WATER BALANCE FOR ABRA RIVER BASIN

Sectoral Water Demand - High Economic Growth



Sectoral Water Demand - Low Economic Growth



Comparison of 10-day Runoff and Water Demand in 2025-High Economic Growth

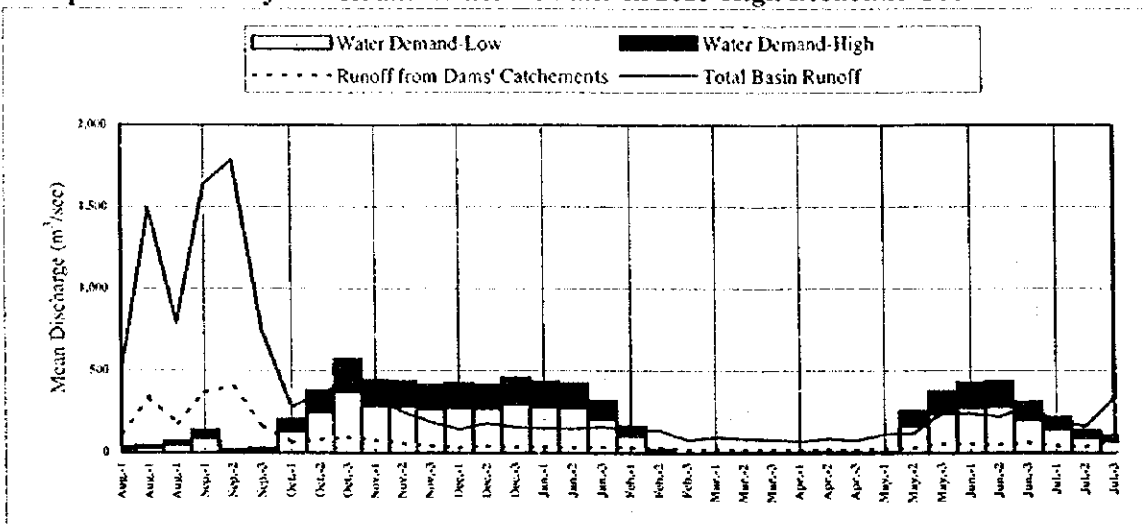
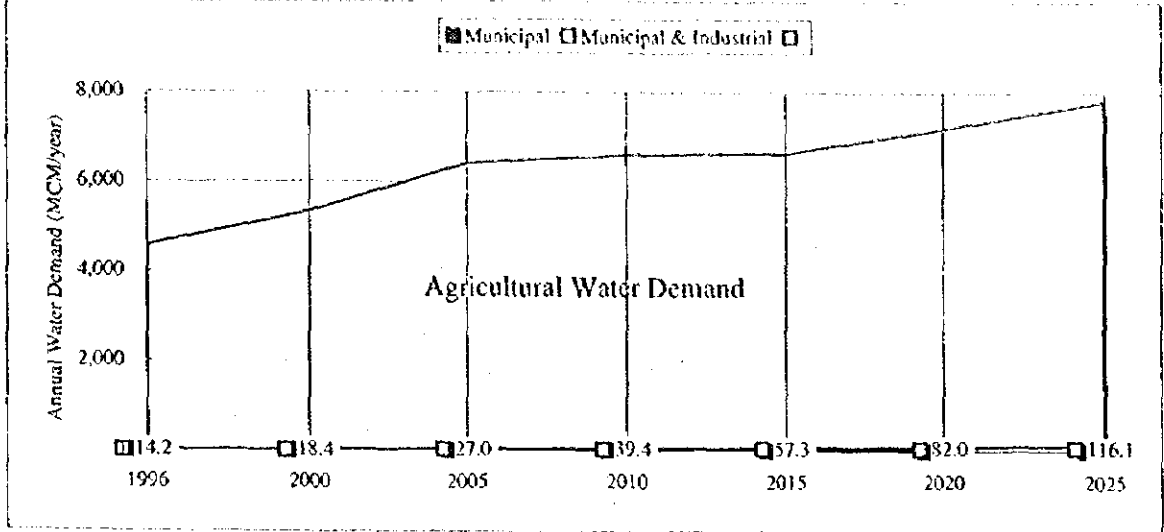
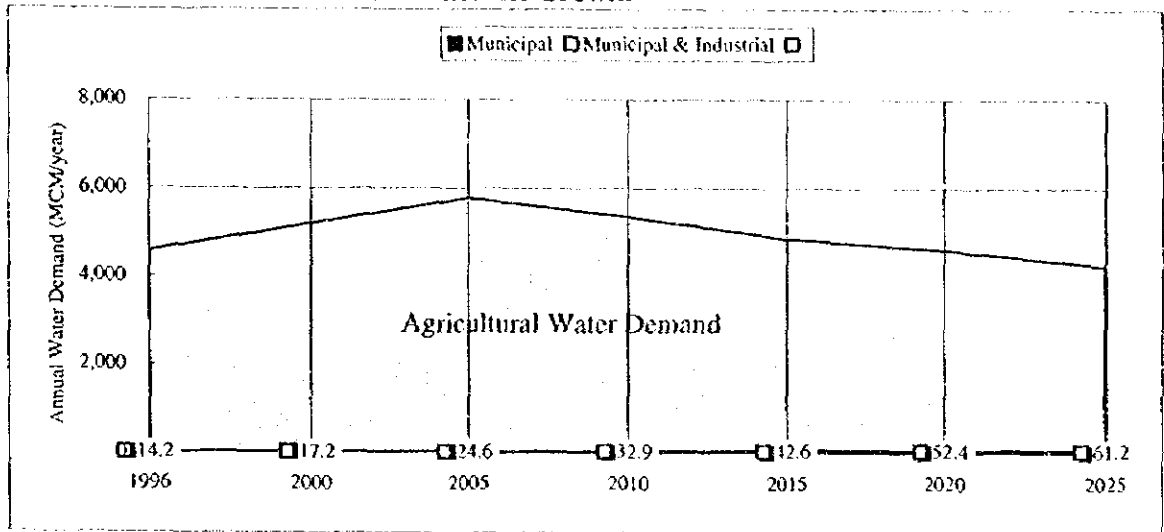


Figure 5-31 WATER BALANCE FOR AGNO RIVER BASIN

Sectoral Water Demand - High Economic Growth



Sectoral Water Demand - Low Economic Growth



Comparison of 10-day Runoff and Water Demand in 2025-High Economic Growth

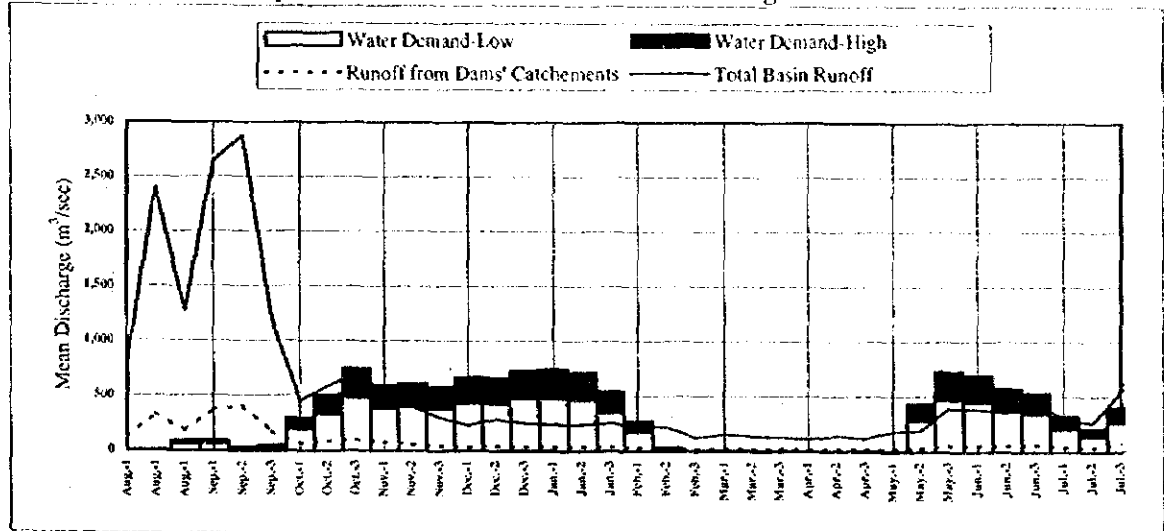
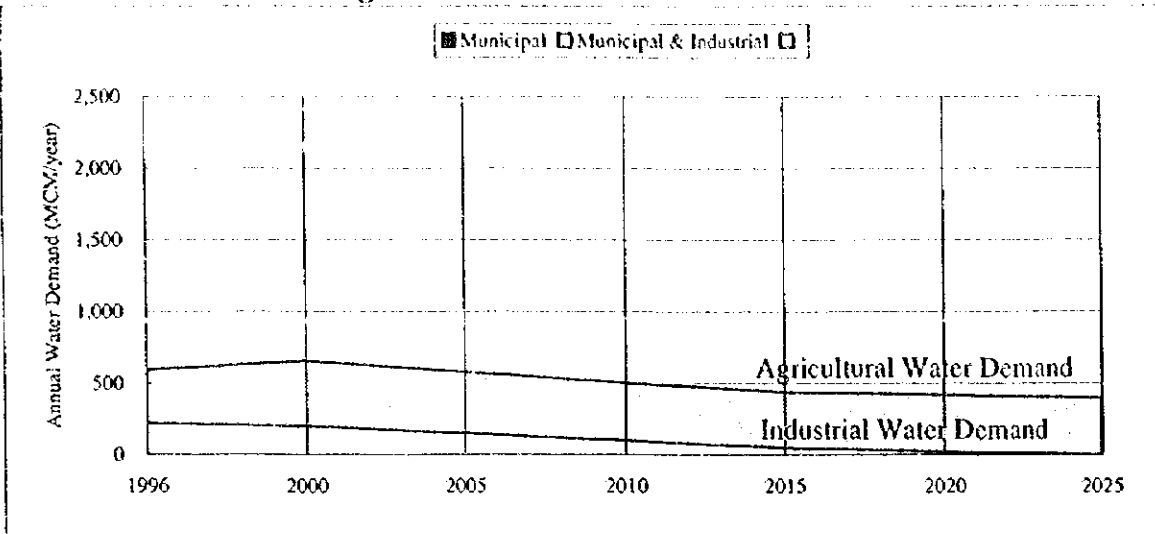
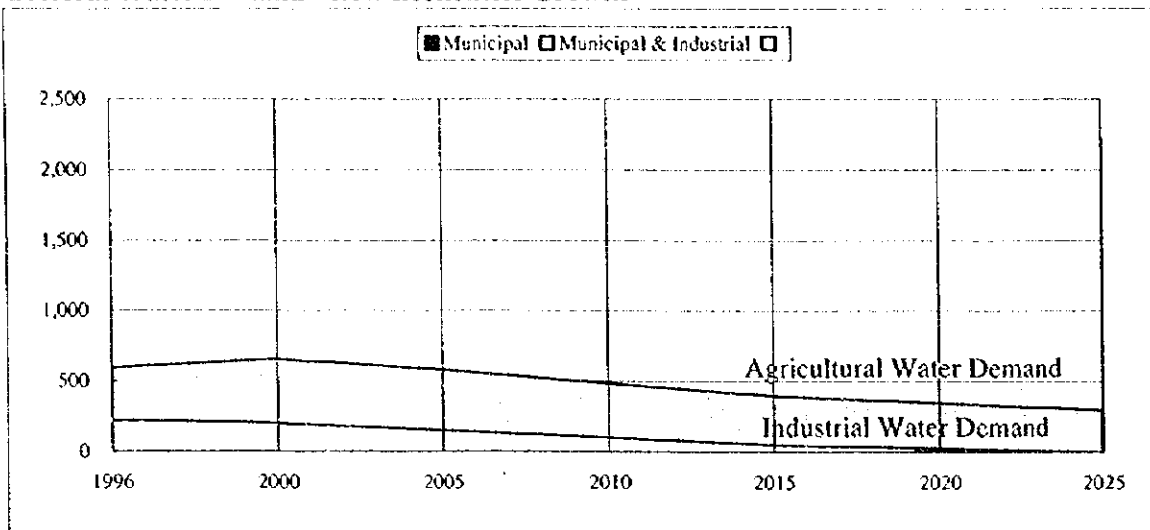


Figure 5-32 WATER BALANCE FOR PAMPANGA RIVER BASIN

Sectoral Water Demand - High Economic Growth



Sectoral Water Demand - Low Economic Growth



Comparison of 10-day Runoff and Water Demand in 2025-High Economic Growth

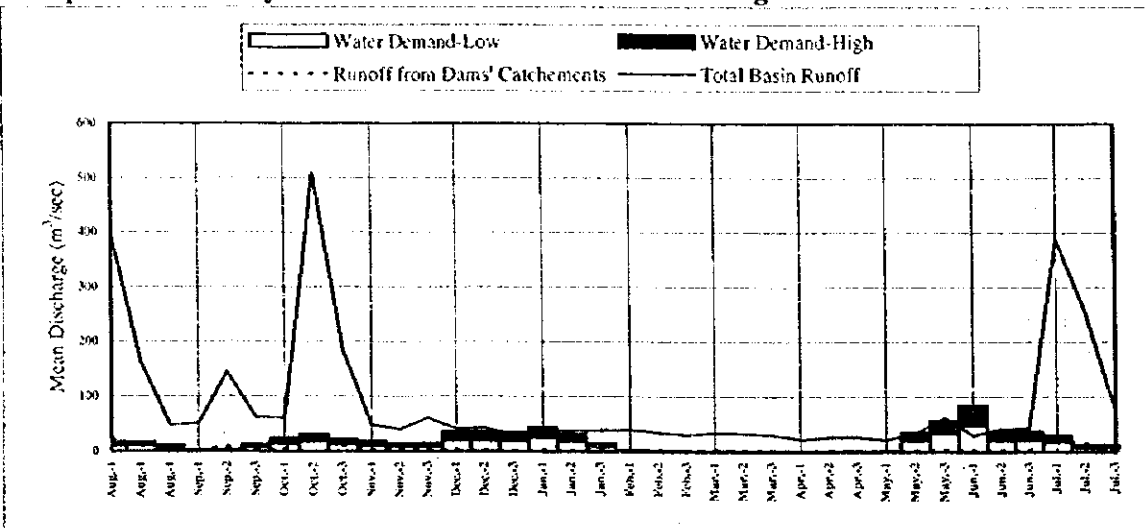
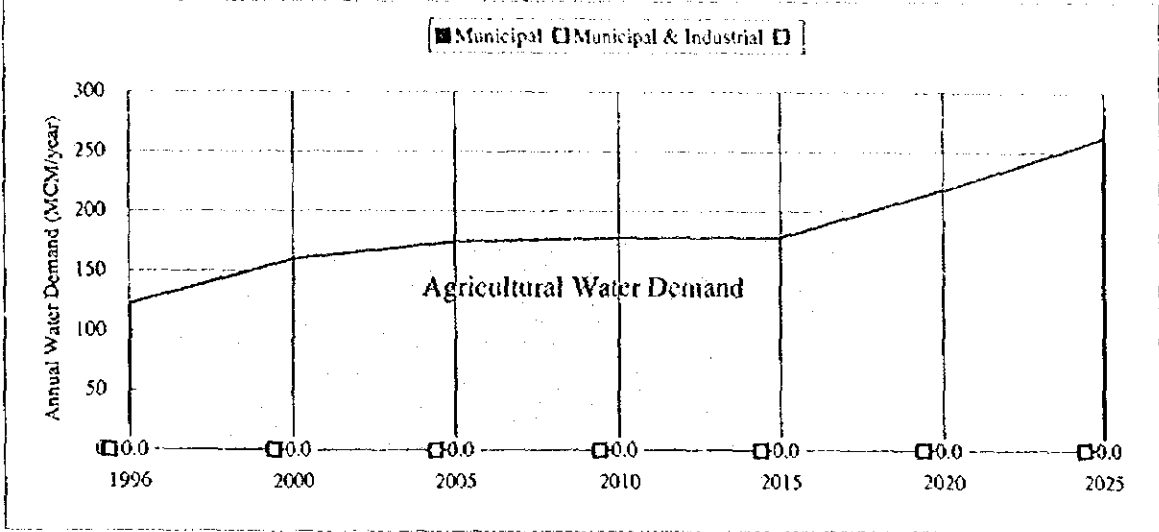
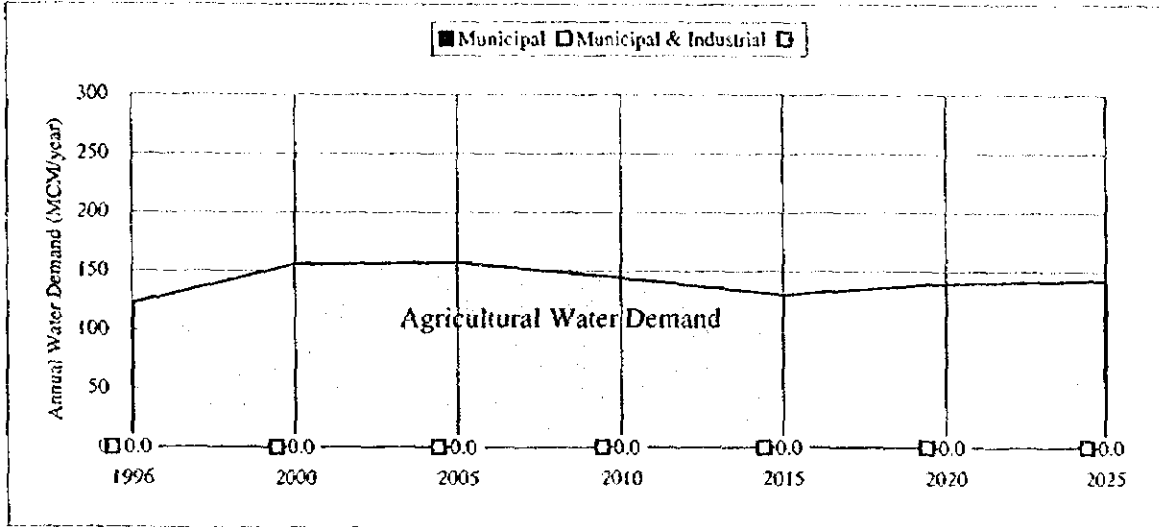


