

**JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)  
CABINET OF THE PRIME MINISTER  
THE REPUBLIC OF COTE D'IVOIRE**

**MASTER PLAN STUDY  
ON  
INTEGRATED WATER RESOURCES MANAGEMENT  
IN  
THE REPUBLIC OF COTE D'IVOIRE**

**FINAL REPORT  
SUPPORTING REPORT**

**JANUARY 2001**

**SANYU CONSULTANT INC.  
KATAHIRA & ENGINEERS INTERNATIONAL**

## **LIST OF REPORTS**

This volume is part of the following reports :

- SUMMARY (FRENCH / ENGLISH)
- MAIN REPORT (FRENCH / ENGLISH)
- SUPPORTING REPORT (ENGLISH)

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# **1 SOCIO-ECONOMY**

# 1 SOCIO-ECONOMY

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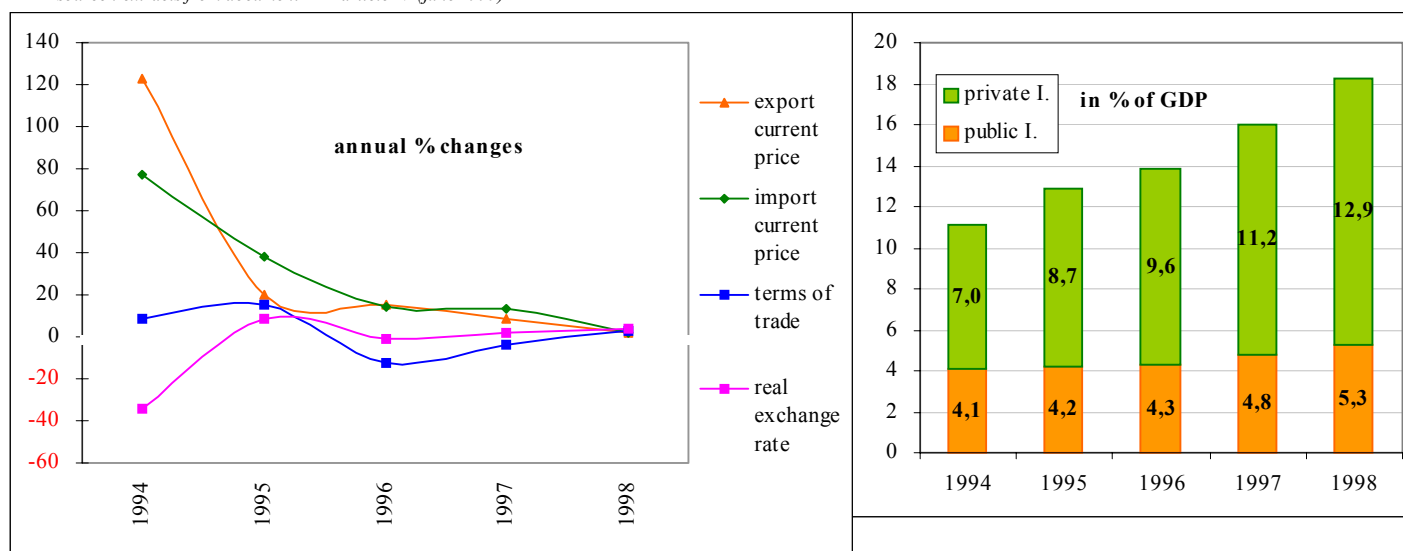
## CHAPTER 1 ECONOMY

### 1.1 Selected Economic Indicators

(IMF July 99)

	1994	1995	1996	1997	1998 est.
<i>National income</i>					
<i>annual percentage changes unless otherwise indicated</i>					
real GDP per capita	-1,9	3,2	3,1	2,3	1,7
GDP at constant prices	2,1	7,1	6,8	6,0	5,4
consumer price index (end of period)	32,2	7,7	3,5	5,2	2,0
<i>External sector (on the basis of CFA F)</i>					
exports FOB at current prices	123,3	19,7	14,9	8,6	1,5
imports FOB at current prices	76,7	38,3	14,4	13,3	1,7
terms of trade (- means deterioration)	9,0	14,9	-12,3	-3,7	2,7
real effective exchange rate (- means depreciation)	-34,5	8,3	-1,0	2,2	3,4
<i>Central government operations</i>					
total revenue and grants	64,5	29,9	11,8	7,8	4,9
total expenditures	30,3	14,8	4,7	8,1	4,0
<i>Money and credit</i>					
net domestic assets <sup>2</sup>	-20,0	5,8	0,7	10,1	7,0
money and quasi money (M2)	47,0	17,0	3,0	12,2	6,3
<i>Central government operations</i>					
<i>in percentage of GDP, unless otherwise indicated</i>					
total revenue and grants	20,6	22,8	23,2	22,9	22,2
total expenditures	27,1	26,5	25,3	25,0	24,0
overall deficit (-), payment order basis	-6,5	-3,7	-2,1	-2,1	-1,8
<i>Investment</i>					
gross domestic investment	11,1	12,9	13,9	16,0	18,2
central government	4,1	4,2	4,3	4,8	5,3
non government sector	7,0	8,7	9,6	11,2	12,9
<i>Earnings</i>					
gross domestic savings	22,3	20,3	22,3	22,7	24,5
central government	3,4	5,4	6,2	5,9	6,2
non government sector	18,9	14,9	16,1	16,8	18,3
gross national savings	11,5	9,0	8,7	11,2	13,7
<i>External sector</i>					
current account balance (including official transfers)	-1,0	-5,8	-4,8	-4,8	-4,5
overall balance of payments (in millions of US \$)	500,0	-203,0	-316,0	-263,0	-139,0
external public debt (including IMF)	183,9	157,9	163,0	140,3	98,0
<i>Public external debt-service ratio (including IMF)</i>					
in % of goods and nonfactor services	36,0	32,9	25,0	20,1	26,9
in % of government revenue	77,3	62,3	52,1	42,2	43,6

source : extracts from document FMI article IV (june 1999)



## CHAPTER 2 POPULATION

### 2.1 Evolution of Population within The Last 4 Census, by Department

	year 1965	evolution 65/75 per year	year 1975	evolution 75/88 per year	year 1988	evolution 88/98 per year	year 1998
GUIGLO	41 600	3,01%	55 945	7,03%	135 345	6,58%	255 883
ISSIA	53 200	6,33%	98 289	5,41%	194 974	3,07%	263 799
JACQUEVILLE	13 400	6,62%	25 438	4,06%	42 664	2,19%	52 962
KATIOLA	62 600	2,75%	82 096	3,67%	131 221	2,27%	164 261
KORHOGO	236 400	1,50%	274 217	2,48%	377 058	1,73%	447 493
LAKOTA	60 500	2,30%	75 930	3,31%	115 948	2,48%	148 088
MAN	171 100	2,75%	224 346	1,91%	286 860	2,34%	361 504
MANKONO	75 100	0,83%	81 589	3,25%	123 723	5,20%	205 371
MBAHIAKRO	56 500	5,26%	94 331	0,66%	102 774	0,64%	109 595
ODIENNE	116 600	0,64%	124 263	2,41%	169 433	2,62%	219 431
OUME	36 000	9,09%	85 953	3,83%	140 166	2,38%	177 289
SAKASSOU	48 400	1,58%	56 616	0,38%	59 494	1,00%	65 707
SAN PEDRO	8 700	19,21%	50 433	9,71%	168 174	9,52%	417 554
SASSANDRA	29 900	4,48%	46 349	6,69%	107 616	6,73%	206 346
SEGUELA	63 500	1,86%	76 379	3,61%	121 120	3,50%	170 922
SINFRA	26 300	9,93%	67 789	4,51%	120 301	3,49%	169 588
SOUBRE	34 300	7,07%	67 932	12,37%	309 307	7,46%	635 266
TABOU	17 600	1,70%	20 839	8,43%	59 708	8,58%	136 040
TANDA	77 700	7,97%	167 319	1,50%	203 129	1,33%	231 783
TENGRELA	37 300	0,40%	38 828	2,75%	55 251	1,41%	63 578
TIASSALE	29 000	10,73%	80 345	3,93%	132 626	2,95%	177 404
TIEBISSOU	48 400	0,40%	50 381	0,42%	53 202	2,89%	70 712
TOUBA	71 200	1,13%	79 639	2,43%	108 816	2,39%	137 816
TOULEPLEU	25 400	-0,44%	24 316	2,18%	32 200	4,38%	49 446
TOUMODI	51 100	3,84%	74 470	0,64%	80 909	2,75%	106 121
VAVOUA	25 600	10,12%	67 136	7,38%	169 454	5,43%	287 655
YAMOOUSSOUKRO	83 400	5,20%	138 412	4,03%	231 411	2,64%	300 323
ZUENOULA	71 300	3,31%	98 741	1,14%	114 440	2,75%	150 159
<b>TOTAL</b>	<b>4 098 000</b>	<b>5,08%</b>	<b>6 729 205</b>	<b>3,71%</b>	<b>10 799 462</b>	<b>3,59%</b>	<b>15 367 750</b>