Figure 5-33 WATER BALANCE FOR PASIG-LAGUNA BAY BASIN

Sectoral Water Demand - High Economic Growth



Sectoral Water Demand - Low Economic Growth



Comparison of 10-day Runoff and Water Demand in 2025-High Economic Growth

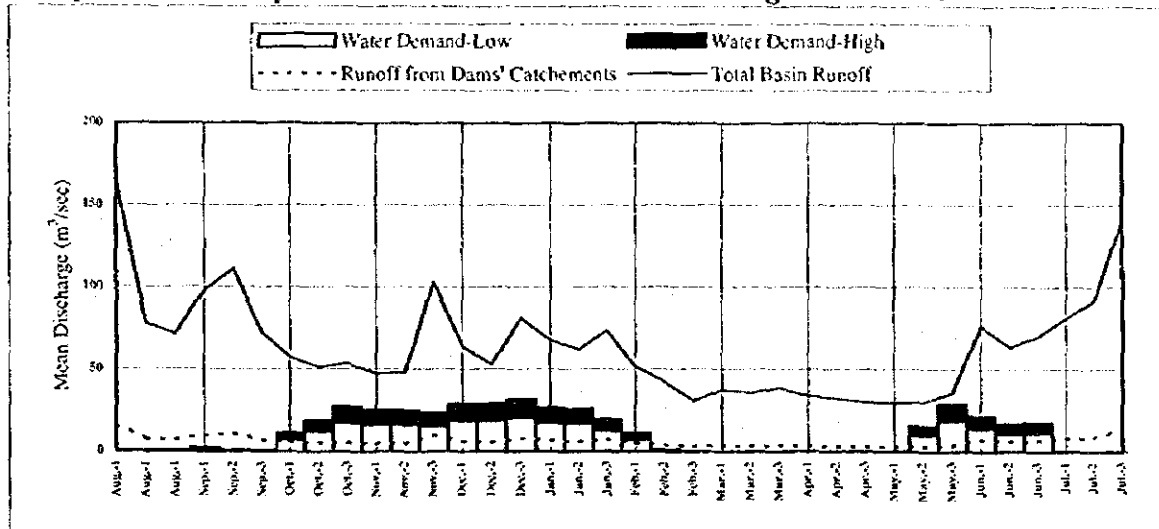
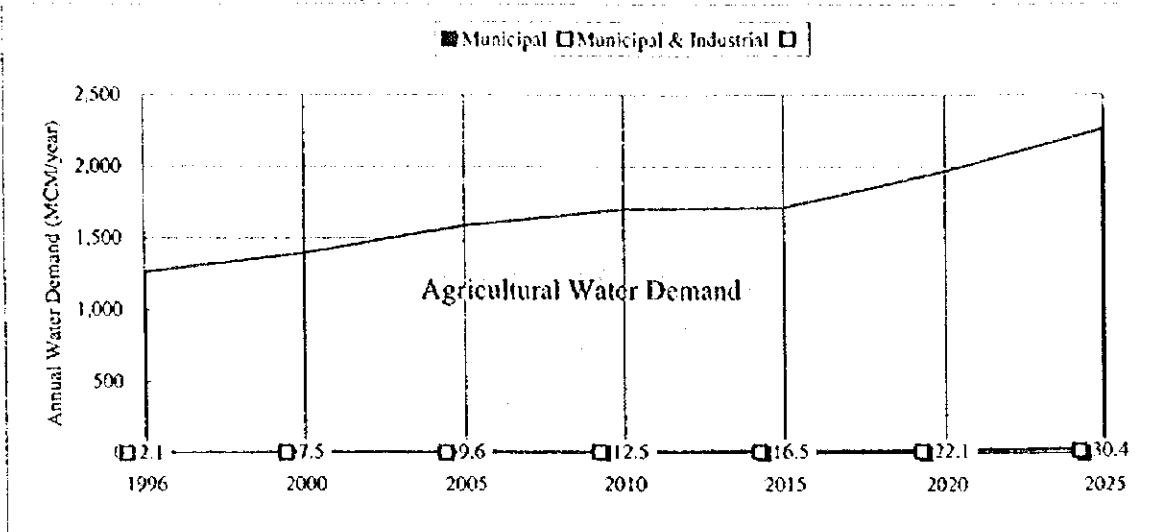
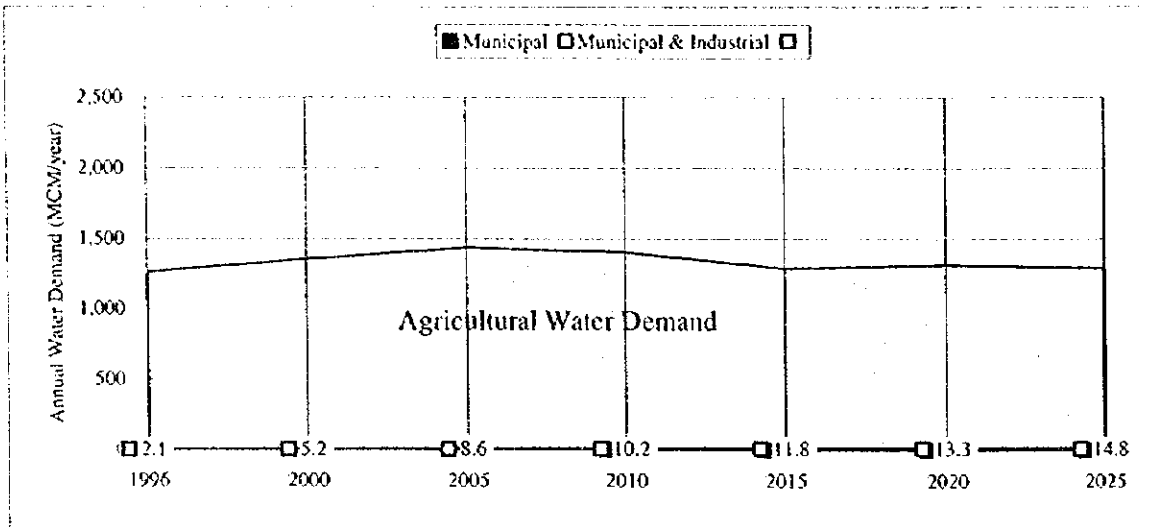


Figure 5-34 WATER BALANCE FOR AMNAY-PATRICK RIVER BASIN

Sectoral Water Demand - High Economic Growth



Sectoral Water Demand - Low Economic Growth



Comparison of 10-day Runoff and Water Demand in 2025-High Economic Growth

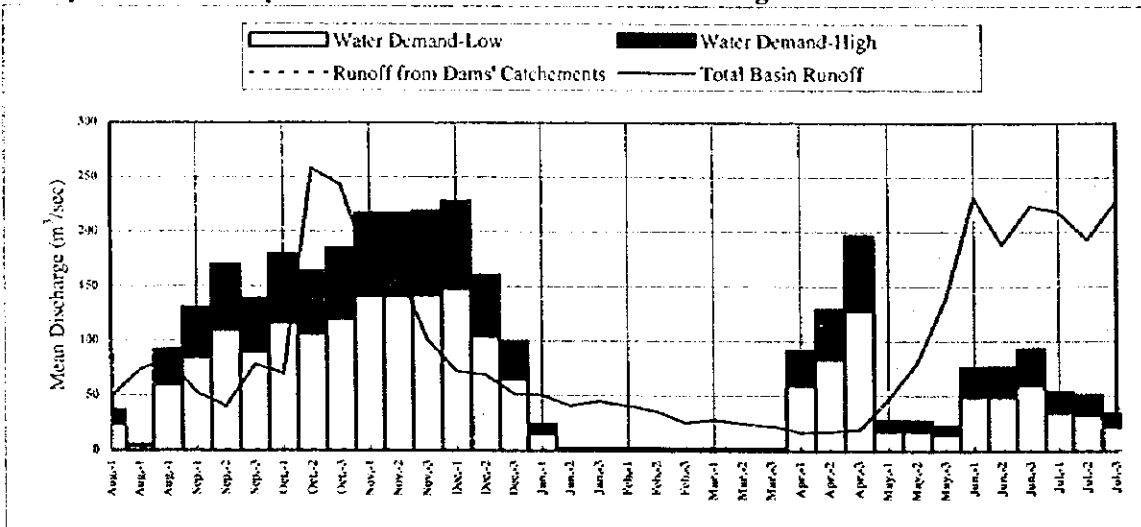
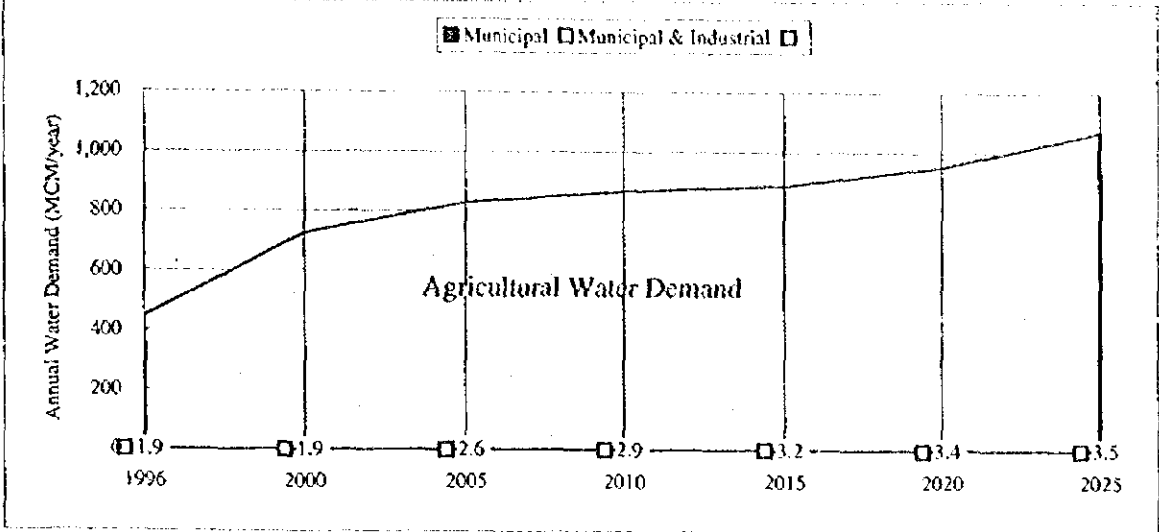
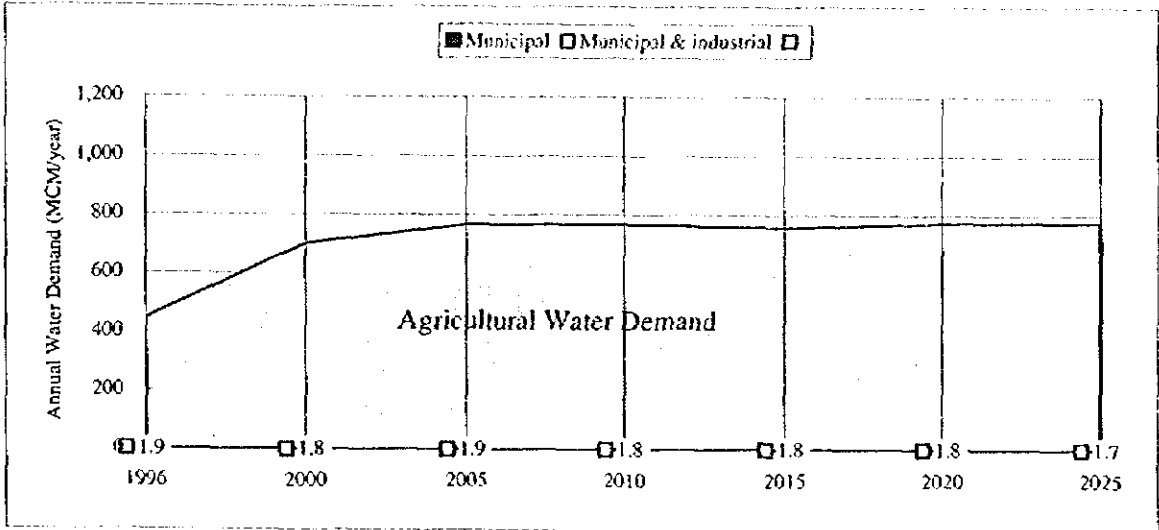


Figure 5-35 WATER BALANCE FOR BICOL RIVER BASIN

Sectoral Water Demand - High Economic Growth



Sectoral Water Demand - Low Economic Growth



Comparison of 10-day Runoff and Water Demand in 2025-High Economic Growth

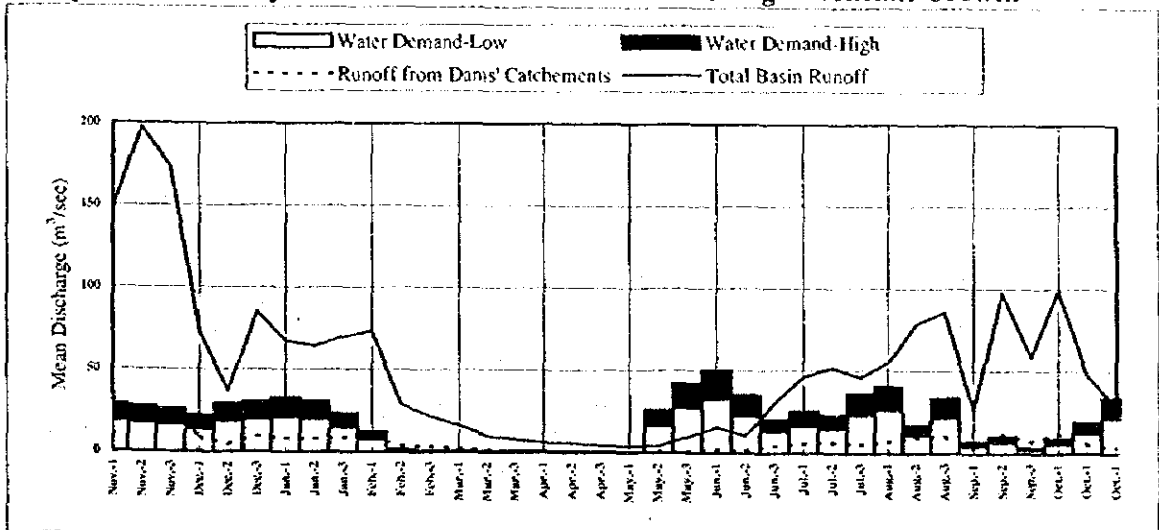
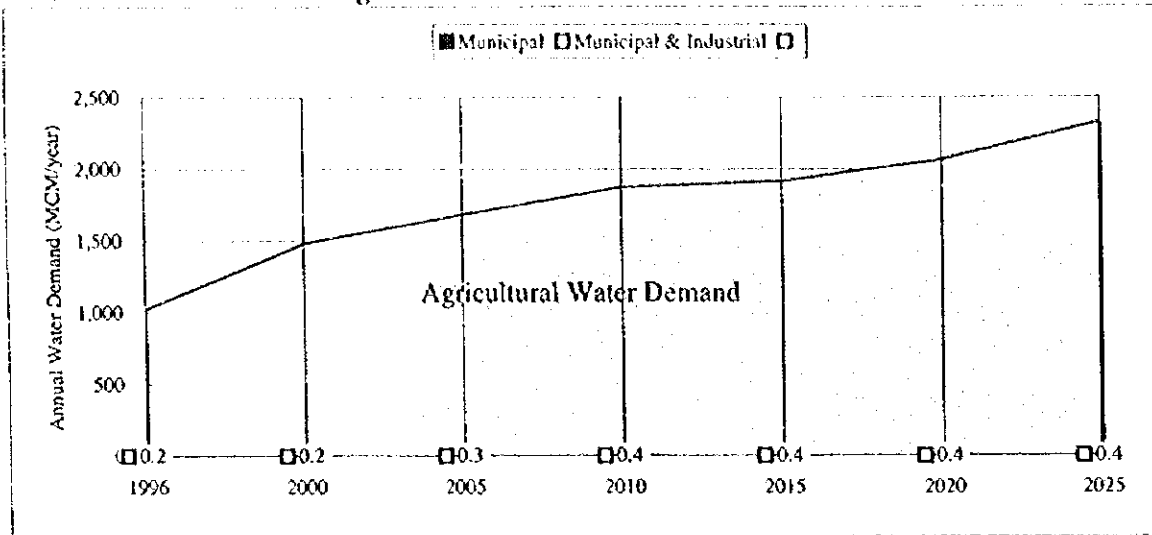
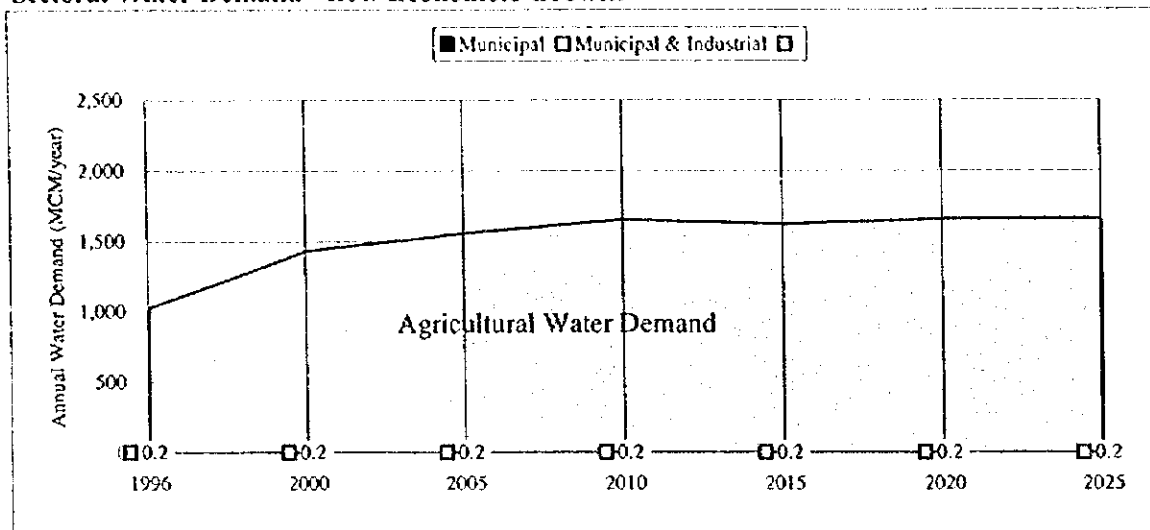