	year 1965	evolution 65/75 per year	year 1975	evolution 75/88 per year	year 1988	evolution 88/98 per year	year 1998
ABENGOUROU	54 300	8,35%	121 104	4,48%	214 162	3,06%	289 583
ABIDJAN	70 000	4,71%	110 891	4,24%	190 153	2,67%	247 549
ABIDJAN VILLE	362 600	10,09%	948 000	5,64%	1 934 342	4,32%	2 953 018
ABOISSO	49 500	7,00%	97 351	3,68%	155 792	3,73%	224 775
ADIAKE	22 500	7,28%	45 450	3,39%	70 090	3,86%	102 349
ADZOPE	99 500	5,76%	174 204	2,41%	237 265	1,75%	282 266
AGBOVILLE	73 500	7,29%	148 520	2,46%	203 730	1,85%	244 757
AGNIBILEKROU	23 500	8,56%	53 428	3,58%	84 404	2,40%	106 947
ALEPE	31 000	3,19%	42 427	4,05%	71 052	3,15%	96 923
BANGOLO	43 300	3,11%	58 838	2,43%	80 374	5,22%	133 711
BEOUMI	85 100	1,48%	98 566	-0,61%	91 062	2,87%	120 854
BIANKOUMA	59 500	2,46%	75 856	2,10%	99 431	2,12%	122 626
BOCANDA	76 400	2,42%	97 006	-1,96%	75 020	1,18%	84 329
BONDOUKOU	78 500	5,03%	128 225	2,45%	175 632	3,60%	250 133
BONGOUANOU	115 300	6,64%	219 249	0,21%	225 432	0,89%	246 265
BOUAFLE	61 200	5,42%	103 742	3,58%	163 917	3,55%	232 428
BOUAKE	200 600	2,91%	267 361	4,14%	453 074	3,07%	613 017
BOUNA	53 700	5,80%	94 347	2,76%	134 459	2,80%	177 156
BOUNDIALI	85 500	2,13%	105 526	1,45%	127 231	2,53%	163 281
DABAKALA	50 200	0,85%	54 643	3,18%	82 094	2,28%	102 868
DABOU	51 400	7,48%	105 787	2,83%	152 042	2,47%	194 093
DALOA	95 900	7,70%	201 298	4,61%	361 472	3,76%	522 932
DANANE	122 000	3,51%	172 318	1,97%	222 045	3,38%	309 725
DAOUKRO	52 000	6,37%	96 402	-0,84%	86 425	2,81%	113 969
DIMBOKRO	50 000	2,60%	64 630	0,27%	66 914	1,86%	80 416
DIVO	87 800	8,52%	198 921	5,31%	389 530	3,22%	534 643
DUEKOUÉ	31 100	6,04%	55 884	4,69%	101 451	6,64%	192 996
FERKESSEDOUGOU	65 500	3,31%	90 731	5,08%	172 850	3,70%	248 665
GAGNOA	119 800	3,82%	174 245	3,59%	275 765	2,96%	369 091
GRAND BASSAM	42 800	5,76%	74 902	2,43%	102 283	3,02%	137 792
GRAND LAHOU	11 900	5,86%	21 032	7,31%	52 645	5,09%	86 497



## 2.2 Detailed Results of The Last 4 Census by Sub-Prefectures

code	code	code		POPULATION		POPULATION		POPULATION		POPULATION
region	dpt.	sub-pref		TOTAL 65	tx 65/75	TOTAL 75	tx 75/88	TOTAL 88	tx 88/98	TOTAL 98
<b>C E N S U S 6 5 / 7 5 / 8 8 / 9 8</b>										
02	11	01	ARRAH	28 400	6,72%	54 437	0,80%	60 393	0,84%	65 688
02	11	02	BONGOUANOU	49 800	6,46%	93 094	-0,74%	84 527	0,92%	92 673
02	11	03	M B A T T O	22 800	8,17%	50 013	0,65%	54 390	-1,78%	45 426
02	11	04	T I E M E L E K R O	14 300	4,26%	21 705	1,44%	26 122	0,97%	28 779
02	19	01	D A O U K R O	24 000	5,17%	39 747	-0,36%	37 904	4,42%	58 442
02	19	02	E T T R O K R O	7 000	8,52%	15 849	2,16%	20 929	1,12%	23 394
02	19	03	O U E L L E	21 000	6,87%	40 806	-2,97%	27 592	1,54%	32 133
02	20	01	B O C A N D A	59 000	3,74%	85 151	-2,31%	62 862	1,04%	69 728
02	20	02	D I M B O K R O	50 000	2,60%	64 630	0,27%	66 914	1,86%	80 416
02	20	03	K O U A S S I - K O U A S S I K R O	17 400	-3,76%	11 855	0,19%	12 158	1,85%	14 601
02	47	01	K O K O U M B O	15 200	2,78%	19 986	1,36%	23 824	3,92%	35 000
02	47	02	T O U M O D I	35 900	4,26%	54 484	0,36%	57 085	2,10%	70 290
02	49	01	D I D I E V I	29 000	0,30%	29 893	0,50%	31 898	1,24%	36 072
02	49	02	T I E B I S S O	48 400	0,40%	50 381	0,42%	53 202	2,89%	70 712
02	49	03	T I E N D I E K R O	18 000	-5,07%	10 702	2,00%	13 848	0,76%	14 934
02	49	04	Y A M O U S S O U K R O	36 400	10,39%	97 817	5,05%	185 665	2,99%	249 317
03	01	01	A B E N G O U R O U	43 300	8,16%	94 862	4,24%	162 740	2,74%	213 283
03	01	03	N I A B L E	8 300	8,94%	19 550	3,04%	28 837	2,45%	36 719
03	01	03	B E T T I E	2 700	9,50%	6 692	9,81%	22 585	5,77%	39 581
03	06	01	A G N I B I L E K R O U	23 500	8,56%	53 428	3,58%	84 404	6,23%	154 531
04	08	01	B E O U M I	54 700	2,61%	70 806	-0,76%	64 095	2,48%	81 864
04	08	02	B O D O K K R O	30 400	-0,90%	27 760	-0,22%	26 967	3,76%	38 990
04	13	01	B O T R O	21 400	-0,70%	19 942	-0,37%	18 997	2,36%	23 998
04	13	02	B O U A K E	112 600	5,50%	192 417	5,38%	380 220	3,28%	524 798