Figure 5-36 WATER BALANCE FOR PANAY RIVER BASIN

Sectoral Water Demand - High Economic Growth



Sectoral Water Demand - Low Economic Growth



Comparison of 10-day Runoff and Water Demand in 2025-High Economic Growth

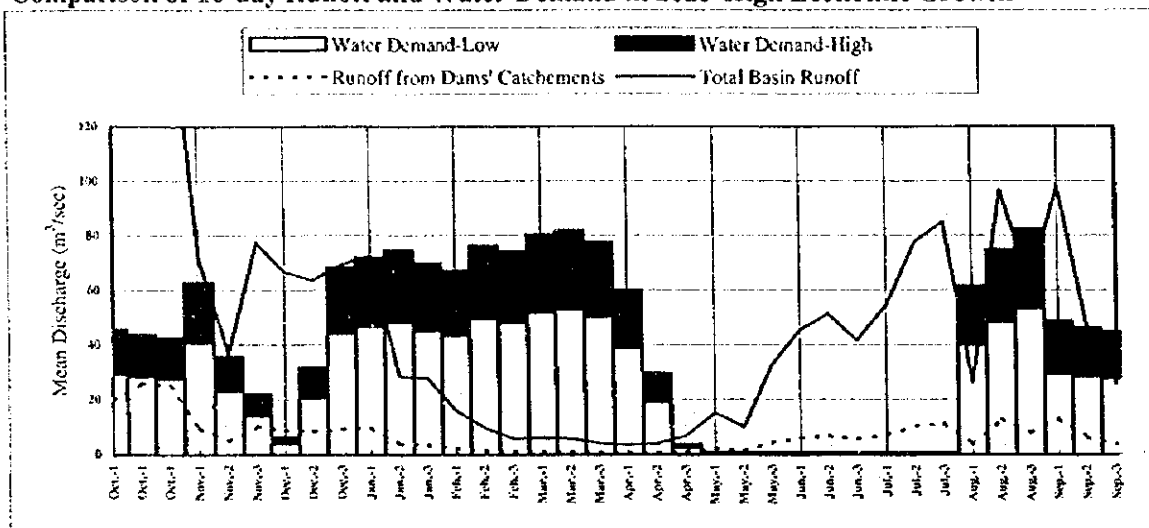
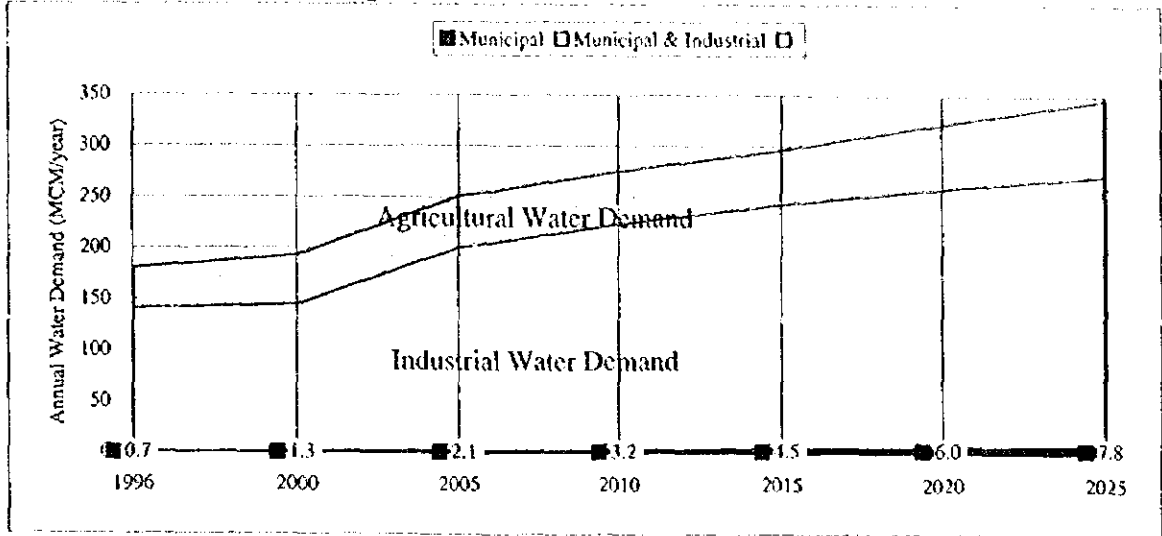
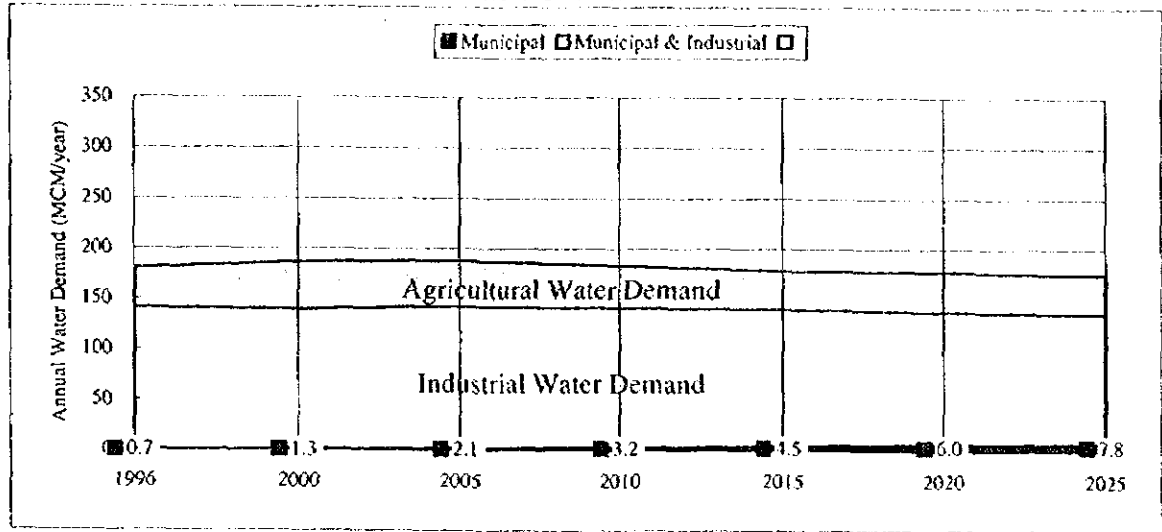


Figure 5-37 WATER BALANCE FOR JALAU RIVER BASIN

Sectoral Water Demand - High Economic Growth



Sectoral Water Demand - Low Economic Growth



Comparison of 10-day Runoff and Water Demand in 2025-High Economic Growth

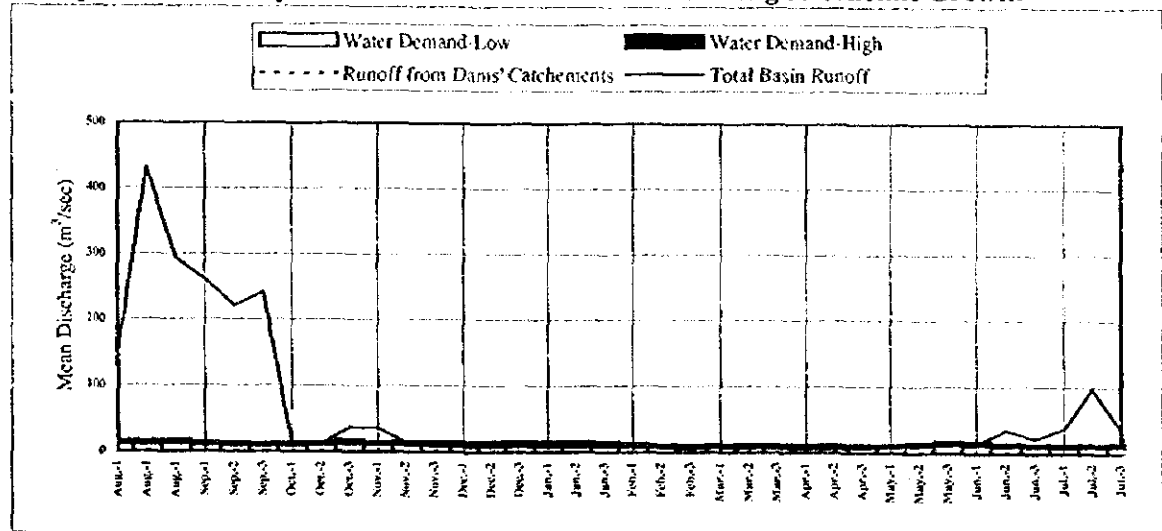
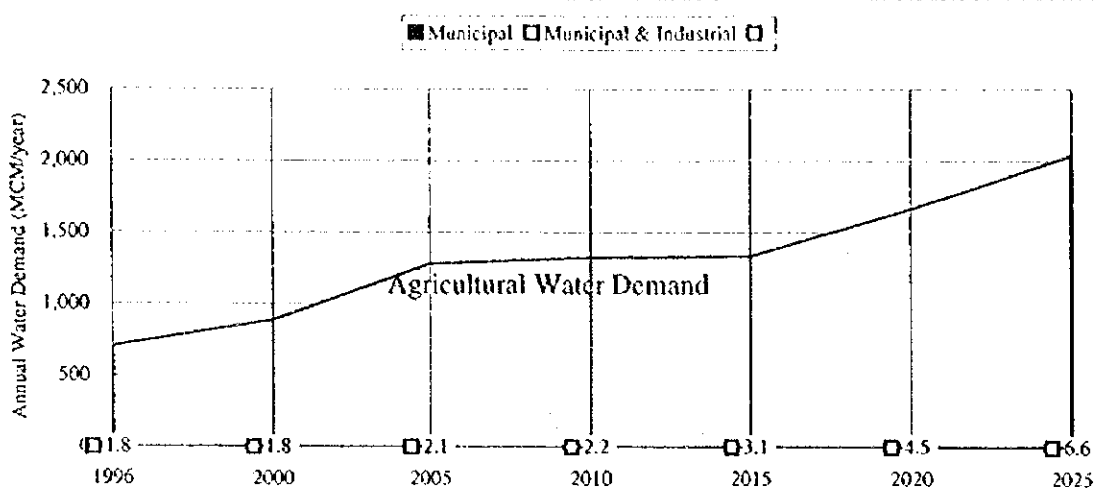
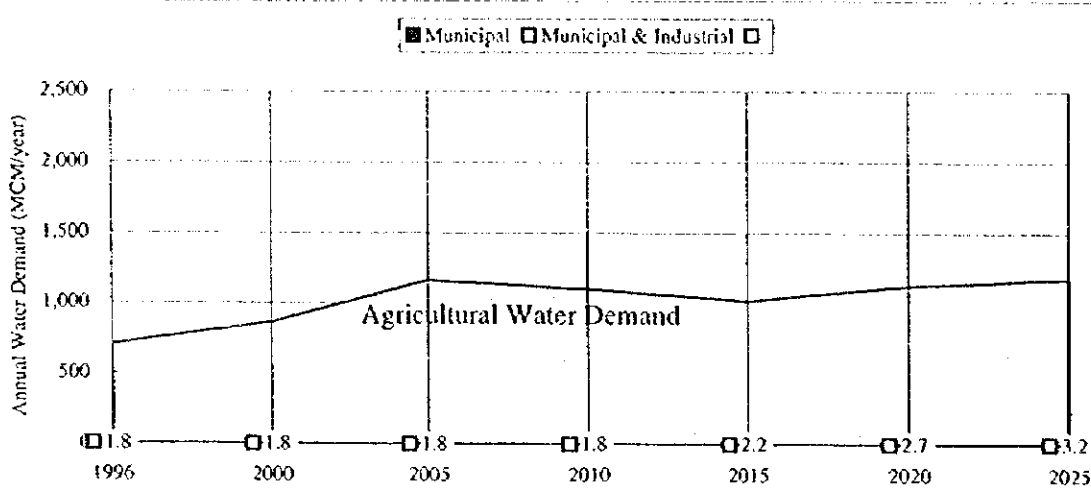


Figure 5-38 WATER BALANCE FOR ILOG-HILABANGAN RIVER BASIN

Sectoral Water Demand - High Economic Growth



Sectoral Water Demand - Low Economic Growth



Comparison of 10-day Runoff and Water Demand in 2025-High Economic Growth

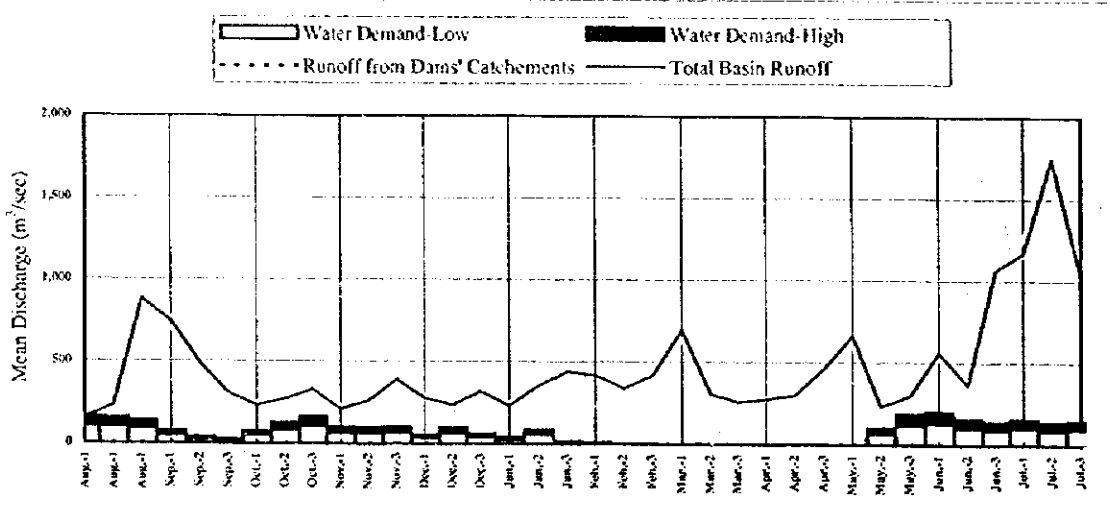
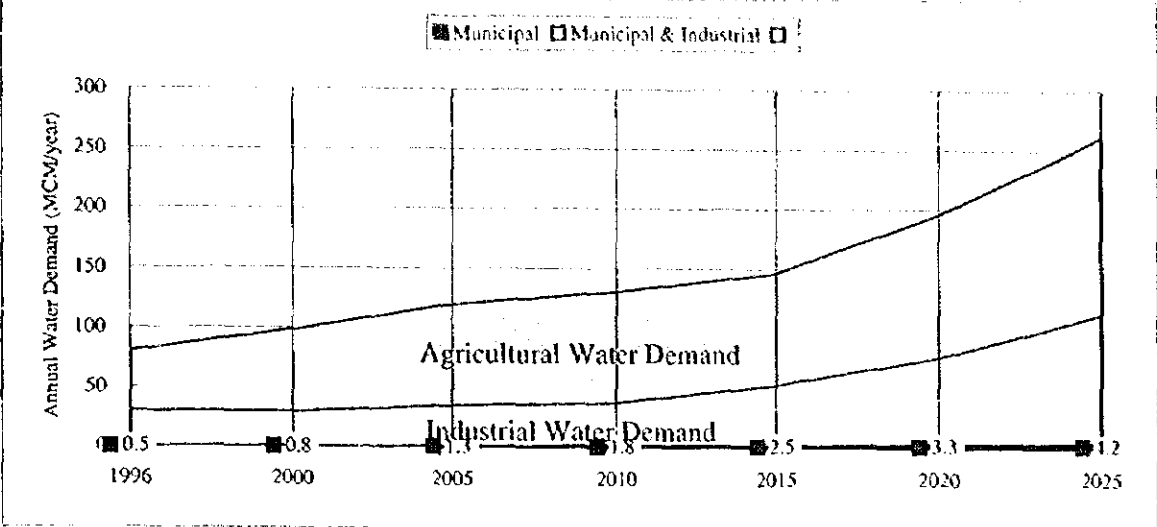
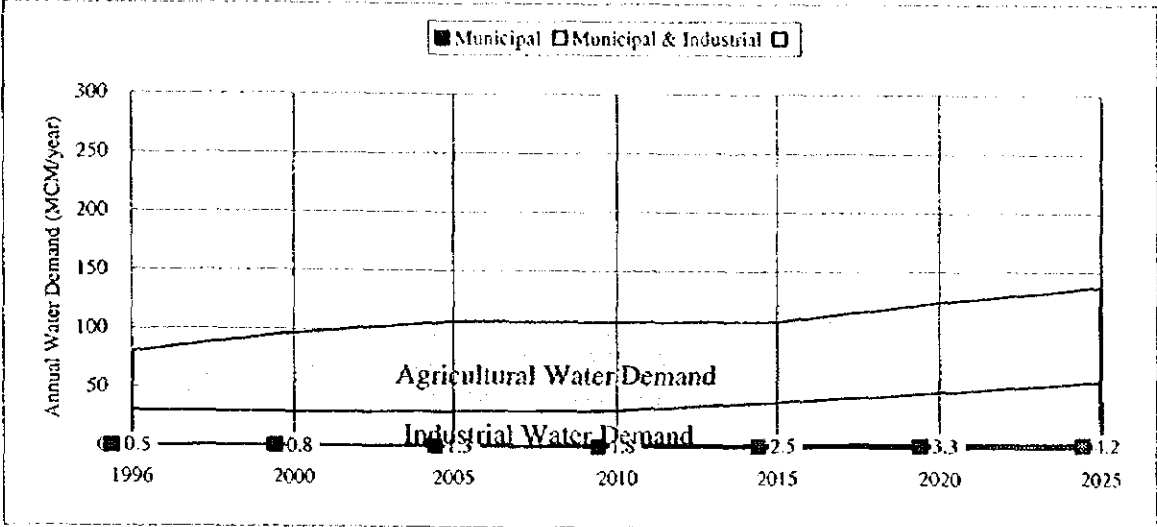


Figure 5-39 WATER BALANCE FOR AGUSAN RIVER BASIN

Sectoral Water Demand - High Economic Growth



Sectoral Water Demand - Low Economic Growth



Comparison of 10-day Runoff and Water Demand in 2025-High Economic Growth

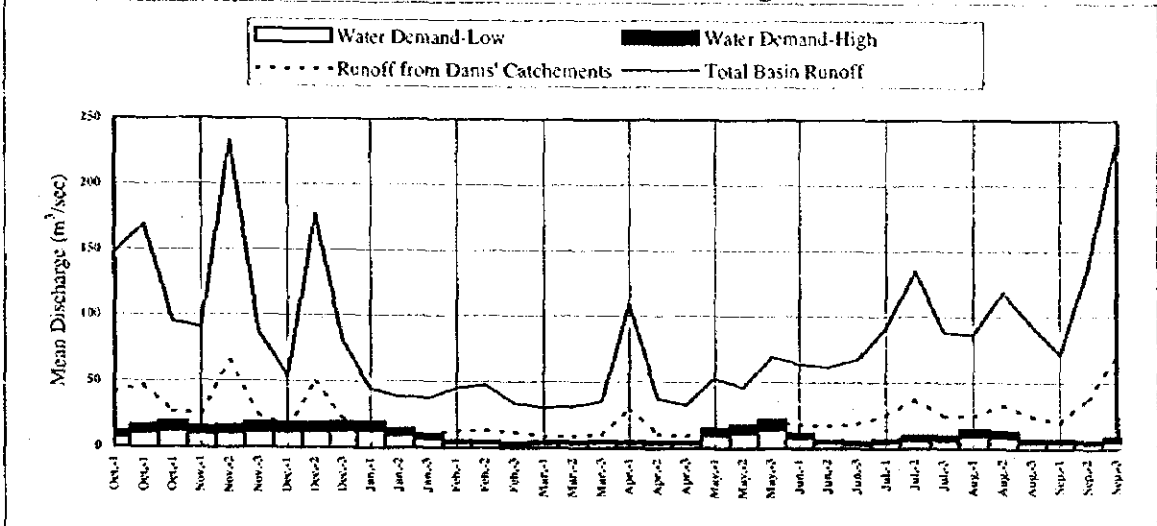
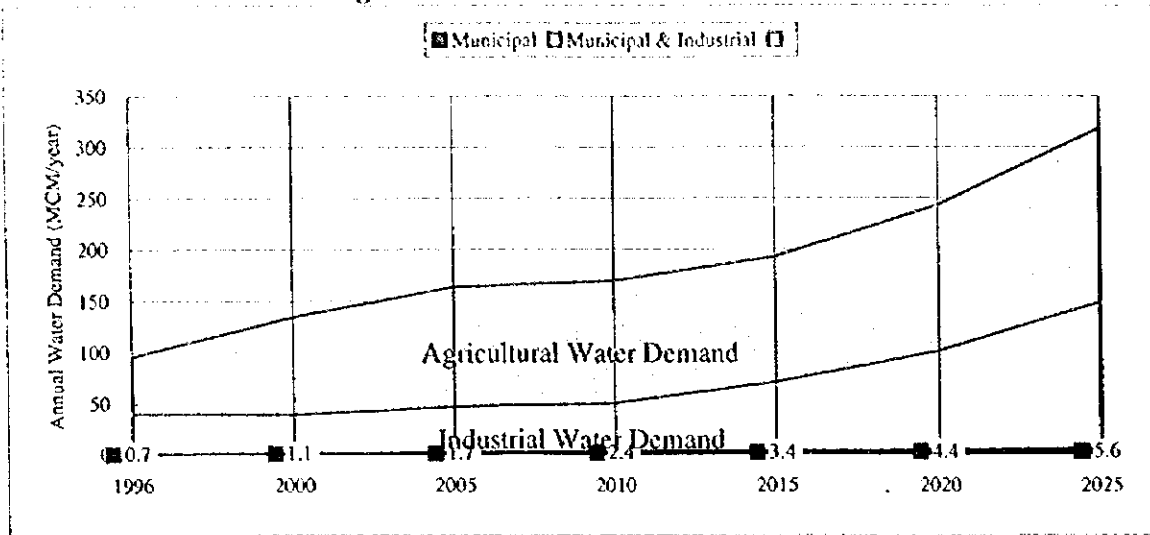
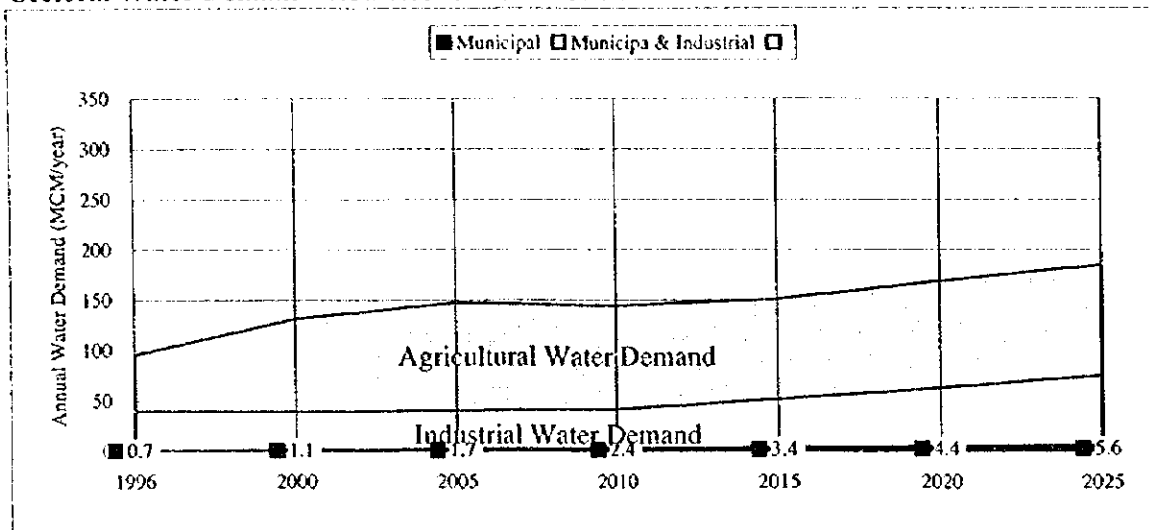