code	code	code		POPULATION		POPULATION		POPULATION		POPULATION
region	dpt.	sub-pref		TOTAL 65	tx 65/75	TOTAL 75	tx 75/88	TOTAL 88	tx 88/98	TOTAL 98
<b>C E N S U S 6 5 / 7 5 / 8 8 / 9 8</b>										
04	13	03	B R O B O	20 100	-0,38%	19 343	0,00%	19 355	1,61%	22 705
04	13	04	D I A B O	25 100	-1,48%	21 617	0,58%	23 303	0,59%	24 718
04	13	05	D J E B O N O U A	21 400	-4,13%	14 042	-1,73%	11 199	4,14%	16 798
04	16	01	B A S S A W A	4 200	5,69%	7 305	1,38%	8 734	2,16%	10 814
04	16	02	B O N I E R E D O U G O U	10 600	0,04%	10 641	2,43%	14 543	2,81%	19 195
04	16	03	D A B A K A L A	22 200	0,04%	22 297	3,79%	36 184	2,36%	45 678
04	16	04	F O M B O L O	5 100	-0,61%	4 799	2,70%	6 786	4,15%	10 189
04	16	05	S A T A M A - S O K O R O	5 700	0,58%	6 040	2,77%	8 613	0,75%	9 283
04	16	06	S A T A M A - S O K O U R A	2 400	4,02%	3 561	5,60%	7 234	2,19%	8 987
04	28	01	F R O N A N	12 900	-0,20%	12 641	1,63%	15 602	2,16%	19 324
04	28	02	K A T I O L A	24 400	3,53%	34 527	2,68%	48 672	1,23%	55 018
04	28	03	N I A K A R A M A N D O U G O U	14 700	1,55%	17 142	2,21%	22 779	3,56%	32 309
04	28	04	T A F I R E	7 200	5,27%	12 038	3,69%	19 284	3,85%	28 127
04	28	05	T O R T I Y A	3 400	5,39%	5 748	11,93%	24 884	1,71%	29 483
04	33	01	M B A H I A K R O	28 800	5,00%	46 919	0,38%	49 283	-0,09%	48 850
04	33	02	P R I K R O	27 700	5,52%	47 412	0,93%	53 491	1,06%	59 467
04	36	01	S A K A S S O U	48 400	1,58%	56 616	0,38%	59 494	1,00%	65 707
05	12	01	B O N O N	15 200	7,37%	30 952	3,98%	51 404	4,44%	79 373
05	12	02	B O U A F L E	46 000	4,70%	72 790	3,41%	112 513	3,13%	153 055
05	17	01	B E D I A L A	7 300	11,06%	20 838	7,65%	54 334	3,37%	75 710
05	17	02	D A L O A	66 400	7,65%	138 775	3,71%	222 784	4,54%	347 378
05	17	03	G B O G U H E	11 400	4,51%	17 721	5,46%	35 391	5,31%	59 388
05	17	04	Z O U K O U G B E U	10 800	8,30%	23 964	5,65%	48 963	5,55%	84 033
05	24	01	G A G N O A	60 400	4,11%	90 326	4,39%	157 821	2,33%	198 619

code	code	code		POPULATION		POPULATION		POPULATION		POPULATION
region	dpt.	sub-pref		TO TAL 65	tx 65/75	TO TAL 75	tx 75/88	TO TAL 88	tx 88/98	TO TAL 98
<b>C E N S U S 6 5 / 7 5 / 8 8 / 9 8</b>										
05	24	02	GU IBEROUA	20 700	5,19%	34 340	3,09%	51 022	4,12%	76 378
05	24	03	O U R A G A H I O	38 700	2,51%	49 579	2,33%	66 922	3,47%	94 094
05	27	01	ISSIA	37 000	5,61%	63 893	5,38%	126 248	3,52%	178 417
05	27	02	S A I O U A	16 200	7,82%	34 396	5,47%	68 726	2,19%	85 382
05	35	01	D I E G O N E F L A	13 000	5,06%	21 289	7,04%	51 578	3,50%	72 766
05	35	02	O U M E	23 000	10,89%	64 664	2,45%	88 588	1,67%	104 523
05	40	01	S I N F R A	26 300	9,93%	67 789	4,51%	120 301	3,49%	169 588
05	48	01	V A V O U A	25 600	10,12%	67 136	7,38%	169 454	3,70%	243 578
05	50	01	G O H I T A F L A	27 100	2,43%	34 447	-0,62%	31 791	3,08%	43 067
05	50	02	Z U E N O U L A	44 200	3,82%	64 294	1,95%	82 649	2,62%	107 092
06	09	01	B I A N K O U M A	38 700	3,06%	52 313	1,87%	66 521	2,90%	88 524
06	09	02	G B O N N E	10 700	-1,91%	8 824	2,98%	12 933	1,98%	15 740
06	09	03	S I P L O U	10 100	3,84%	14 719	2,38%	19 977	2,22%	24 885
06	15	01	B O U N D I A L I	28 100	1,86%	33 794	2,51%	46 655	2,64%	60 525
06	15	02	G B O N	15 000	-2,05%	12 197	2,63%	17 091	1,96%	20 761
06	15	03	K A S S E R E	13 700	0,44%	14 311	0,43%	15 127	3,23%	20 784
06	15	04	K O L I A	13 000	2,14%	16 062	2,87%	23 215	2,65%	30 148
06	15	05	K O U T O	15 700	6,39%	29 162	-1,13%	25 143	2,14%	31 063
06	23	01	D I A W A L A	6 300	-0,05%	6 266	8,93%	19 045	4,57%	29 785
06	23	02	F E R K E S S E D O U G O U	23 800	5,50%	40 658	4,10%	68 573	1,24%	77 589
06	23	03	K O N G	10 800	-0,16%	10 625	3,36%	16 329	9,09%	38 965
06	23	04	K O U M B A L A	6 300	2,07%	7 732	3,91%	12 730	2,91%	16 957
06	23	05	N I E L L E	9 800	1,33%	11 181	6,63%	25 769	2,76%	33 847
06	23	06	O U A N G O L O D O U G O U	8 500	5,32%	14 269	5,99%	30 404	5,42%	51 522
06	29	01	D K O D O U G O U	15 700	3,97%	23 169	-1,28%	19 608	6,52%	36 881
06	29	02	G U I E M B E	7 500	3,07%	10 146	-0,48%	9 531	0,77%	10 293
06	29	03	K A R A K O R O	21 500	-4,99%	12 882	1,14%	14 925	-1,04%	13 440
06	29	04	K O R H O G O	66 800	2,67%	86 972	5,33%	170 885	1,93%	206 966
06	29	05	K O M B O R O D O U G O U	6 200	3,32%	8 596	2,25%	11 473	-0,65%	10 752
06	29	06	M B E N G U E	16 300	2,27%	20 393	2,48%	28 039	2,82%	37 038
06	29	07	N A P I E O L E D O U G O U	26 100	2,84%	34 531	-0,79%	31 159	-2,82%	23 414
06	29	08	N I O F O I N	14 200	1,01%	15 704	1,32%	18 628	2,40%	23 614
06	29	09	S I N E M A T I A L I	25 200	-0,40%	24 202	2,36%	32 788	1,47%	37 941
06	29	10	S I R A S S O	20 400	1,22%	23 034	0,71%	25 266	1,90%	30 502
06	29	11	T I D R O N I A R A D O U G O U	16 500	-1,22%	14 588	0,09%	14 756	1,22%	16 652
06	44	01	K A N A K O N O	6 100	-0,45%	5 830	1,89%	7 439	2,73%	9 739
06	44	02	T E N G R E L A	31 200	0,56%	32 998	2,89%	47 812	1,19%	53 839

code	code	code		POPULATION		POPULATION		POPULATION		POPULATION
region	dpt.	sub-pref		TO TAL 65	tx 65/75	TO TAL 75	tx 75/88	TO TAL 88	tx 88/98	TO TAL 98
<b>C E N S U S 6 5 / 7 5 / 8 8 / 9 8</b>										
07	10	01	B O N D O U K O U	67 500	4,73%	107 169	2,56%	148 815	2,23%	185 554
07	10	02	S A N D E G U E	11 000	6,71%	21 056	1,88%	26 817	3,56%	38 060
07	14	01	B O U N A	20 800	8,89%	48 762	2,79%	69 753	3,41%	97 561
07	14	02	D O R O P O	11 900	4,01%	17 627	0,64%	19 149	0,95%	21 048
07	14	03	N A S S I A N	8 600	3,60%	12 243	4,11%	20 664	3,19%	28 277
07	14	04	T E H I N I	12 400	2,40%	15 715	3,60%	24 893	1,97%	30 270
07	43	01	A S S U E F R Y	8 000	8,90%	18 769	1,40%	22 482	2,80%	29 645
07	43	02	K O U A S S I - D A T E K R O	10 700	7,13%	21 298	2,30%	28 617	1,86%	34 407
07	43	03	K O U N F A O	28 200	7,69%	59 153	0,65%	64 326	-4,08%	42 403
07	43	04	T A N D A	22 700	7,49%	46 748	0,84%	52 100	2,13%	64 322
07	43	05	T R A N S U A	8 100	10,18%	21 351	4,01%	35 604	1,16%	39 941
08	32	01	D I A N R A	12 100	2,34%	15 249	5,34%	29 987	3,55%	42 515
08	32	02	K O N G A S S O	7 700	1,45%	8 892	1,18%	10 356	3,28%	14 301
08	32	03	K O U N A H I R I	11 900	-1,11%	10 645	-0,96%	9 386	4,45%	14 501
08	32	04	M A N K O N O	17 200	1,13%	19 244	2,70%	27 214	4,73%	43 222
08	32	05	S A R H A L A	4 800	-0,38%	4 619	5,43%	9 190	12,02%	28 605
08	32	06	T I E N I N G B O U E	21 400	0,70%	22 940	3,87%	37 590	5,17%	62 227
08	34	01	B A K O	13 300	0,94%	14 610	1,48%	17 676	2,19%	21 949
08	34	02	D I O U L A T I E D O U G O U	3 600	-1,54%	3 081	3,52%	4 832	3,45%	6 782
08	34	03	G O U L I A	10 900	3,28%	15 045	1,67%	18 653	3,94%	27 446
08	34	04	K A N I A S S O	5 500	-0,09%	5 448	2,42%	7 438	1,46%	8 598
08	34	05	M A D I N A N I	23 400	-2,49%	18 194	1,34%	21 643	2,71%	28 283
08	34	06	M I N I G N A N	6 400	4,99%	10 417	3,24%	15 769	-0,49%	15 011
08	34	07	O D I E N N E	26 800	1,12%	29 965	3,39%	46 202	4,05%	68 713
08	34	08	S A M A T I G U I L A	1 200	9,24%	2 904	3,95%	4 806	0,59%	5 095
08	34	09	S E G U E L O N	10 200	-0,99%	9 230	1,81%	11 660	2,00%	14 219
08	34	10	S E Y D O U G O U	4 800	-1,50%	4 125	1,95%	5 302	-3,26%	3 808
08	34	11	T I E M E	4 300	-0,59%	4 054	2,02%	5 259	2,66%	6 841
08	34	12	T I E N K O	6 200	1,49%	7 190	2,72%	10 193	2,21%	12 686