Figure 5-40 WATER BALANCE FOR TAGOLOAN RIVER BASIN

Sectoral Water Demand - High Economic Growth



Sectoral Water Demand - Low Economic Growth



Comparison of 10-day Runoff and Water Demand in 2025-High Economic Growth

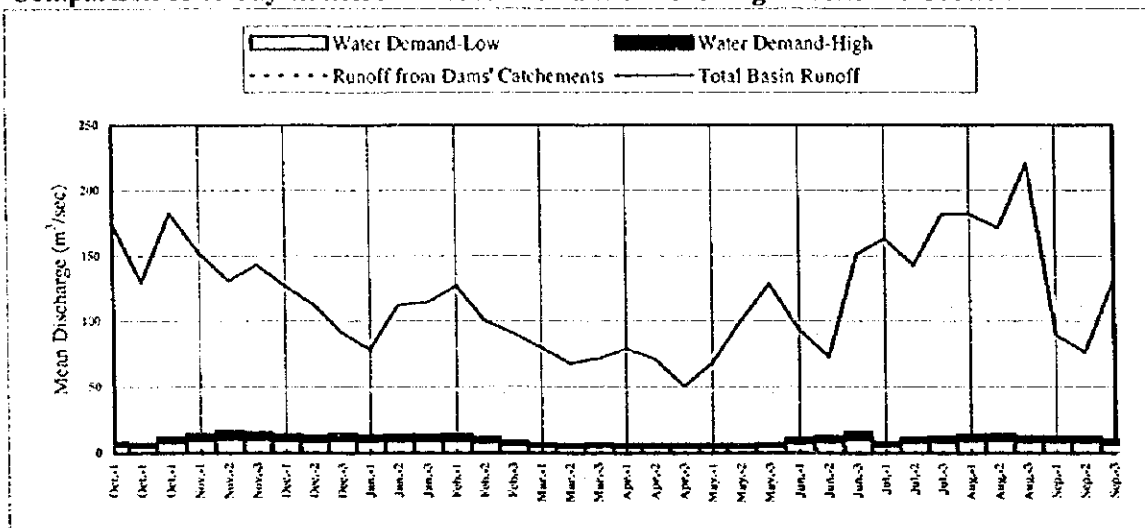
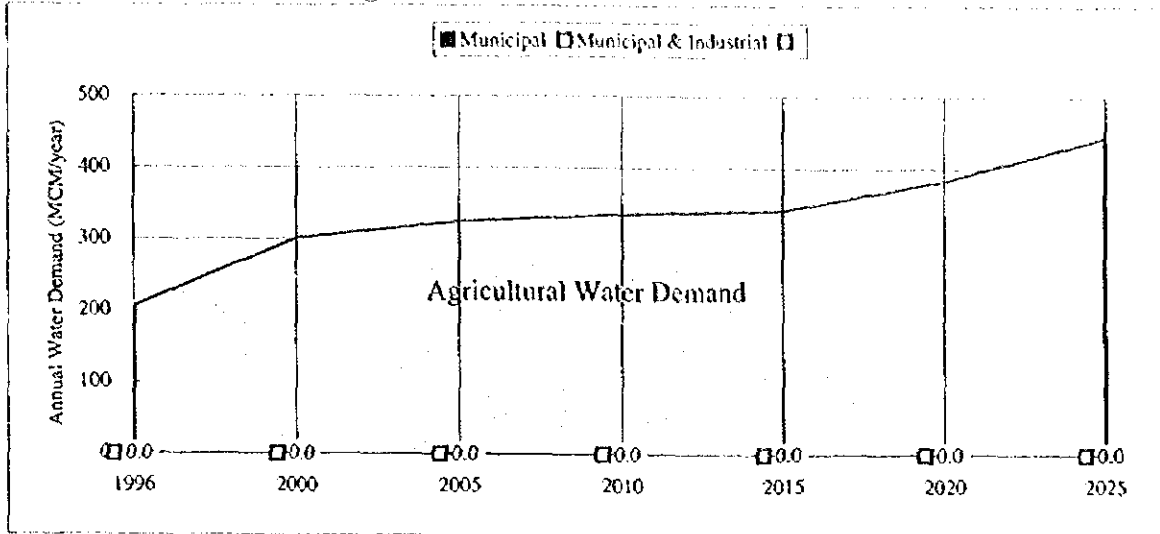
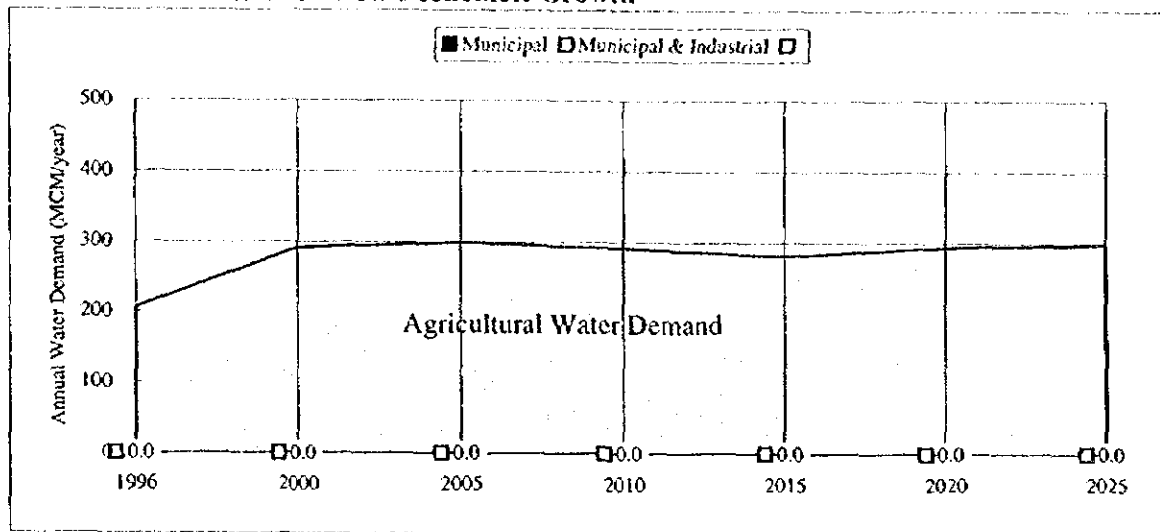


Figure 5-41 WATER BALANCE FOR CAGAYAN DE ORO RIVER BASIN

Sectoral Water Demand - High Economic Growth



Sectoral Water Demand - Low Economic Growth



Comparison of 10-day Runoff and Water Demand in 2025-High Economic Growth

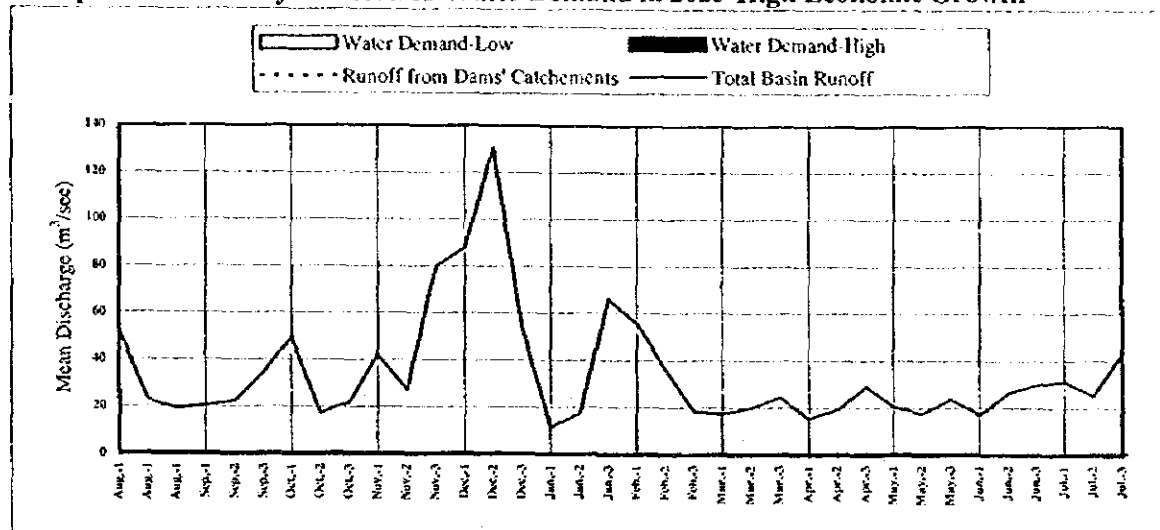
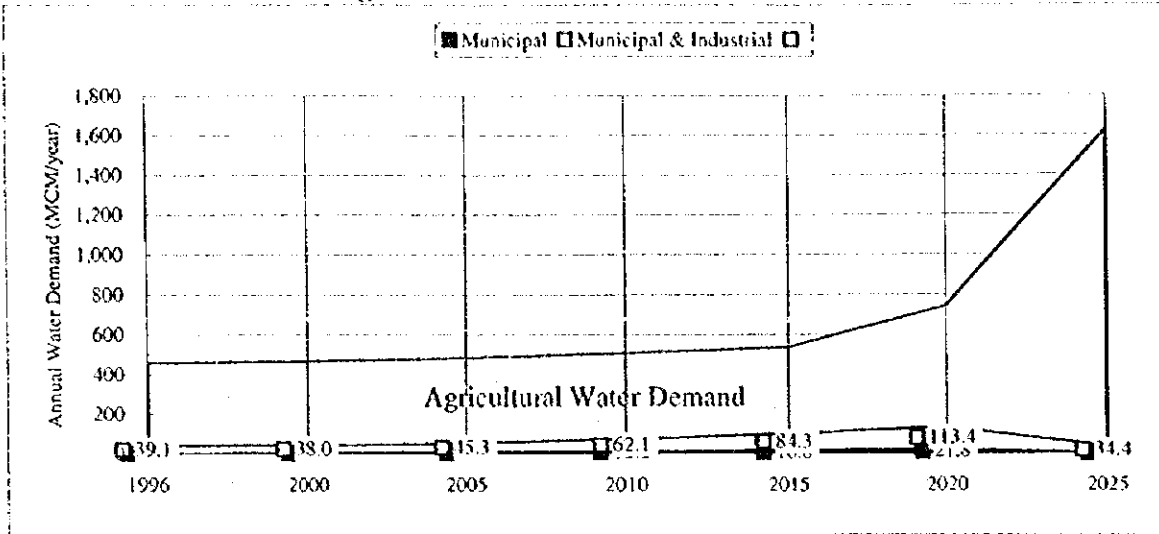
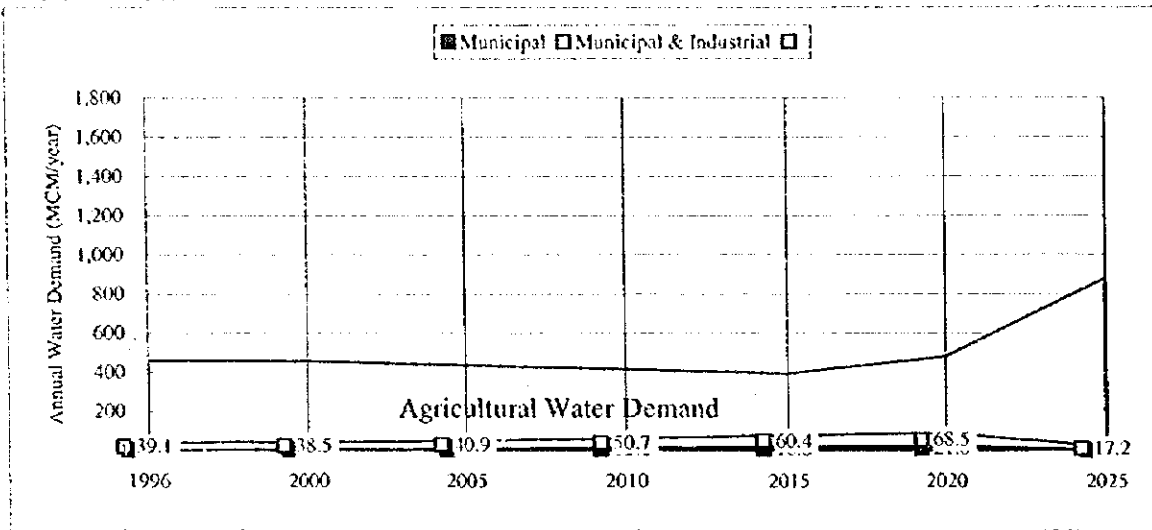


Figure 5-42 WATER BALANCE FOR DAVAO RIVER BASIN

Sectoral Water Demand - High Economic Growth



Sectoral Water Demand - Low Economic Growth



Comparison of 10-day Runoff and Water Demand in 2025-High Economic Growth

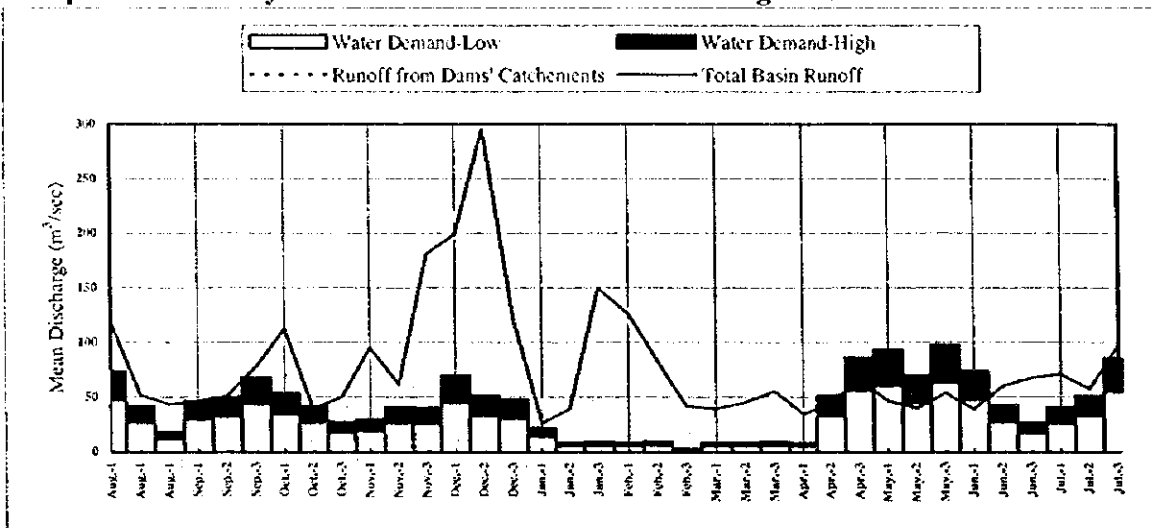
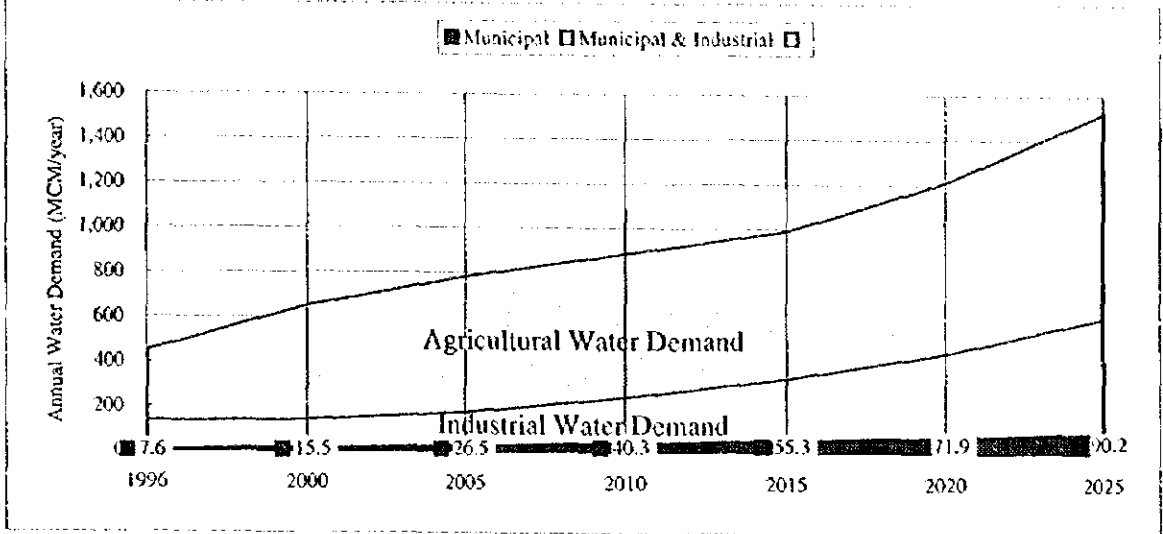
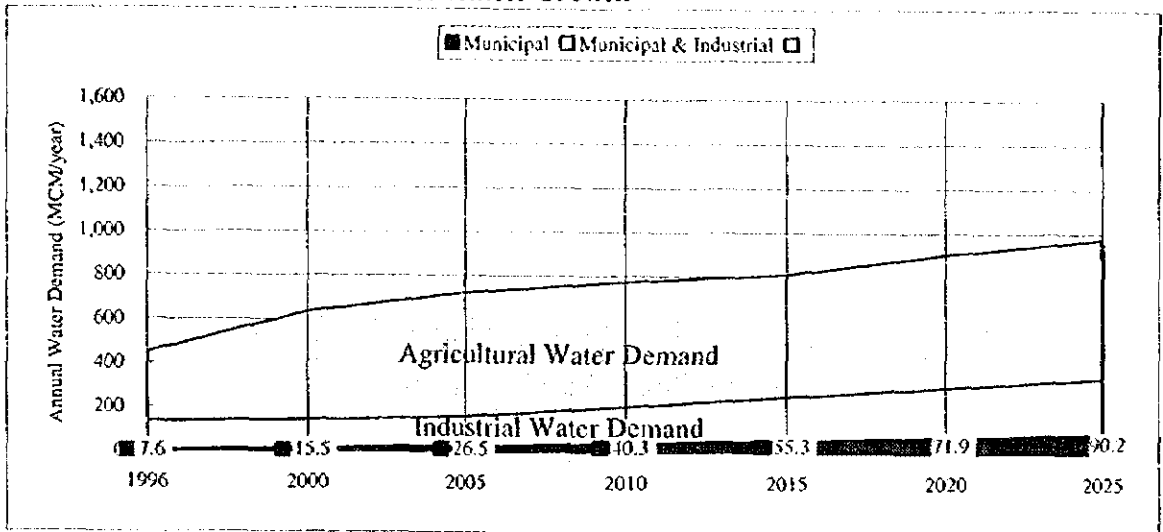