code	code	code		POPULATION		POPULATION		POPULATION		POPULATION
region	dpt.	sub-pref		TO TAL 65	tx 65/75	TO TAL 75	tx 75/88	TO TAL 88	tx 88/98	TO TAL 98
<b>C E N S U S 6 5 / 7 5 / 8 8 / 9 8</b>										
08	39	01	D J I B R O S S O	4 1 0 0	2,49%	5 2 4 4	1,62%	6 4 6 3	2,19%	8 0 2 8
08	39	02	D U A L L A	3 4 0 0	-5,87%	1 8 5 6	7,45%	4 7 2 4	3,12%	6 4 2 0
08	39	03	K A N I	5 2 0 0	4,56%	8 1 2 3	4,01%	1 3 5 3 5	3,51%	1 9 1 0 8
08	39	04	M A S S A L A	7 9 0 0	-0,61%	7 4 3 1	1,68%	9 2 3 3	4,25%	1 3 9 9 5
08	39	05	M O R O N D O	5 8 0 0	3,27%	8 0 0 1	3,41%	1 2 3 7 0	2,41%	1 5 7 0 2
08	39	06	S E G U E L A	1 9 9 0 0	2,91%	2 6 5 0 6	5,32%	5 1 9 7 3	4,47%	8 0 4 6 0
08	39	07	S I F I E	9 4 0 0	1,10%	1 0 4 9 1	1,40%	1 2 5 6 7	1,62%	1 4 7 5 3
08	39	08	W O R O F L A	7 8 0 0	1,13%	8 7 2 7	1,25%	1 0 2 5 5	1,96%	1 2 4 5 6
08	46	01	B O O K O	1 0 0 0 0	2,37%	1 2 6 3 4	0,60%	1 3 6 5 9	1,93%	1 6 5 4 3
08	46	02	B O R O T O U	6 0 0 0	1,27%	6 8 1 0	1,21%	7 9 6 2	1,38%	9 1 3 2
08	46	03	G U I N T E G U E L A	4 0 0 0	0,89%	4 3 6 9	-0,15%	4 2 8 4	1,71%	5 0 7 7
08	46	04	K O O N A N	8 1 0 0	1,36%	9 2 7 1	1,25%	1 0 8 9 5	3,53%	1 5 4 1 3
08	46	05	K O R O	3 5 0 0	2,79%	4 6 0 8	11,13%	1 8 1 6 2	1,11%	2 0 2 7 6
08	46	06	O U A N I N O U	2 0 1 0 0	-1,35%	1 7 5 4 3	-0,14%	1 7 2 1 8	2,52%	2 2 0 9 1
08	46	07	T O U B A	1 9 5 0 0	2,27%	2 4 4 0 4	3,17%	3 6 6 3 6	1,56%	4 2 7 6 1
09	07	01	B A N G O L O	4 3 3 0 0	3,11%	5 8 8 3 8	2,43%	8 0 3 7 4	3,82%	1 1 6 9 4 8
09	18	01	B I N - H O U Y E	1 3 2 0 0	2,11%	1 6 2 7 3	1,84%	2 0 6 2 5	3,73%	2 9 7 3 9
09	18	02	D A N A N E	6 7 8 0 0	3,91%	9 9 5 1 0	2,33%	1 3 4 1 8 8	3,45%	1 8 8 3 2 7
09	18	03	Z O U A N H O U N I E N	4 1 0 0 0	3,27%	5 6 5 3 5	1,34%	6 7 2 3 2	3,15%	9 1 6 5 9
09	22	01	D U E K O U E	3 1 1 0 0	6,04%	5 5 8 8 4	4,69%	1 0 1 4 5 1	7,53%	2 0 9 7 5 9
09	26	01	B L O L E Q U I N	2 1 2 0 0	2,13%	2 6 1 6 7	4,47%	4 6 1 7 7	7,11%	9 1 7 7 8
09	26	02	G U I G L O	1 6 8 0 0	3,15%	2 2 9 1 3	7,56%	5 9 1 2 9	6,42%	1 1 0 1 5 8
09	26	03	T A I	3 6 0 0	6,67%	6 8 6 5	12,02%	3 0 0 3 9	6,03%	5 3 9 4 7
09	26	04	T O U L E P L E U	2 5 4 0 0	-0,44%	2 4 3 1 6	2,18%	3 2 2 0 0	4,38%	4 9 4 4 6
09	31	01	F A C O B L Y	2 6 8 0 0	2,13%	3 3 0 9 1	1,37%	3 9 4 9 5	2,97%	5 2 9 2 7
09	31	02	K O U I B L Y	2 8 3 0 0	2,06%	3 4 7 0 2	1,88%	4 4 1 9 9	0,28%	4 5 4 6 3
09	31	03	L O G O U A L E	3 1 1 0 0	0,79%	3 3 6 4 2	0,87%	3 7 6 7 2	3,01%	5 0 6 7 7
09	31	04	M A N	6 9 7 0 0	4,16%	1 0 4 8 0 3	2,13%	1 3 7 8 7 3	2,43%	1 7 5 2 3 8
09	31	05	S A N G O U I N E	1 5 2 0 0	1,77%	1 8 1 0 8	3,30%	2 7 6 2 1	3,02%	3 7 1 9 9
10	37	01	G R A N D B E R E B Y	5 5 0 0	6,31%	1 0 1 3 8	10,21%	3 5 8 7 7	7,62%	7 4 8 0 0
10	37	02	S A N P E D R O	3 2 0 0	28,83%	4 0 2 9 5	9,58%	1 3 2 2 9 7	9,99%	3 4 2 7 5 4
10	38	01	G U E Y O	5 1 0 0	6,02%	9 1 5 0	9,97%	3 1 4 6 8	5,26%	5 2 5 5 3
10	38	02	S A S S A N D R A	2 4 8 0 0	4,14%	3 7 1 9 9	5,67%	7 6 1 4 8	7,28%	1 5 3 7 9 3
10	41	01	B U Y O	5 5 0 0	9,49%	1 3 6 2 0	12,32%	6 1 6 4 4	7,96%	1 3 2 5 7 3
10	41	02	M E A G U I	1 8 0 0	8,66%	4 1 3 2	26,39%	8 6 8 1 8	9,37%	2 1 2 5 4 8
10	41	03	G R A N D Z A T T R Y	9 6 0 0	4,39%	1 4 7 5 9	8,09%	4 0 5 6 7	5,94%	7 2 2 7 3
10	41	04	S O U B R E	1 7 4 0 0	7,37%	3 5 4 2 1	9,86%	1 2 0 2 7 8	6,12%	2 1 7 8 7 2
10	42	01	G R A B O	3 6 0 0	-0,25%	3 5 1 0	17,47%	2 8 4 5 3	7,94%	6 1 0 7 3
10	42	02	T A B O U	1 4 0 0 0	2,16%	1 7 3 2 9	4,64%	3 1 2 5 5	9,14%	7 4 9 6 7
			T O T A L	4 0 9 8 0 0 0	5,08%	6 7 2 9 2 0 5	3,71%	1 0 7 9 9 4 6 2	3,59%	1 5 3 6 6 4 2 0