Figure 5-43 WATER BALANCE FOR TAGUM-LIBUGANON RIVER BASIN

Sectoral Water Demand - High Economic Growth



Sectoral Water Demand - Low Economic Growth



Comparison of 10-day Runoff and Water Demand in 2025-High Economic Growth

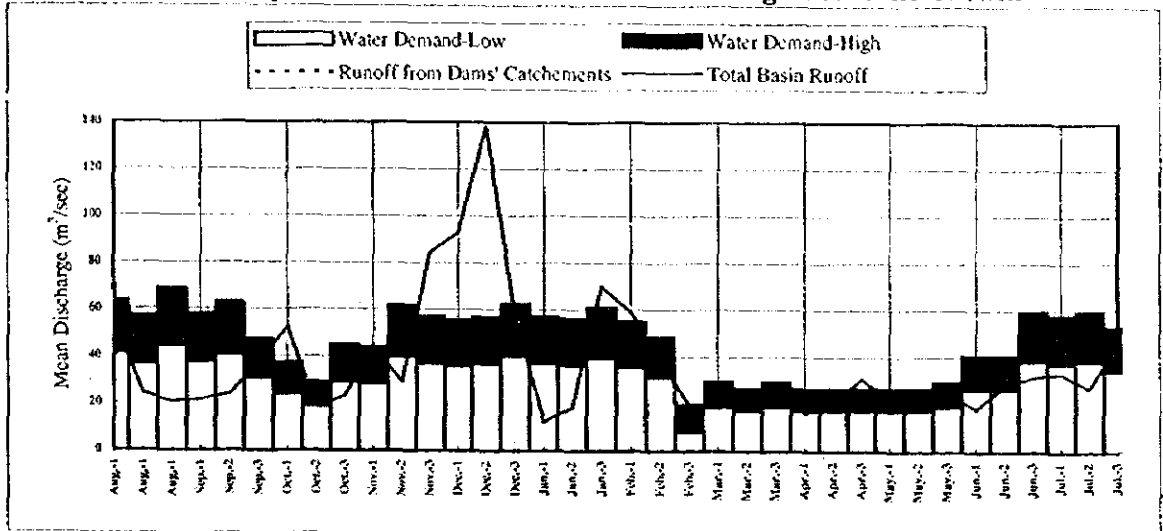
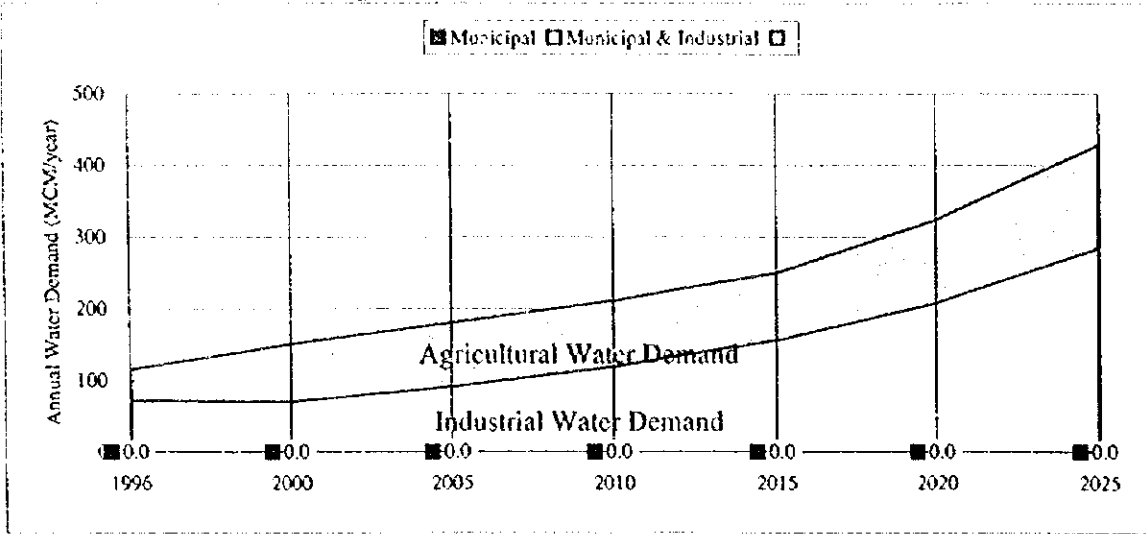
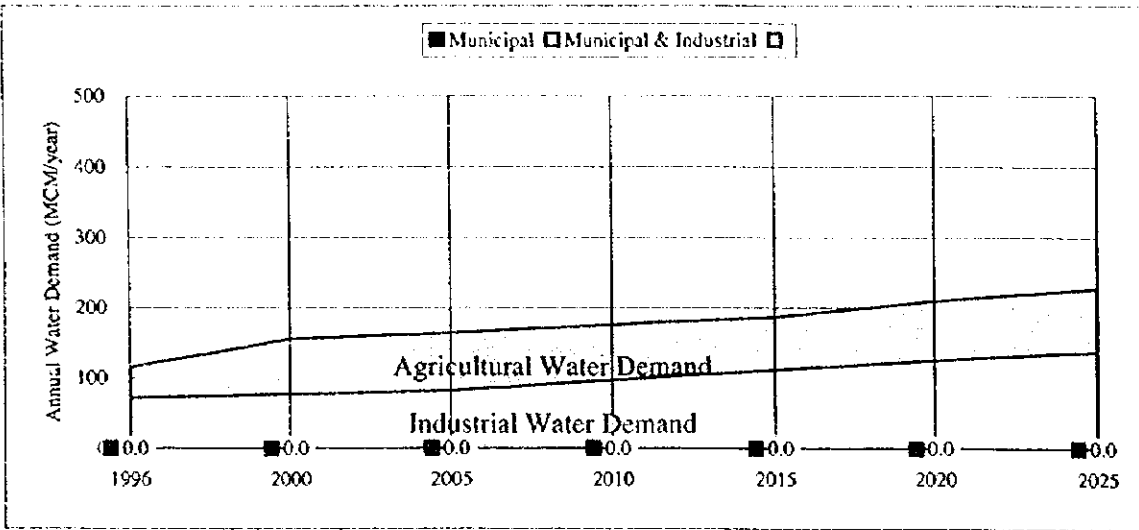


Figure 5-44 WATER BALANCE FOR BUAYAN MALUNGUN RIVER BASIN

Sectoral Water Demand - High Economic Growth



Sectoral Water Demand - Low Economic Growth



Comparison of 10-day Runoff and Water Demand in 2025-High Economic Growth

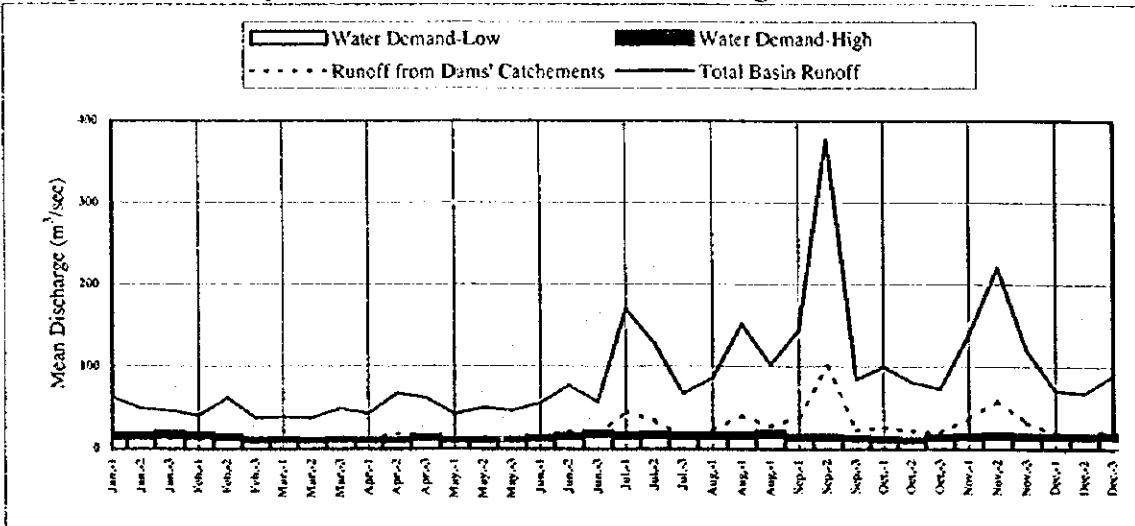
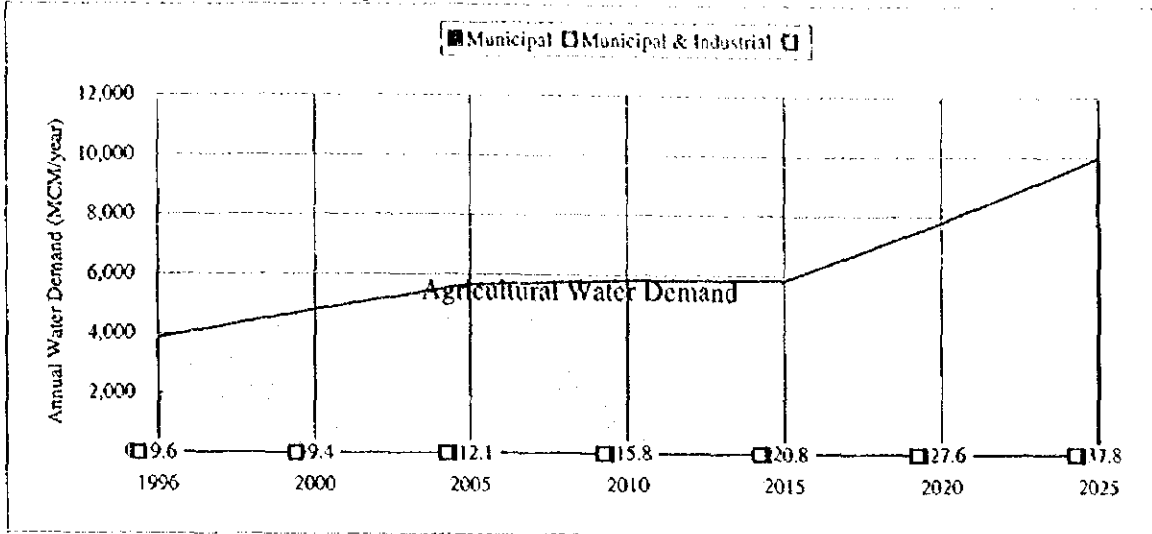
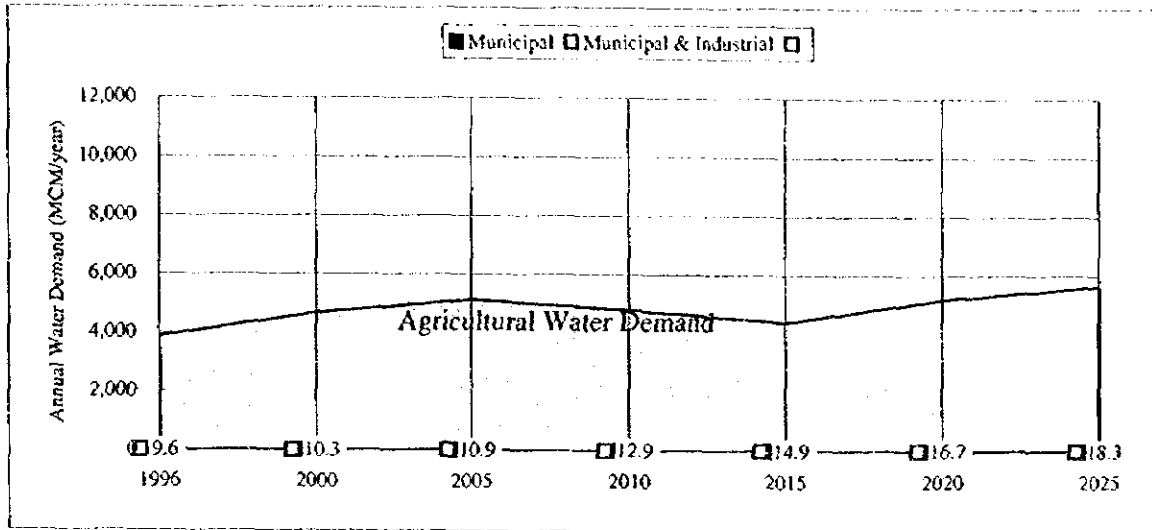