	year 1965	evolution 65/75 average/year	year 1975	evolution 75/88 average/year	year 1988	evolution 88/98 average/year	year 1998		
ABENGOUROU	54 300	8,35%	121 104	4,48%	214 162	3,06%	289 583		
ABIDJAN	70 000	4,71%	110 891	4,24%	190 153	2,67%	247 549	weight Abidjan	
ABIDJAN VILLE	362 600	10,09%	948 000	5,64%	1 934 342	4,32%	2 953 018	8,8%	in 65
ABOISSO	49 500	7,00%	97 351	3,68%	155 792	3,73%	224 775	14,1%	in 75
ADIAKE	22 500	7,28%	45 450	3,39%	70 090	3,86%	102 349	17,9%	in 88
ADZOPE	99 500	5,76%	174 204	2,41%	237 265	1,75%	282 266	19,2%	in 98
AGBOVILLE	73 500	7,29%	148 520	2,46%	203 730	1,85%	244 757		
AGNIBILEKROU	23 500	8,56%	53 428	3,58%	84 404	2,40%	106 947	area	322463
ALEPE	31 000	3,19%	42 427	4,05%	71 052	3,15%	96 923	inhbt/km2	47,7
BANGOLO	43 300	3,11%	58 838	2,43%	80 374	5,22%	133 711		
BEOMI	85 100	1,48%	98 566	-0,61%	91 062	2,87%	120 854		
BIANKOUMA	59 500	2,46%	75 856	2,10%	99 431	2,12%	122 626		
BOCANDA	76 400	2,42%	97 006	-1,96%	75 020	1,18%	84 329		
BONDOUKOU	78 500	5,03%	128 225	2,45%	175 632	3,60%	250 133		
BONGOUANOU	115 300	6,64%	219 249	0,21%	225 432	0,89%	246 265		
BOUAFLE	61 200	5,42%	103 742	3,58%	163 917	3,55%	232 428		
BOUAKE	200 600	2,91%	267 361	4,14%	453 074	3,07%	613 017		
BOUNA	53 700	5,80%	94 347	2,76%	134 459	2,80%	177 156		
BOUNDIALI	85 500	2,13%	105 526	1,45%	127 231	2,53%	163 281		
DABAKALA	50 200	0,85%	54 643	3,18%	82 094	2,28%	102 868		
DABOU	51 400	7,48%	105 787	2,83%	152 042	2,47%	194 093		
DALOA	95 900	7,70%	201 298	4,61%	361 472	3,76%	522 932		
DANANE	122 000	3,51%	172 318	1,97%	222 045	3,38%	309 725		
DAOUKRO	52 000	6,37%	96 402	-0,84%	86 425	2,81%	113 969		
DIMBOKRO	50 000	2,60%	64 630	0,27%	66 914	1,86%	80 416		
DIVO	87 800	8,52%	198 921	5,31%	389 530	3,22%	534 643		
DUEKOUÉ	31 100	6,04%	55 884	4,69%	101 451	6,64%	192 996		
FERKESSEDOUGOU	65 500	3,31%	90 731	5,08%	172 850	3,70%	248 665		
GAGNOA	119 800	3,82%	174 245	3,59%	275 765	2,96%	369 091		

	year 1965	evolution 65/75 average/year	year 1975	evolution 75/88 average/year	year 1988	evolution 88/98 average/year	year 1998
GRAND LAHOU	11 900	5,86%	21 032	7,31%	52 645	5,09%	86 497
GRAND BASSAM	42 800	5,76%	74 902	2,43%	102 283	3,02%	137 792
GUIGLO	41 600	3,01%	55 945	7,03%	135 345	6,58%	255 883
ISSIA	53 200	6,33%	98 289	5,41%	194 974	3,07%	263 799
JACQUEVILLE	13 400	6,62%	25 438	4,06%	42 664	2,19%	52 962
KATIOLA	62 600	2,75%	82 096	3,67%	131 221	2,27%	164 261
KORHOGO	236 400	1,50%	274 217	2,48%	377 058	1,73%	447 493
LAKOTA	60 500	2,30%	75 930	3,31%	115 948	2,48%	148 088
MAN	171 100	2,75%	224 346	1,91%	286 860	2,34%	361 504
MANKONO	75 100	0,83%	81 589	3,25%	123 723	5,20%	205 371
MBAHIKRO	56 500	5,26%	94 331	0,66%	102 774	0,64%	109 595
ODIENNE	116 600	0,64%	124 263	2,41%	169 433	2,62%	219 431
OUME	36 000	9,09%	85 953	3,83%	140 166	2,38%	177 289
SAKASSOU	48 400	1,58%	56 616	0,38%	59 494	1,00%	65 707
SAN PEDRO	8 700	19,21%	50 433	9,71%	168 174	9,52%	417 554
SASSANDRA	29 900	4,48%	46 349	6,69%	107 616	6,73%	206 346
SEGUELA	63 500	1,86%	76 379	3,61%	121 120	3,50%	170 922
SINFRA	26 300	9,93%	67 789	4,51%	120 301	3,49%	169 588
SOUBRE	34 300	7,07%	67 932	12,37%	309 307	7,46%	635 266
TABOU	17 600	1,70%	20 839	8,43%	59 708	8,58%	136 040
TANDA	77 700	7,97%	167 319	1,50%	203 129	1,33%	231 783
TENGRELA	37 300	0,40%	38 828	2,75%	55 251	1,41%	63 578
TIASSALE	29 000	10,73%	80 345	3,93%	132 626	2,95%	177 404
TIEBISSOU	48 400	0,40%	50 381	0,42%	53 202	2,89%	70 712
TOUBA	71 200	1,13%	79 639	2,43%	108 816	2,39%	137 816
TOULEPLEU	25 400	-0,44%	24 316	2,18%	32 200	4,38%	49 446
TOUMODI	51 100	3,84%	74 470	0,64%	80 909	2,75%	106 121
VAVOUA	25 600	10,12%	67 136	7,38%	169 454	5,43%	287 655
YAMOOUSSOUKRO	83 400	5,20%	138 412	4,03%	231 411	2,64%	300 323
ZUENOULA	71 300	3,31%	98 741	1,14%	114 440	2,75%	150 159
TOTAL	4 098 000	5,08%	6 729 205	3,71%	10 799 462	3,59%	15 367 750

## CHAPTER 3 MAJOR PROGRAMMES 2000-2002

### 3.1 Amount and Structure in % of The Major Programmes 2000-2002

<i>in FCFA million</i>			TOTAL	before 99	1999	2000	2001	2002	00 to 02	after 2002
10. et 11. agricultural development	TOTAL amount		601 867	255 358	77 731	75 699	64 020	62 057	201 776	67 002
	1. BSIE		249 219	92 991	16 863	19 737	23 433	32 348	75 518	63 847
	2. loan		203 616	76 601	45 430	37 693	25 244	18 648	81 585	0
	3. grant		103 064	58 686	12 982	14 693	10 430	6 118	31 241	155
	4. private external		345	72	85	48	73	67	188	0
	5. own resources		4 214	938	842	786	851	797	2 434	0
	7. private domestic		2 585	306	857	959	403	60	1 422	0
	10. other		3 382	1 969	312	357	344	400	1 101	0
	92. loan to confirm		32 348	23 348	0	1 000	2 000	3 000	6 000	3 000
	93. grant to confirm		1 631	447	360	426	398	0	824	0
	9. to be search		1 463	0	0	0	844	619	1 463	0
	<b>STRUCTURE</b>		<b>TOTAL</b>	<b>avant 1999</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>00 à 02</b>	<b>après 2002</b>
3 years programmation	1. BSIE		41,4%	36,4%	21,7%	26,1%	36,6%	52,1%	37,4%	95,3%
40% domestic	2. loan		33,8%	30,0%	58,4%	49,8%	39,4%	30,0%	40,4%	0,0%
56% external	3. grant		17,1%	23,0%	16,7%	19,4%	16,3%	9,9%	15,5%	0,2%
4% to be confirmed	4. private external		0,1%	0,0%	0,1%	0,1%	0,1%	0,1%	0,1%	0,0%
TOTAL	5. own resources		0,7%	0,4%	1,1%	1,0%	1,3%	1,3%	1,2%	0,0%
43% domestic	7. private domestic		0,4%	0,1%	1,1%	1,3%	0,6%	0,1%	0,7%	0,0%
51% external	10. other		0,6%	0,8%	0,4%	0,5%	0,5%	0,6%	0,5%	0,0%
6% to be confirmed	92. loan to confirm		5,4%	9,1%	0,0%	1,3%	3,1%	4,8%	3,0%	4,5%
	93. grant to confirm		0,3%	0,2%	0,5%	0,6%	0,6%	0,0%	0,4%	0,0%
	9. to be search		0,2%	0,0%	0,0%	0,0%	1,3%	1,0%	0,7%	0,0%
	Total		100%	100%	100%	100%	100%	100%	100%	100%
12 industrial and mining development	TOTAL		18 090	575	5 465	2 268	2 513	2 463	7 244	4 806
	1. BSIE		12 970	575	1 945	1 728	1 973	1 943	5 644	4 806
3 years programmation	2. loan		3 500	0	3 500	0	0	0	0	0
78% domestic	3. grant		1 560	0	0	520	520	520	1 560	0
22% external	5. own resources		60	0	20	20	20	0	40	0
	<b>STRUCTURE</b>									
TOTAL	1. BSIE		71,7%	100,0%	35,6%	76,2%	78,5%	78,9%	77,9%	100,0%
72% domestic	2. loan		19,3%	0,0%	64,0%	0,0%	0,0%	0,0%	0,0%	0,0%
28% external	3. grant		8,6%	0,0%	0,0%	22,9%	20,7%	21,1%	21,5%	0,0%
	5. own resources		0,3%	0,0%	0,4%	0,9%	0,8%	0,0%	0,6%	0,0%
12 industrial and mining development	TOTAL		18 090	575	5 465	2 268	2 513	2 463	7 244	4 806
	1. BSIE		12 970	575	1 945	1 728	1 973	1 943	5 644	4 806
3 years programmation	2. loan		3 500	0	3 500	0	0	0	0	0
78% domestic	3. grant		1 560	0	0	520	520	520	1 560	0
22% external	5. own resources		60	0	20	20	20	0	40	0
	<b>STRUCTURE</b>									
TOTAL	1. BSIE		71,7%	100,0%	35,6%	76,2%	78,5%	78,9%	77,9%	100,0%
72% domestic	2. loan		19,3%	0,0%	64,0%	0,0%	0,0%	0,0%	0,0%	0,0%
28% external	3. grant		8,6%	0,0%	0,0%	22,9%	20,7%	21,1%	21,5%	0,0%
	5. own resources		0,3%	0,0%	0,4%	0,9%	0,8%	0,0%	0,6%	0,0%
13 tertiary non-administrative development	TOTAL		56 457	17 623	5 582	6 685	6 230	6 671	19 586	13 666
	1. BSIE		52 253	14 780	5 359	5 956	6 004	6 488	18 448	13 666
3 years programmation	2. loan		961	0	0	659	173	129	961	0
94,2% domestic	3. grant		3 243	2 843	223	70	53	54	177	0
5,8% external	<b>STRUCTURE</b>									
TOTAL	1. BSIE		92,6%	83,9%	96,0%	89,1%	96,4%	97,3%	94,2%	100,0%
92,6% domestic	2. loan		1,7%	0,0%	0,0%	9,9%	2,8%	1,9%	4,9%	0,0%
7,4% external	3. grant		5,7%	16,1%	4,0%	1,0%	0,9%	0,8%	0,9%	0,0%
21 support to economic development	TOTAL		624 073	89 235	68 718	81 654	110 506	102 805	294 965	171 155
transport	1. BSIE		476 386	62 969	38 544	54 704	72 909	78 105	205 718	169 155
3 years programmation	2. loan		127 687	26 266	30 174	26 950	29 597	14 700	71 247	0
69,7% domestic	9. to be research		20 000	0	0	0	8 000	10 000	18 000	2 000
30,3% external	<b>STRUCTURE</b>									
TOTAL	1. BSIE		76,3%	70,6%	56,1%	67,0%	66,0%	76,0%	69,7%	98,8%
76,3% domestic	2. loan		20,5%	29,4%	43,9%	33,0%	26,8%	14,3%	24,2%	0,0%
23,7% external	9. to be research		3,2%	0,0%	0,0%	0,0%	7,2%	9,7%	6,1%	1,2%

23 support to economic development	TOTAL		133 259	13 171	22 163	24 906	26 602	25 722	77 230	20 695
energy	1	BSIE	36 027	4 034	975	5 920	7 317	8 804	22 041	8 977
3 years programming	2	loan	66 864	9 137	21 188	8 903	9 000	6 918	24 821	11 718
67,4% domestic	5	own resources	30 000	0	0	10 000	10 000	10 000	30 000	0
32,6% external	9	to be research	368	0	0	83	285	0	368	0
TOTAL	STRUCTURE									
49,5% domestic	1	BSIE	27,0%	30,6%	4,4%	23,8%	27,5%	34,2%	28,5%	43,4%
50,5% external	2	loan	50,2%	69,4%	95,6%	35,7%	33,8%	26,9%	32,1%	56,6%
	5	own resources	22,5%	0,0%	0,0%	40,2%	37,6%	38,9%	38,8%	0,0%
	9	to be research	0,3%	0,0%	0,0%	0,3%	1,1%	0,0%	0,5%	0,0%
31 social development	TOTAL		317 139	68 897	37 007	64 276	57 748	45 131	167 155	44 080
urbanism and housing	1	BSIE	174 106	42 442	10 560	28 276	25 818	22 930	77 024	44 080
3 years programming	2	loan	85 771	19 644	17 920	21 606	17 601	9 000	48 207	0
46,7% domestic	3	grant	55 822	6 791	8 517	14 184	13 729	12 601	40 514	0
53,3% external	10	populations	1 040	20	10	210	400	400	1 010	0
	93	to be research	400	0	0	0	200	200	400	0
TOTAL	STRUCTURE									
55,2% domestic	1	BSIE	54,9%	61,6%	28,5%	44,0%	44,7%	50,8%	46,1%	100,0%
44,8% external	2	loan	27,0%	28,5%	48,4%	33,6%	30,5%	19,9%	28,8%	0,0%
	3	grant	17,6%	9,9%	23,0%	22,1%	23,8%	27,9%	24,2%	0,0%
	10	populations	0,3%	0,0%	0,0%	0,3%	0,7%	0,9%	0,6%	0,0%
	9	to be research	0,1%	0,0%	0,0%	0,0%	0,3%	0,4%	0,2%	0,0%
32 social development	TOTAL		15 470	9 421	1 285	1 324	1 369	1 171	3 864	900
social actions	1	BSIE	14 768	9 151	1 141	1 180	1 225	1 171	3 576	900
	3	grant	702	270	144	144	144	0	288	0
BSIE = domestic	STRUCTURE									
grant = external	1	BSIE	95,5%	97,1%	88,8%	89,1%	89,5%	100,0%	92,5%	100,0%
	3	grant	4,5%	2,9%	11,2%	10,9%	10,5%	0,0%	7,5%	0,0%
33 social development	TOTAL		226 312	48 853	38 038	46 761	47 127	45 533	139 421	0
health	1	BSIE	119 866	19 683	19 014	23 035	27 209	30 925	81 169	0
3 years programming	2	loan	35 151	1 049	13 230	11 262	6 979	2 631	20 872	0
58,2% domestic	3	grant	68 333	28 121	5 794	12 464	11 939	10 015	34 418	0
41,8% external	9	to be research	2 962	0	0	0	1 000	1 962	2 962	0
TOTAL	STRUCTURE									
53,0% domestic	1	BSIE	53,0%	40,3%	50,0%	49,3%	57,7%	67,9%	58,2%	
47,0% external	2	loan	15,5%	2,1%	34,8%	24,1%	14,8%	5,8%	15,0%	
	3	grant	30,2%	57,6%	15,2%	26,7%	25,3%	22,0%	24,7%	
	9	to be research	1,3%	0,0%	0,0%	0,0%	2,1%	4,3%	2,1%	
34 social development	TOTAL		222 776	107 956	18 790	24 300	27 800	30 090	82 190	13 840
special funds	1	BSIE	142 547	65 177	13 340	15 500	17 100	17 590	50 190	13 840
3 years programming	2	loan	1 000	1 000	0	0	0	0	0	0
100,0% domestic	7	private domestic	79 229	41 779	5 450	8 800	10 700	12 500	32 000	0
0,0% external	STRUCTURE									
TOTAL	1	BSIE	64,0%	60,4%	71,0%	63,8%	61,5%	58,5%	61,1%	100,0%
99,6% domestic	2	loan	0,4%	0,9%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
0,4% external	7	private domestic	35,6%	38,7%	29,0%	36,2%	38,5%	41,5%	38,9%	0,0%