Figure 5-45 WATER BALANCE FOR AGUS RIVER BASIN

Sectoral Water Demand - High Economic Growth



Sectoral Water Demand - Low Economic Growth



Comparison of 10-day Runoff and Water Demand in 2025-High Economic Growth

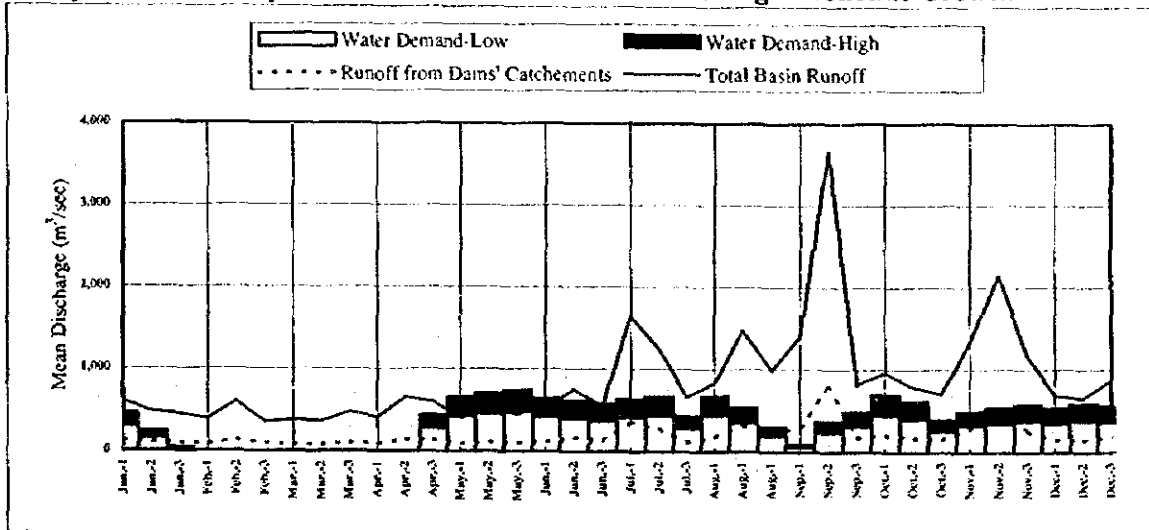


Figure 5-46 WATER BALANCE FOR MINDANAO RIVER BASIN

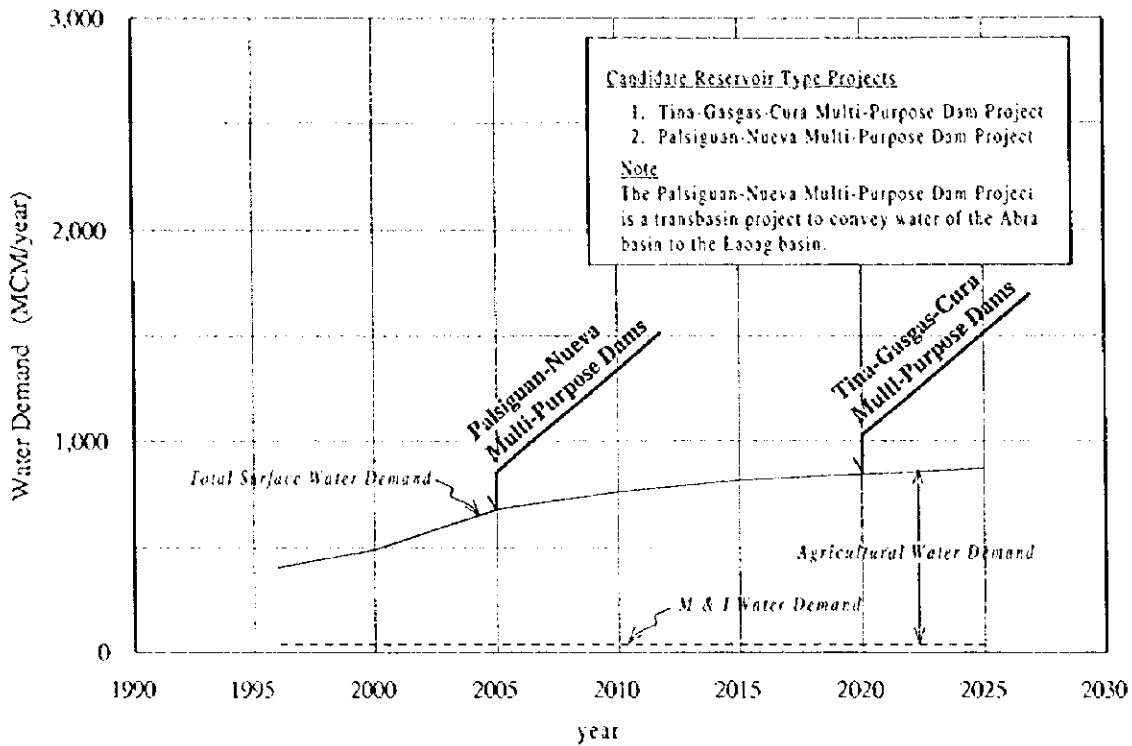


Figure 5-47 SURFACE WATER DEMAND FOR LAOAG RIVER BASIN IN CASE OF HIGH ECONOMIC GROWTH

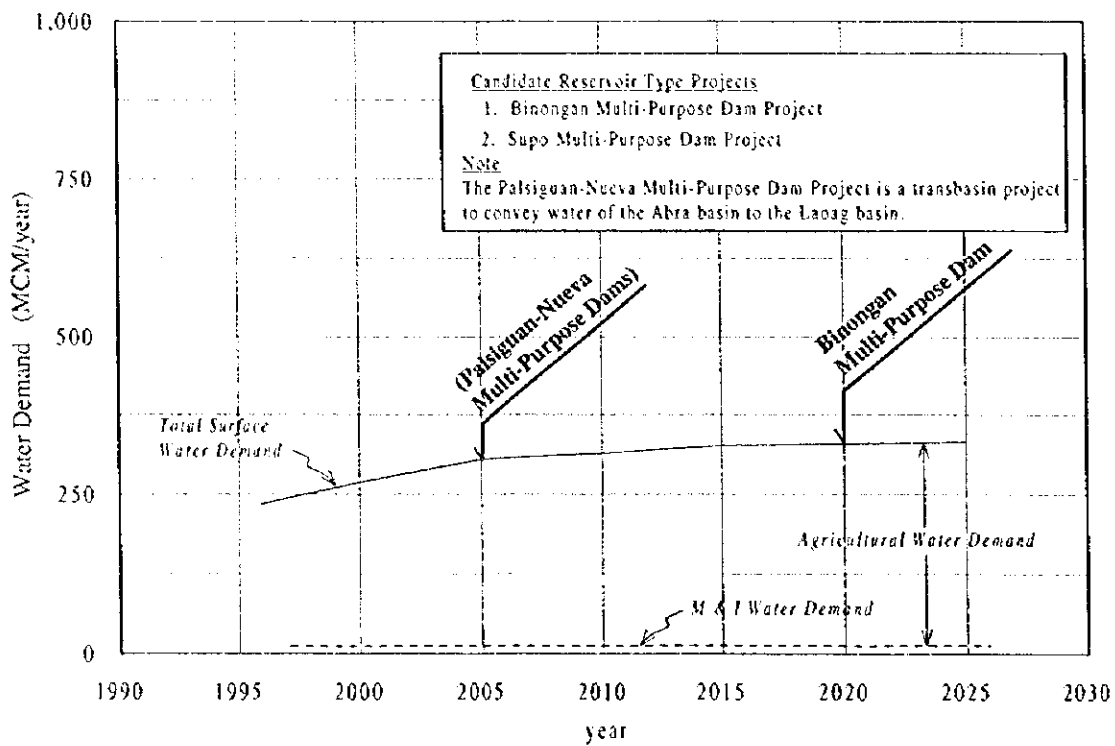


Figure 5-48 SURFACE WATER DEMAND FOR ABRA RIVER BASIN IN CASE OF HIGH ECONOMIC GROWTH

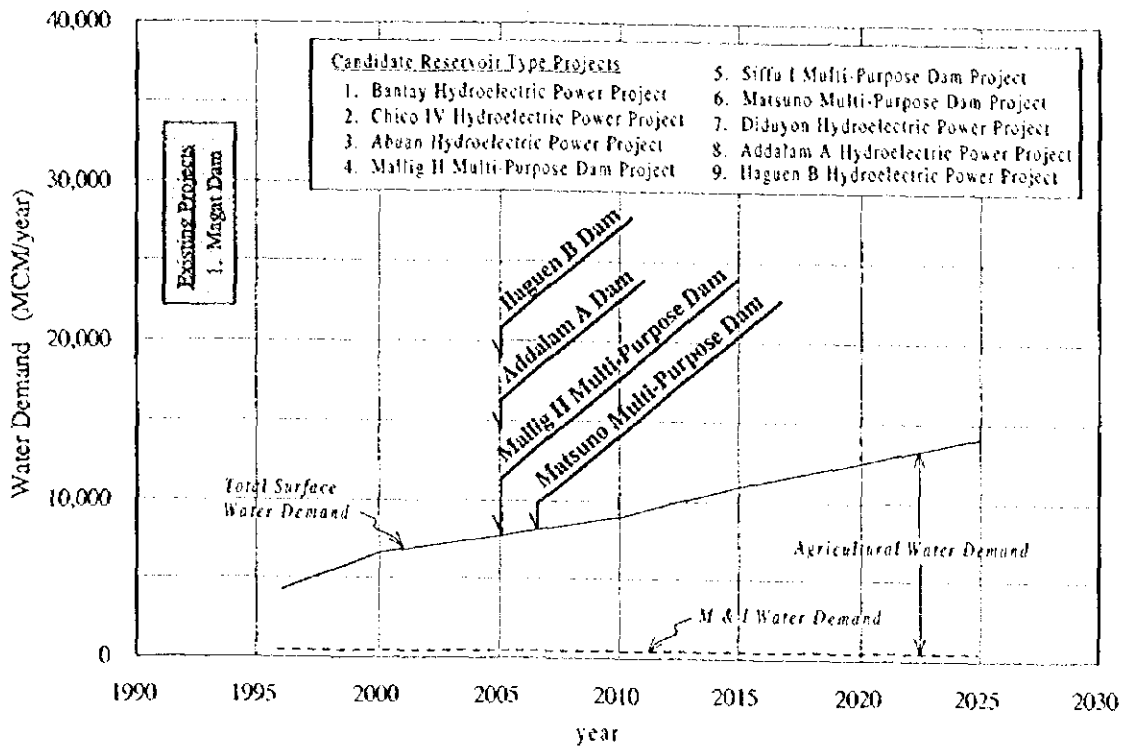


Figure 5-49 SURFACE WATER DEMAND FOR CAGAYAN RIVER BASIN IN CASE OF HIGH ECONOMIC GROWTH

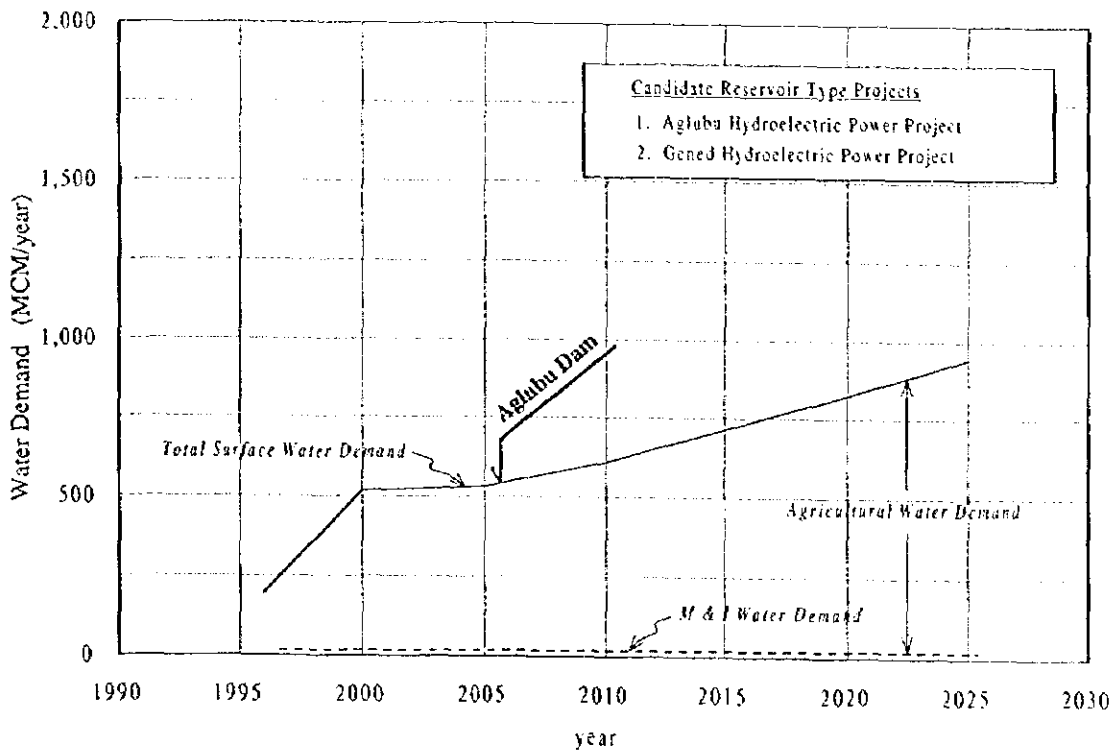


Figure 5-50 SURFACE WATER DEMAND FOR ABULUG RIVER BASIN IN CASE OF HIGH ECONOMIC GROWTH

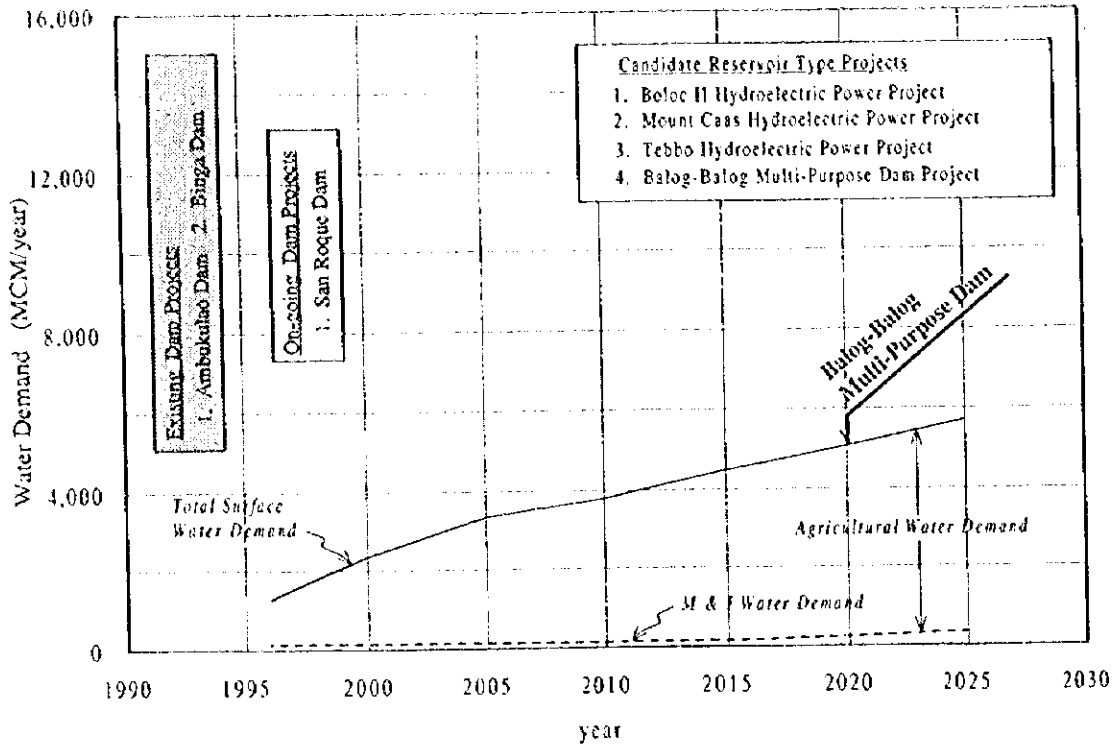


Figure 5-51 SURFACE WATER DEMAND FOR AGNO RIVER BASIN IN CASE OF HIGH ECONOMIC GROWTH

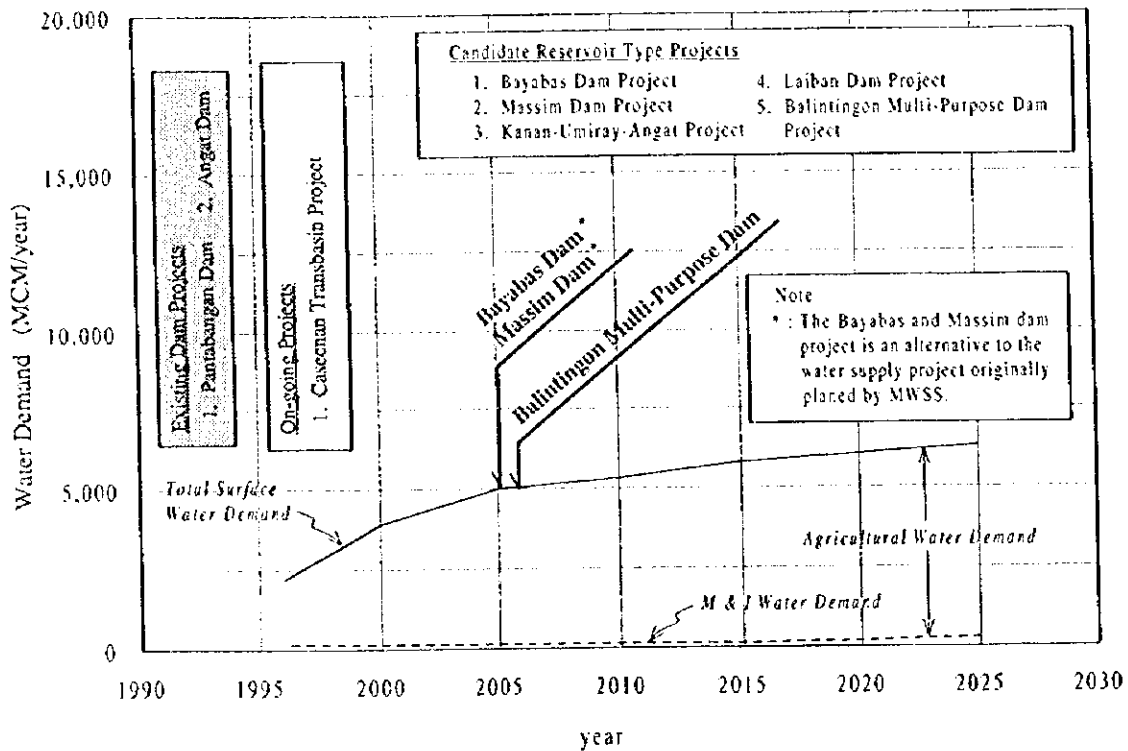
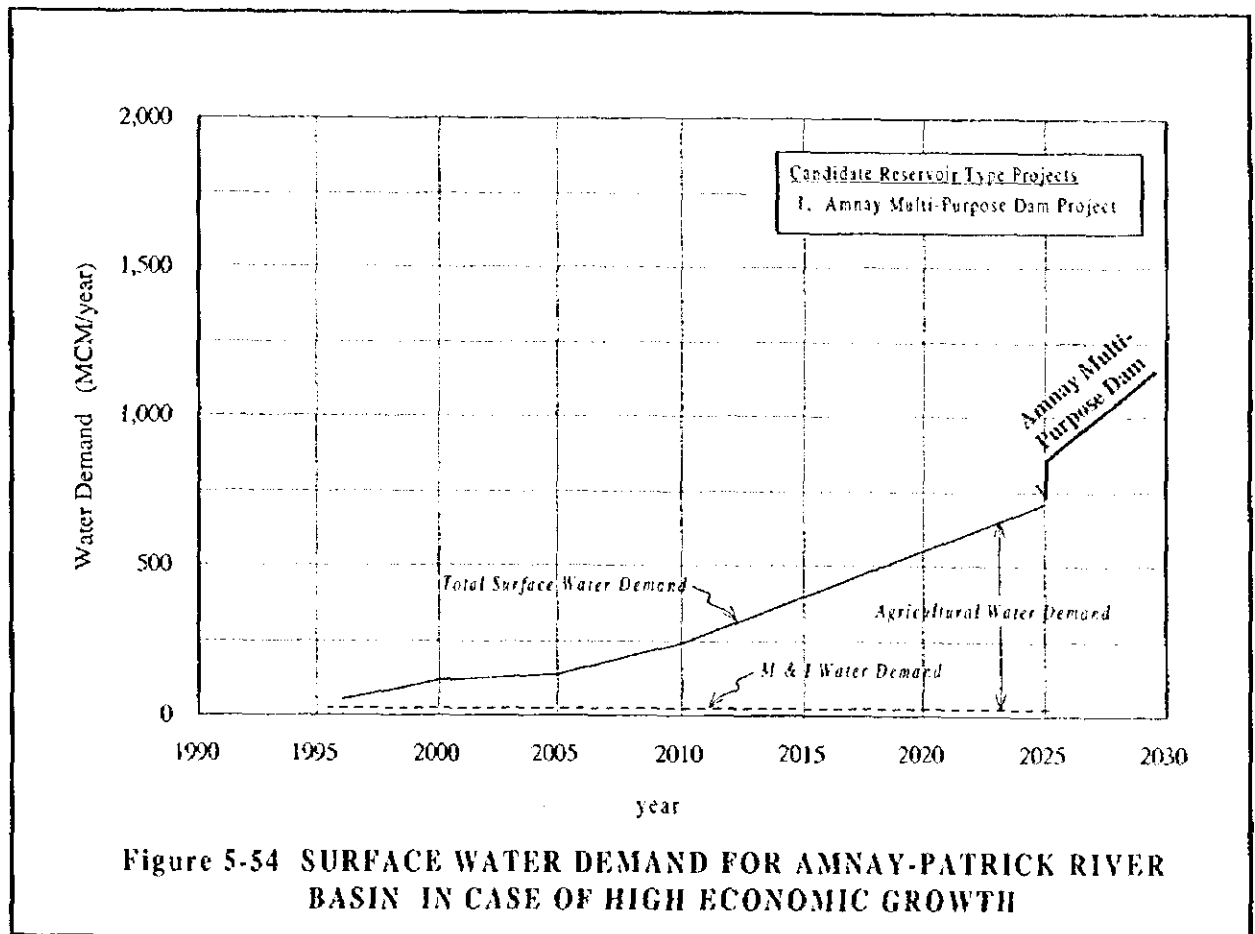
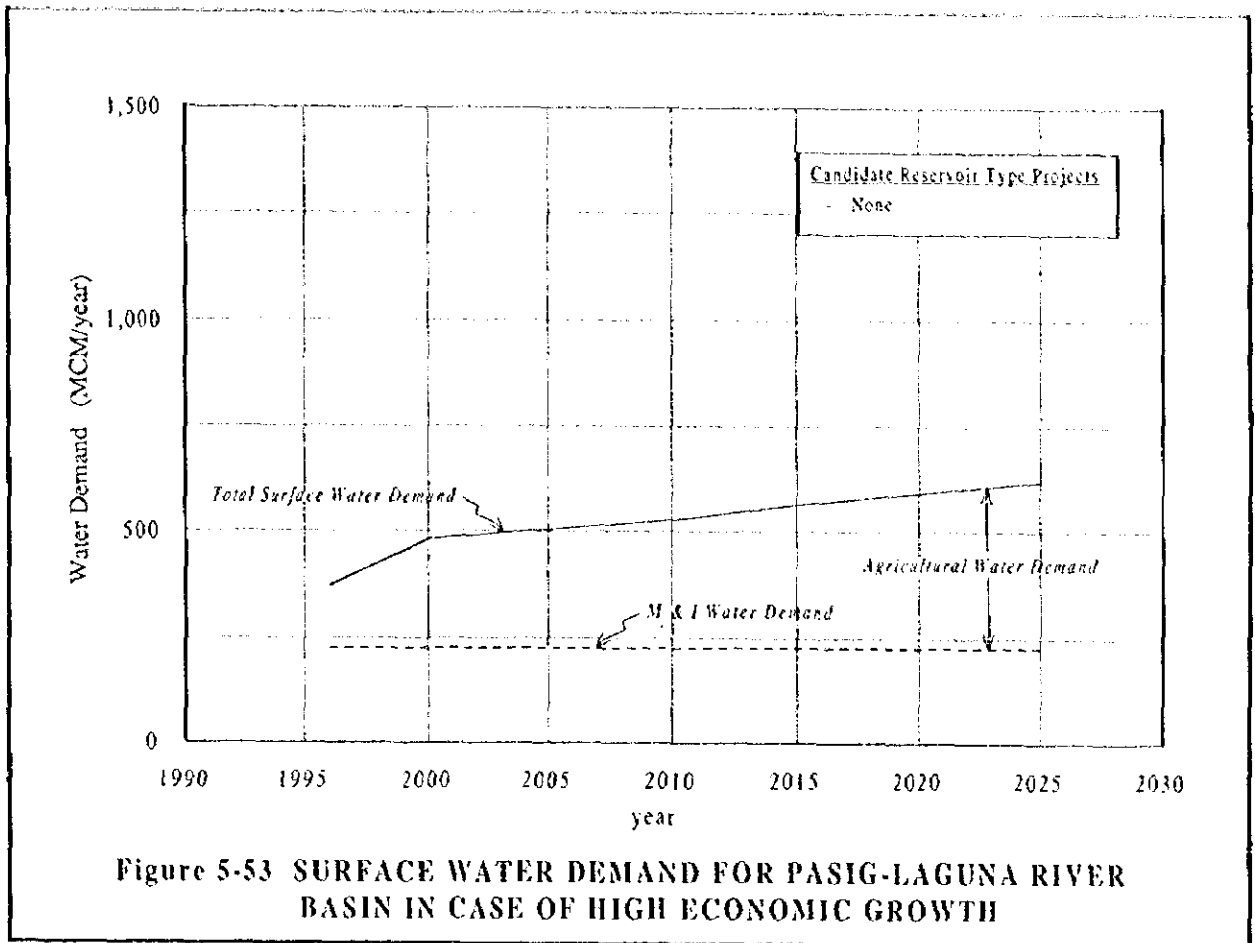