### 3.2 Sub-Programme Hydraulic and Sanitation 2000-2002

sub-programme hydraulic and sanitation, law programme 2000 to 2002

N° BSIE	project title	FCFA million financing	total cost	before 1999	est. 1999	2000	2001	2002	total 00 / 02	after 2002
31.6	A EP Daoukro Oume		897	0	0	897	0	0	897	0
	1	BSIE	897	0	0	897	0	0	897	0
31.61	A EP KFW 6		9 257	3 583	2 356	2 035	1 283	0	3 318	0
	1	BSIE	1 291	618	293	225	155	0	380	0
	3	KFW	7 966	2 965	2 063	1 810	1 128	0	2 938	0
31.61.35.21	HVA KFW VIII		6 664	0	500	2 500	3 664	0	6 164	0
	1	BSIE	1 020	0	0	500	520	0	1 020	0
	2	KFW	5 644	0	500	2 000	3 144	0	5 144	0
31.61.40.21	rural hydraulic BAD		12 190	1 970	4 690	4 640	200	300	5 140	390
	1	BSIE	1 190	0	150	150	200	300	650	390
	2	BAD	11 000	1 970	4 540	4 490	0	0	4 490	0
31.61	sectoral programme		5 908	0	80	2 850	2 728	250	5 828	0
	1	BSIE	771	0	0	250	271	250	771	0
	2	KFW	5 137	0	80	2 600	2 457	0	5 057	0
31.61.39.21	rural hydraulic BA DEA		3 918	599	3 000	319	0	0	319	0
	1	BSIE	418	249	100	69	0	0	69	0
	2	BA DEA	3 500	350	2 900	250	0	0	250	0
31.61.37.21	"conseil de l'entente" 3		11 000	6 200	2 700	2 100	0	0	2 100	0
	1	BSIE	950	450	200	300	0	0	300	0
	2	AFD	9 980	5 680	2 500	1 800	0	0	1 800	0
	3	"conseil en population"	50	50	0	0	0	0	0	0
	10	population	20	20	0	0	0	0	0	0
31.6	rural hydraulic Japan		9 350	3 250	3 450	2 650	0	0	2 650	0
	1	BSIE	450	150	150	150	0	0	150	0
	3	Japan	8 900	3 100	3 300	2 500	0	0	2 500	0
	10	population	0	0	0	0	0	0	0	0
31.61.36.21	NW F urgency programme		8 075	1 075	700	1 000	1 500	2 000	4 500	1 800
	1	BSIE	8 075	1 075	700	1 000	1 500	2 000	4 500	1 800
31.61.41.21	urban hydraulic AFD		20 390	3 600	3 800	3 290	6 400	3 300	12 990	0
	1	BSIE	2 000	600	400	300	400	300	1 000	0
	2	AFD	18 390	3 000	3 400	2 990	6 000	3 000	11 990	0

## CHAPTER 4 PUBLIC INVESTMENT

### 4.1 Nomenclature of The Public Investment Programme

#### NOMENCLATURE OF THE PUBLIC INVESTMENT PROGRAMME

N° BSIE		N° BSIE	employment	N° BSIE	
<b>1</b>	<b>economic development</b>	<b>3</b>	<b>social development</b>	<b>5</b>	<b>development attending support</b>
10	agricultural development 1	31	town planning and housing	51	studies and research
103	coffee cocoa	310	Abidjan old districts	511	mapping
104	other cultures	311	Abidjan new districts	517	basic research
11	agricultural development 2	312	regional capitals	52	administration
110	rice	313	other towns	520	national agencies and boards
111	other cultures	314	rural solid waste	522	justice
114	livestock	315	sanitation	523	territorial actions, decentralisation
115	fishing	316	hydraulic	524	economy and finance
116	national parks	319	support	525	planning and programming
117	forestry	32	social actions	526	public service
118	integrated operations	320	welfare support	529	other
119	support	321	employment	53	defence
12	industrial mining development	33	health care programme	530	military forces
120	processing industries	330	primary sector	54	domestic security
121	mining	331	secondary sector	540	domestic security
13	tertiary development (out of administration)	334	tertiary sector		
130	tourism	336	services		
131	commerce	34	planning funds		
132	financial institutions	349	FRAR support		
<b>2</b>	<b>economic development support</b>	<b>4</b>	<b>cultural development</b>		
21	transportation	41	culture and promotion		
210	primary roads	410	woman		
211	regional and local roads	411	youth		
214	shipping	412	support		
216	air transport	413	information		
219	support	414	sport		
23	power	419	administration		
231	electric transportation	42	education and training		
232	electric distribution	420	primary education		
239	support to electricity	421	secondary education		
		422	technical and professional		
		427	higher education		

## 4.2 Public Investment Projects in Water Supply 2000-2002

### Investment projects

1999 Budget & public investment programme 2000 - 2002  
Section 21 Ministry of economic infrastructures

Statement (1999) and forecast (2000 - 2002) of expenditures (in FCFA millions)

### 7 ADMINISTRATION and DEVELOPEMENT of INFRASTRUCTURES

#### 73 WATER SUPPLY

	year 1999			year 2000			year 2001			year 2002		
	treasury	loan	grant	treasury	loan	grant	treasury	loan	grant	treasury	loan	grant
<b>732 URBAN AREA</b>												
enhancement of drinking water supply (French Development Agency) works and equipment, dikes and dams	400 (0)	3 000 (300)		300	2 990		400	6 000		300	3 000	
<b>733 RURAL AREA</b>												
German cooperation programme (KFW 8) 150 advanced integrated programmes for villages	115 (~)	1 022 (200)		500	3 000		520	2 144				
African development Bank (BAD 1) / deux cent cinquante forages + ~ 20 HVA 250 drillings + 20 advanced integrated programmes	150 (150)	2 000 (4550)		150	4 490							
Conseil de l'Entente (regional cooperation) + French development agency 400 drillings (centre and west centre regions)	150 (200)	- (2 500)		300	1 800							
Belgian grant 10 advanced intergrated programmes for villages	50		-			580						
National emergency programme works and equipment, dikes and dams	1 000			1 000			1 500			2 000		
Japanese grant (stage 2) works and equipment, dikes and dams	150		2 250 (3 300)	150		2 500						
BADEA (regional Bank) works and equipment, dikes and dams	150 (100)	2 000 (2 900)		69	250							
	<b>2 165</b>	<b>8 022</b>	<b>2 250</b>	<b>2 469</b>	<b>12 530</b>	<b>3 080</b>	<b>2 420</b>	<b>8 144</b>	<b>0</b>	<b>2 300</b>	<b>3 000</b>	<b>0</b>
		<b>12 437</b>			<b>18 079</b>			<b>10 564</b>			<b>5 300</b>	
	(1 650)	(7 840)	(3 300)									(12 790)

*the amounts into brackets are an estimated value of works carried out during the present budgetary year (1999) according to the BNETD; those on the upper line are an extract of the 1999 Financial Law in force.*



## **2 ORGANIZATIONS AND LAWS**

## 2 ORGANIZATIONS AND LAWS

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## **2 ORGANIZATIONS AND LAWS**

### **CHAPTER 1 PRESENT ORGANIZATIONS AND LAWS**

#### **1.1 Organizations and Functions Related to Water Resources**

##### **1.1.1 Institutional history of water resources management**

The institution of water resources management finds its origin into “The Hydraulic Autonomous Services (SAH)” which was established in 1973. The SAH belonged to the Ministry of Planning (present ; the Ministry of Development Planning).