Figure 5-52 SURFACE WATER DEMAND FOR PAMPANGA RIVER BASIN IN CASE OF HIGH ECONOMIC GROWTH



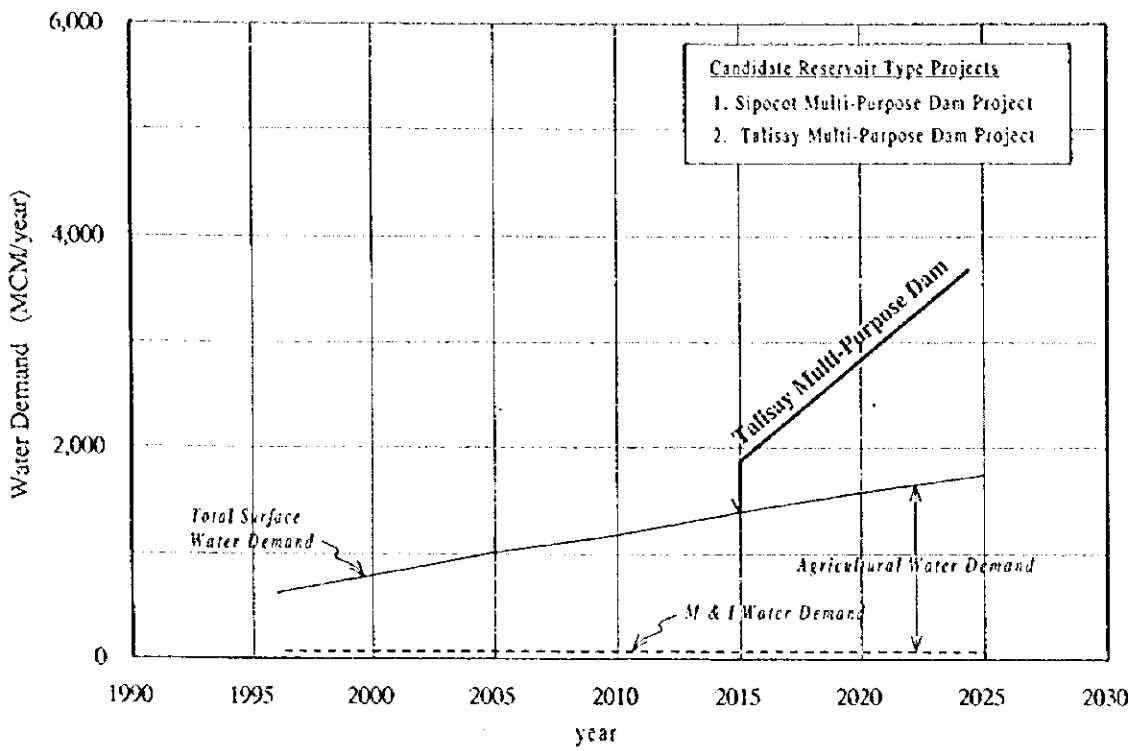


Figure 5-55 SURFACE WATER DEMAND FOR BICOL RIVER BASIN IN CASE OF HIGH ECONOMIC GROWTH

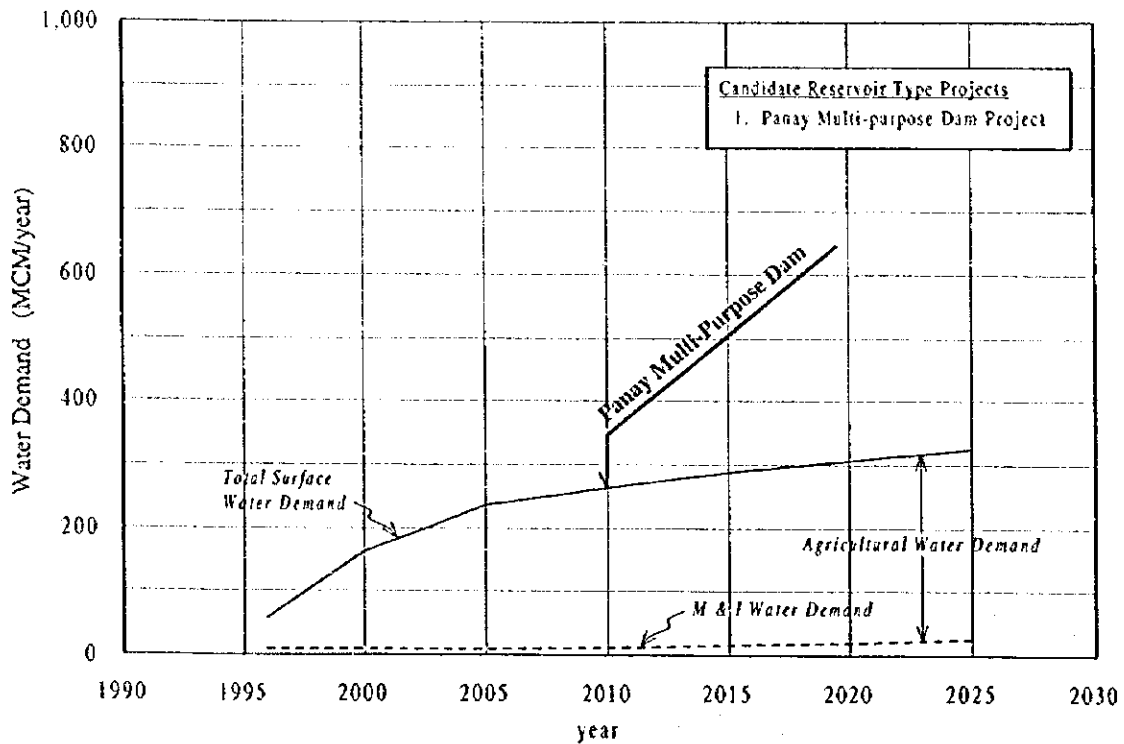
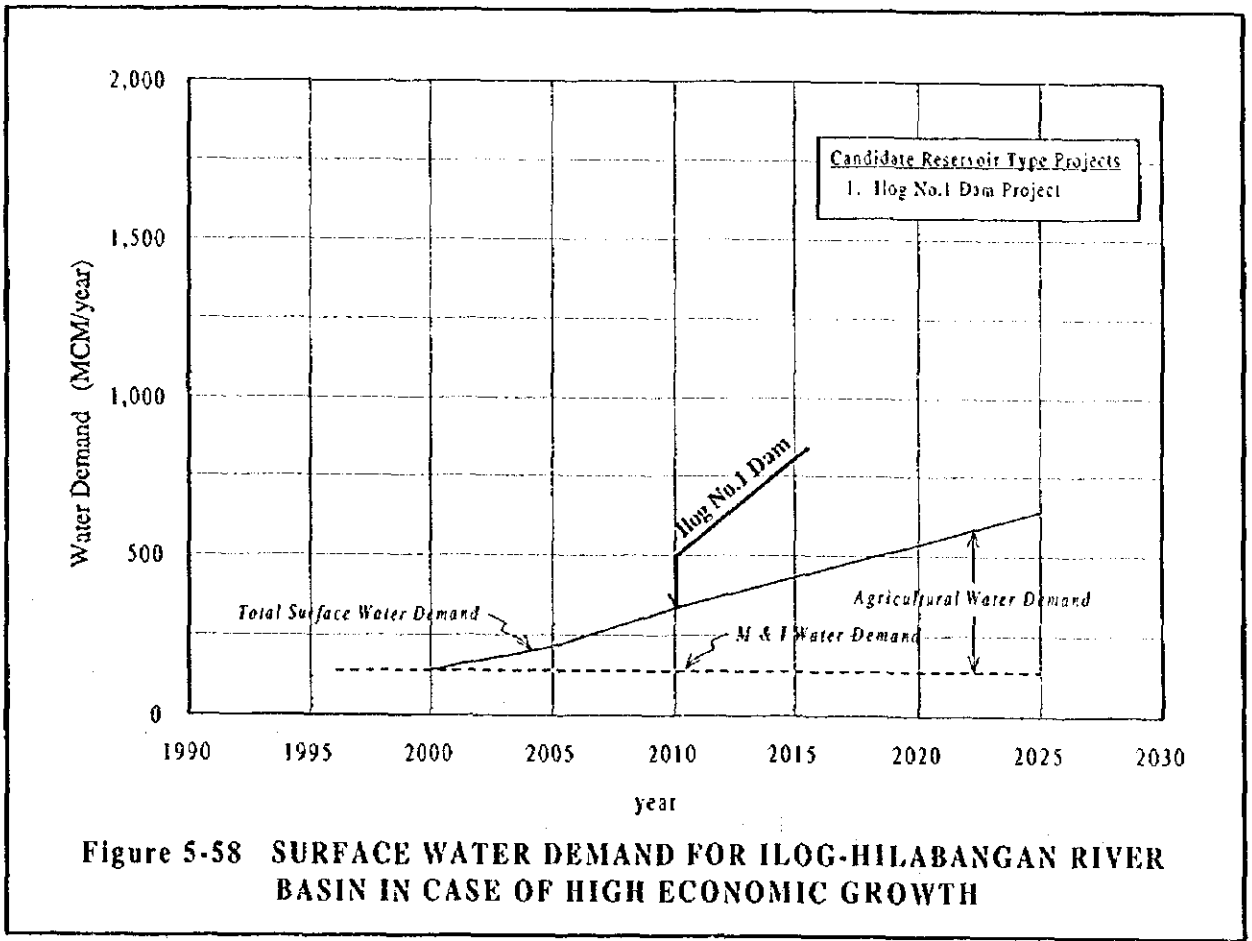
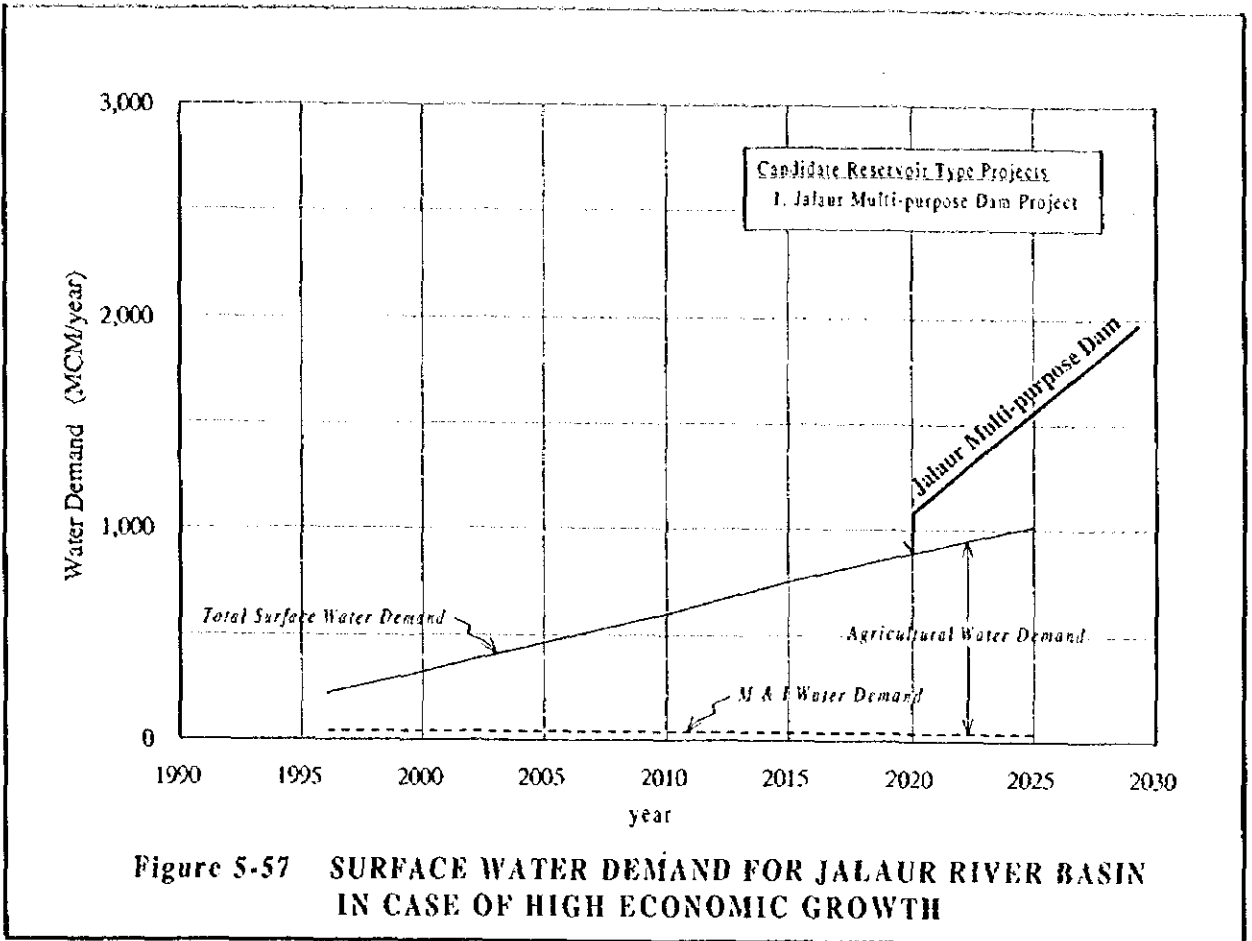


Figure 5-56 SURFACE WATER DEMAND FOR PANAY RIVER BASIN IN CASE OF HIGH ECONOMIC GROWTH



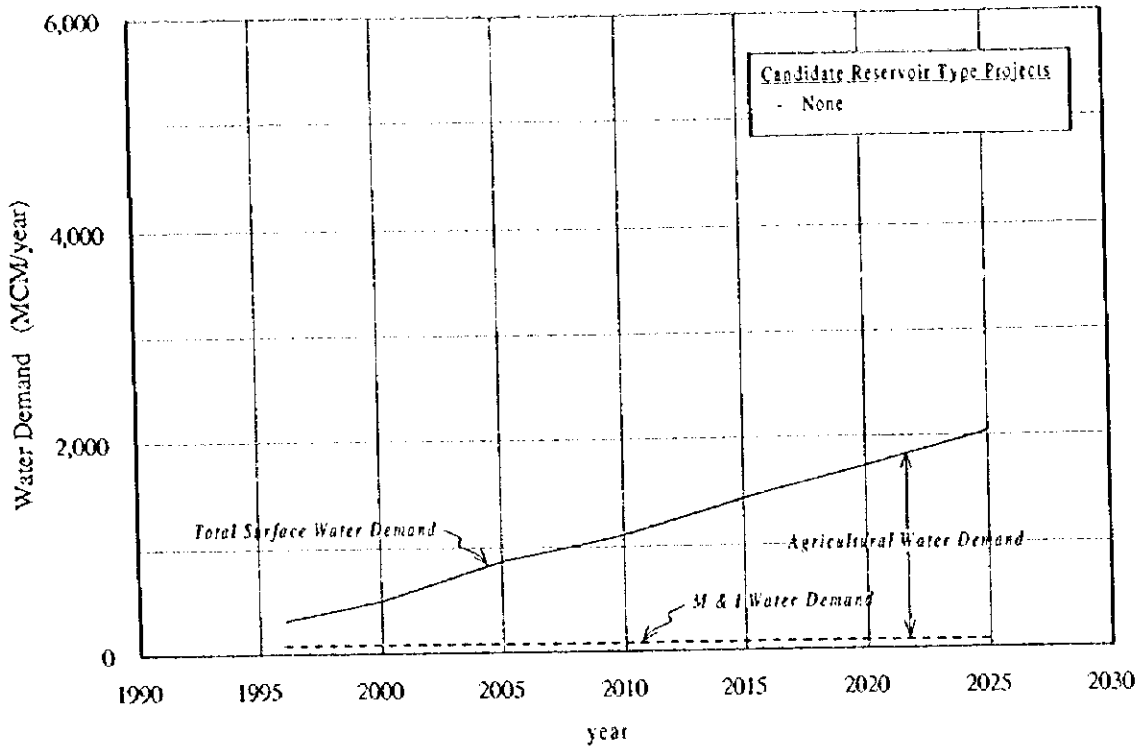


Figure 5-59 SURFACE WATER DEMAND FOR AGUSAN RIVER BASIN IN CASE OF HIGH ECONOMIC GROWTH

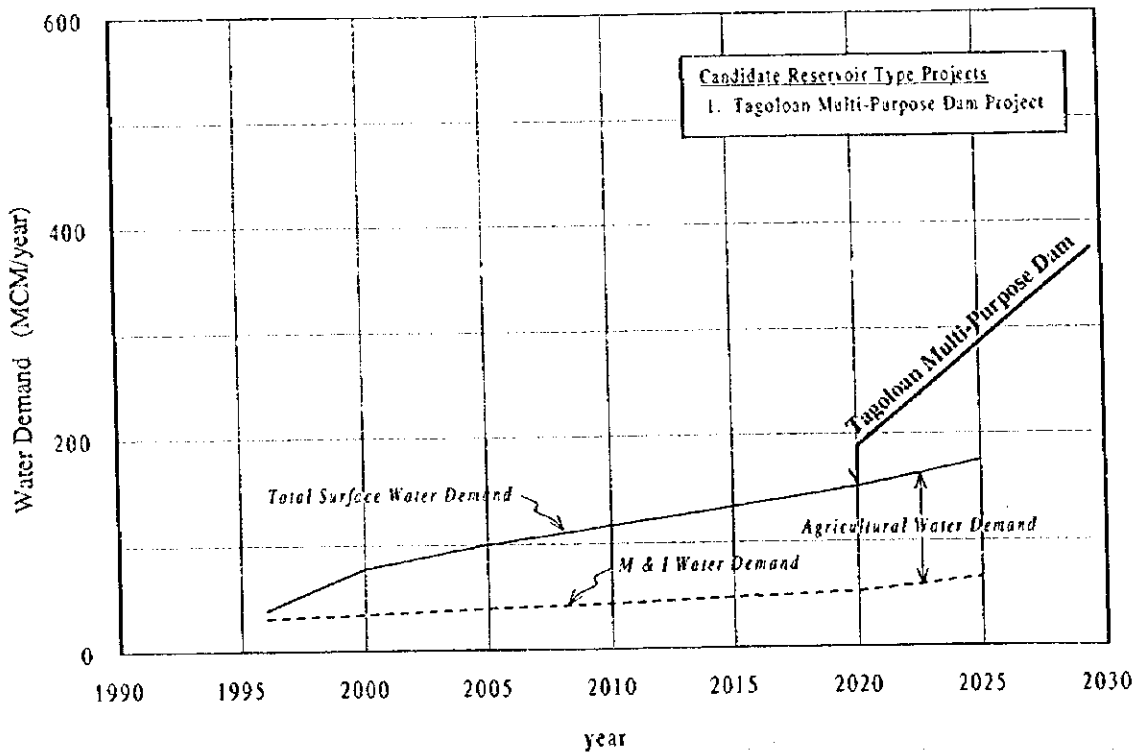
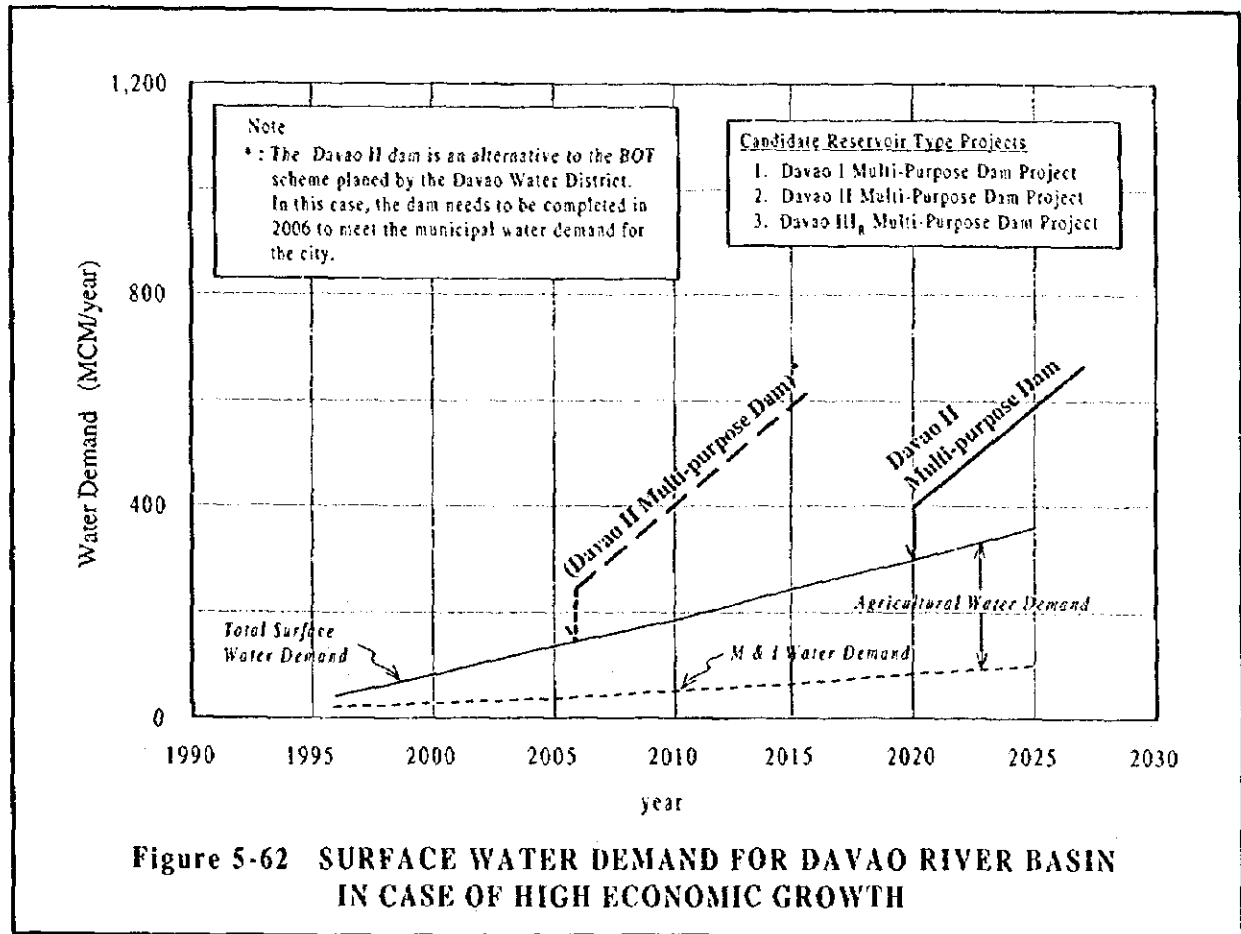
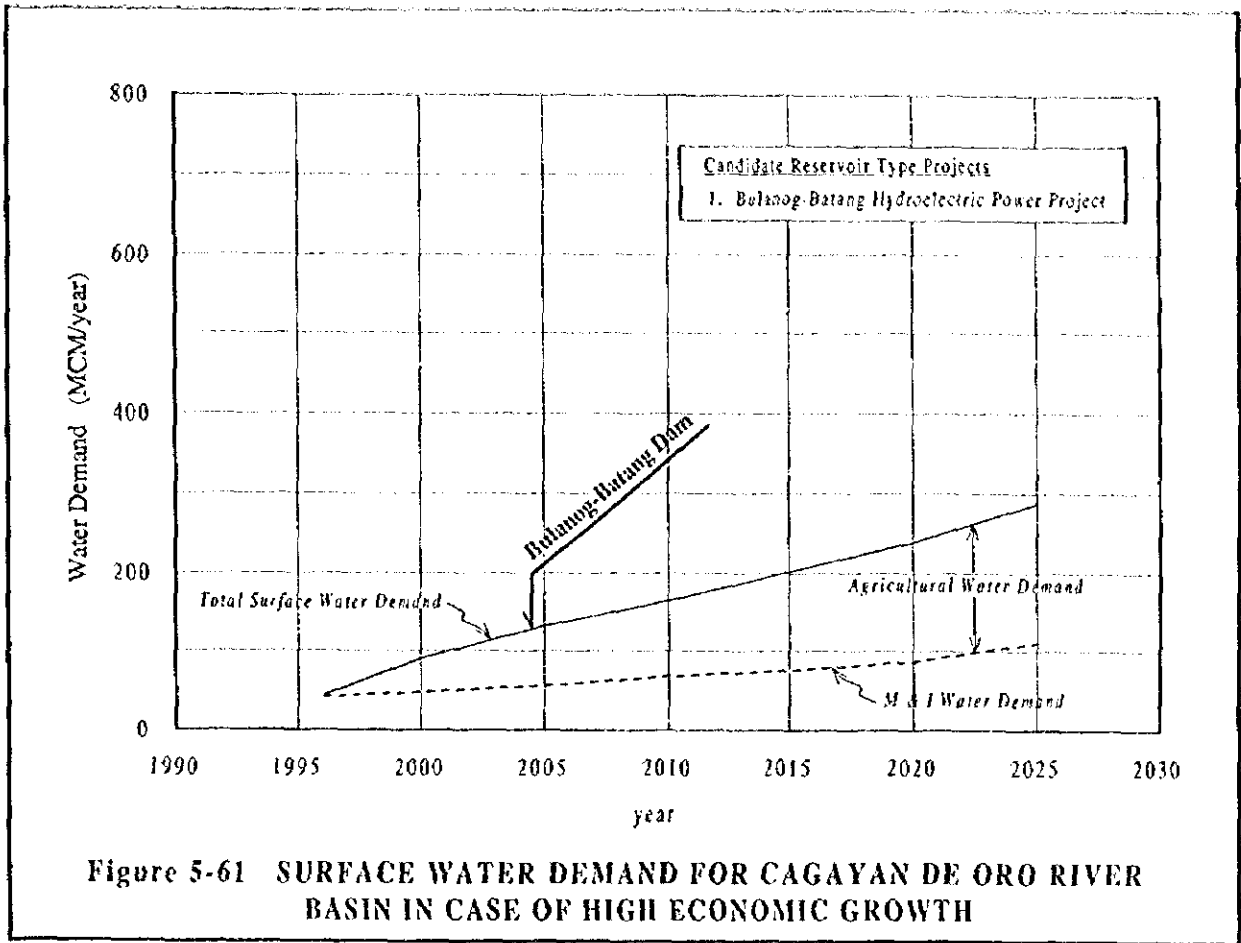


Figure 5-60 SURFACE WATER DEMAND FOR TAGOLOAN RIVER BASIN IN CASE OF HIGH ECONOMIC GROWTH



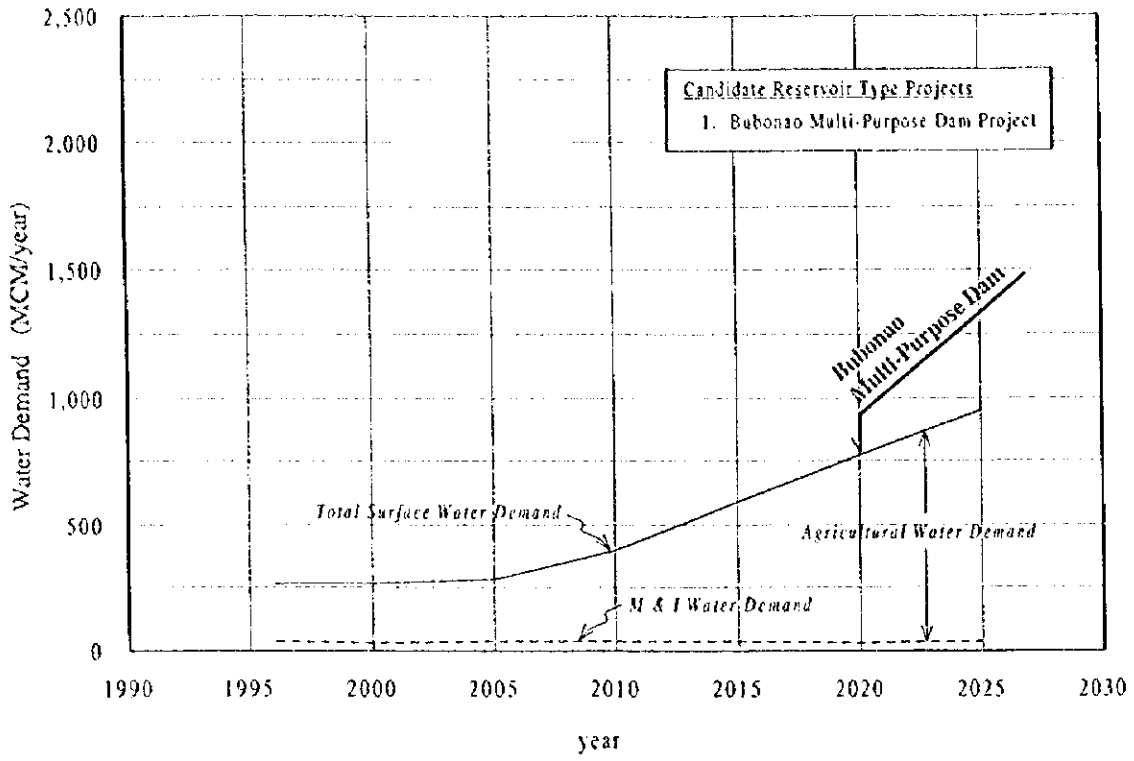


Figure 5-63 SURFACE WATER DEMAND FOR TAGUM-LIBUGANON RIVER BASIN IN CASE OF HIGH ECONOMIC GROWTH

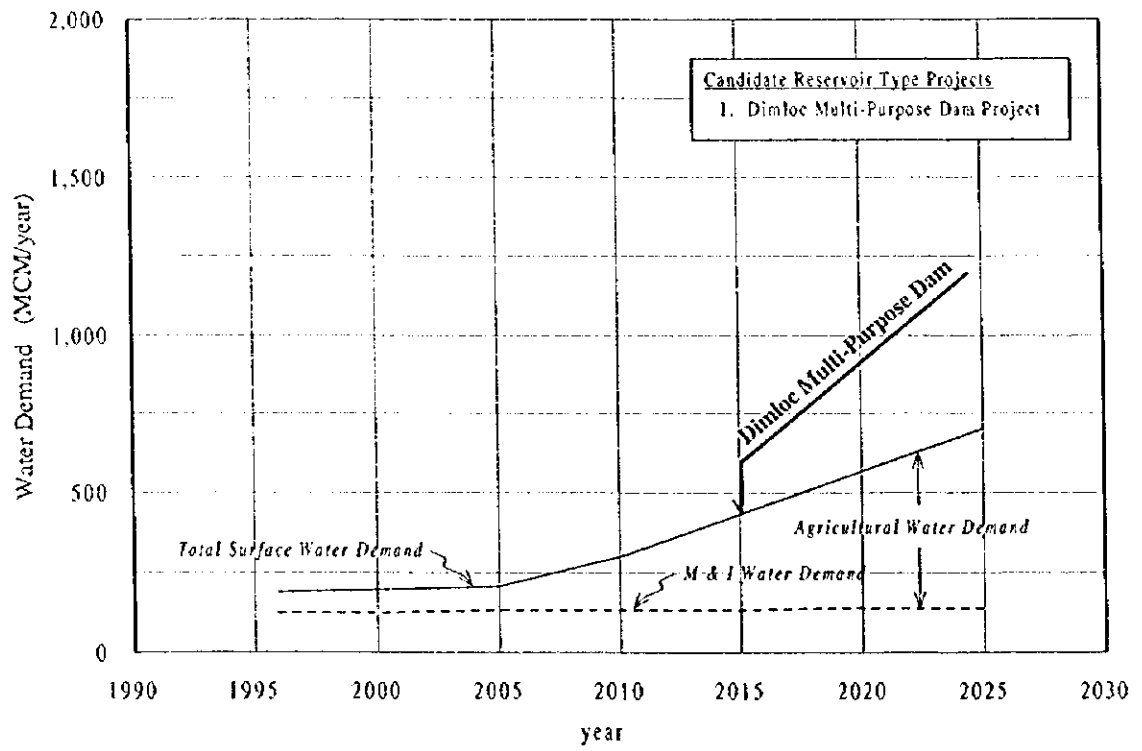
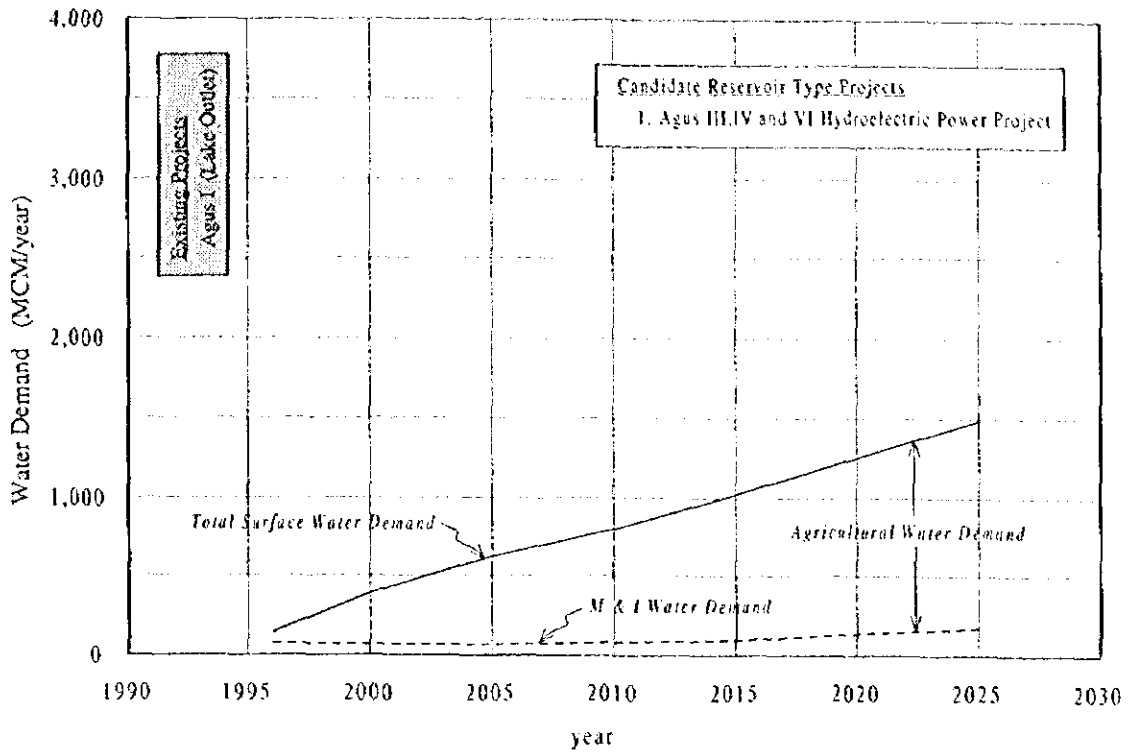
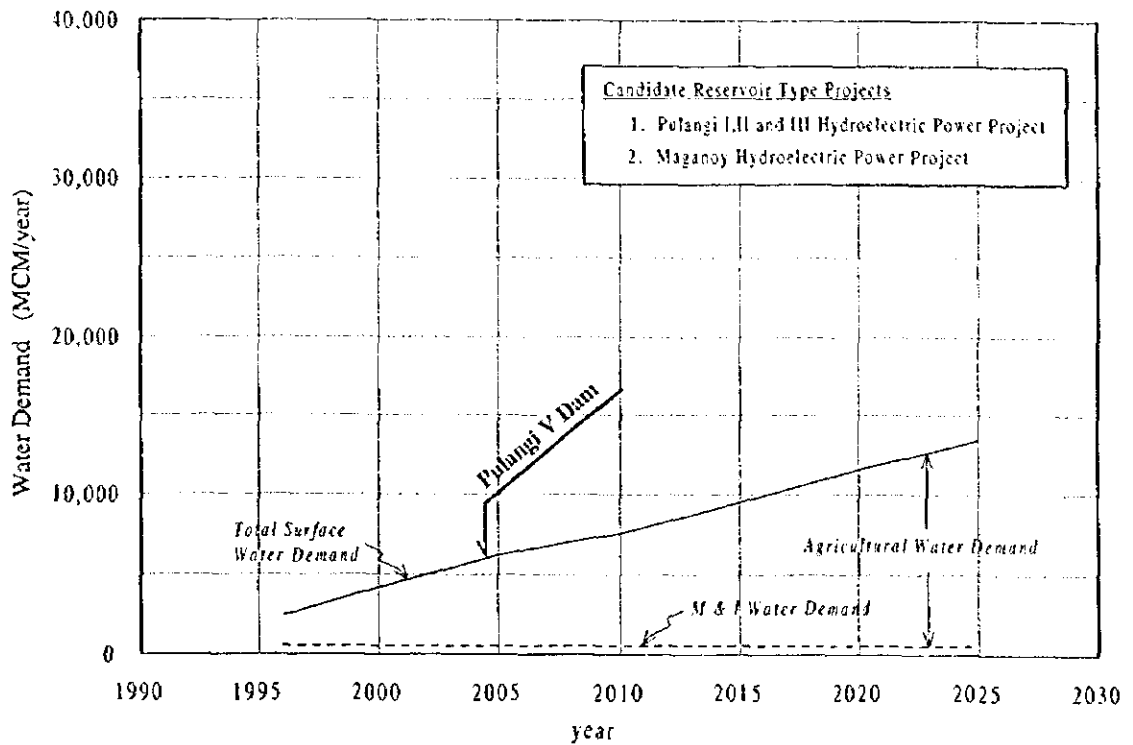


Figure 5-64 SURFACE WATER DEMAND FOR BUAYAN-MALUNGAN RIVER BASIN IN CASE OF HIGH ECONOMIC GROWTH



**Figure 5-65 SURFACE WATER DEMAND FOR AGUS RIVER BASIN
IN CASE OF HIGH ECONOMIC GROWTH**



**Figure 5-66 SURFACE WATER DEMAND FOR MINDANAO RIVER BASIN
IN CASE OF HIGH ECONOMIC GROWTH**