The activities of the SAH was to realize during 1973 – 1980 ①seven thousand one hundred and sixty (7,160) water in – taking points at all villages of more than one hundred (100) persons, ② the equipment of drinking water supply system at all prefectures and sub – prefectures and ③ the rehabilitation and the extension of existing equipment. The main objectives for the establishment of the SAH was to correct the noticeable lack of balance at water supply between urban area and rural area, and between Abidjan and the other zones of the country.

In 1980, the SAH became the Central Direction of Hydraulics (DCH) with the same activities and objectives, and the competent authority was changed to the Ministry of Public Works (present ; the Ministry of Infrastructure).

For drainage and sanitation, the Central Direction of Sanitation and Drainage (DCAD) was in charge of making a national plan and program of sanitation and drainage, and controlling of projects’ implementation.

The Direction of Water (DE) was created in 1984 within the Ministry of Public Works (present ; Water Department at the Ministry of Infrastructure). The DE took the activities of the DCH and the DCAD. It means that all the activities related to urban and rural water sector were placed under the supervision of an unique department (DE).

But, as mentioning later, water resources management of all sectors are not managed in unification manner.

##### **1.1.2 Main organizations related to water resources management**

The situation mentioned in this section is as of June 2000.

Main water sectors are separately developed and managed by water user sector. Namely, urban and rural water sector, agricultural water sector, and hydroelectric water sector are developed and managed by the Ministry of Infrastructures, the Ministry of Agriculture and Animals Resources, and the Ministry of Mines and Energy respectively.

The further particulars of functions of these three ministries are as follows.

## **(1) Ministry of Infrastructures**

### **(A) Urban water**

Urban Water Division at Water Department in the Ministry of Infrastructures (MOI) deals with ① making of plans of urban water supply development, and ② designing and constructions of urban water facilities.

But the supply of water, and the collection of using fee and extra repairing fee are handled by SODECI (Water Distribution Company in Cote d'Ivoire) which was established in 1960 as a private company aiming at operation of urban water (domestic water and industrial water). SODECI fall under the control of MOI. Namely, MOI concluded a contract with SODECI in 1987 and in that contract MOI set various conditions to be obliged by SODECI for realizing and keeping an appropriate urban water supply. Inspectors of MOI come to SODECI periodically or in spots to examine its observation of conditions. Equity composition of SODECI is as follows :

SAUR (a French company)	= 47%
Ivorian private companies/persons	= 45%
SODECI employee	= 5%
Government of Cote d'Ivoire	= 3%

Minor repairing of urban water supply facilities are done by SODECI bearing its expenses, but major ones are done by Urban Water Division.

### **(B) Rural water**

Village Water Division at Water Department in MOI deals with ① making of plans of village water supply development, and ② designing and constructions of rural water facilities.

The supply of water, and the maintenance and repairing of facilities are executed by the Committee of Village Water Supply which mostly consists of five (5) villagers and collects water using fees. The Committees, which are formed under the guidance of local offices of Village Water Division, are established at all villages of more than 100 persons and less than 3,000 – 4,000 persons.

## **(2) Ministry of Agriculture and Animals Resources**

National Rice Project (PNR) at the Ministry of Agriculture and Animals Resources (MINAGRA) deals with ①making of plans of water supply development, and ② designing

and construction of irrigation dams for rice.

Agricultural waters for farm products other than rice, livestock and fishing – farm are dealt with Programming Department (DP) at MINAGRA.

Completed irrigation dams are handed over to Supporting National Agency for Rural Development (ANADER). Operation of water supply, and maintenance and repairing of irrigation dams are carried out by the Committee of Irrigation Dam existing at surrounding area of each irrigation dam, which is organized by the direction of ANADER and collects water using fees from farmers.

### **(3) Ministry of Mines and Energy**

Ivorian Electricity Operation Company (SOPIE), a state company under the control of the Ministry of Mines and Energy (MOE), deals with ①making of plans of electric power supply development, and ② designing and constructions of hydroelectric dams.

But supply of electric power, collection of fee and maintenance of facilities are handled by Ivorian Electricity Company (CIE) which was established in 1990 as a private company with the aim of operation and supply of electric power, and maintenance of its facilities. CIE fall under the control of MOE. Namely, MOE concluded a contract with CIE in 1990 aiming at entrusting electric power operation with CIE, and in that contract MOE's assistance for CIE and, at the same time, CIE's obligations for MOE are stipulated. Fifty-one percent (51%) of the company's equity is financed by French companies (BOUYGUES and EDF), and the government of Cote d'Ivoire and Ivorian private companies/persons possess twenty-four percent (24%) and twenty-five percent (25%) of the company's equity respectively.

Minor repairing of hydroelectric dams are done by CIE bearing its expenses, but major ones are done by SOPIE.

Present main water resources development and management organizations can be summarized as following table.

## Summarization of Present Main Water Resources Development and Management Organizations

	Ministry	Planning and Construction	Supply	Maintenance and Repairing
Urban Water Supply and its Facilities	(1) MOI	Urban Water Division	SODECI	SODECI (Major repairs are done by Urban Water Division)
Rural Water Supply and its Facilities	(1) MOI	Village Water Division	Committee of Village Water Supply	Committee of Village Water Supply
Agriculture Water Supply and Irrigation Dams for Rice	(2) MINAGRA	PNR	Committee of Irrigation Dam	Committee of Irrigation Dam
Agriculture Water Supply and Irrigation Dams for Farm Products other than Rice	(2) MINAGRA	DP	Committee of Irrigation Dam	Committee of Irrigation Dam
Hydroelectricity Supply and Hydroelectric Dams	(3) MOE	SOPIE	CIE	CIE (Major repairs are done by SOPIE)

CIE : Ivorian Electricity Company (a private company)

DP : Programming Department

MOI : Ministry of Infrastructures

MINAGRA : Ministry of Agriculture and Animals Resources

MOE : Ministry of Mines and Energy

PNR : National Rice Project

SODECI : Water Distribution Company in Cote d'Ivoire (a private company)

SOPIE : Ivorian Electricity Operation Company (a state company)

### 1.1.3 Other organizations related to water resources management

Still more, ten (10) ministries and governmental institutions other than the above three ministries are implicated into water resources management.

Their names and functions related to water resources management are as follows :

No.	Name of Ministries or Governmental Institutions	Functions Related to Water Resources Management
1	Ministry of Interior and Decentralization	Coordination of rescue works in the case of natural disasters.
2	Deputy Delegate of Ministry of Agriculture and Animals Resources in charge of Animal Production	Development of livestock production, fishing and sea – farming.
3	Deputy Delegate of Ministry of Agriculture and Animals Resources in charge of Young Agricultural Operator	Promotion of agricultural tools and machines for young farmers to improve their production.
4	Ministry of Development Planning	Coordination of development planning of all ministries.
5	Ministry of Public Health	Responsibility for public hygiene and protection of people in matter of health.
6	Superior Education and Scientific Researches	Coordination, implementation and supervision of researches related to water sector.
7	Ministry of Construction and Environment	Responsibility for fighting against any kind of pollution of rivers, lagoons and sea. Responsibility for drainage and sanitation management in urban areas.
8	Ministry of Economy and Finance	Assessment and approval of large scale public projects. Supervision of national funds related to water sector.
9	Ministry of Industry and Tourism	Promotion of agro – industry.
10	Ministry of Transport	Promotion, regulation and supervision of transport by sea, rivers and lagoons.

Among those ten (10) ministries and governmental institutions, the Ministry of Development Planning, and the Ministry of Economy and Finance play an important role in water resources development and management as follows.

The development plans at all the ministers are gathered to the Ministry of Development Planning in order to choose the plans to be discussed at the Cabinet. And the plans approved by the Cabinet are carried out with government budget.

In case of a public work of which amount is over CFAF Fifteen (15) million, the receiver of the order should be decided by a public tender, and the tender documents and contract should be assessed and approved by the Minister of Economy and Finance.

Organization chart of the Ministry of Infrastructure, the Ministry of Agriculture and Animals Resources, and the Ministry of Construction and Environment are shown in Fig. 1.1 – 1, Fig. 1.1 – 2 and Fig. 1.1 –3 respectively.

#### **1.1.4 High Commissariat for Hydraulics (HCH)**

The Cabinet of Prime Minister (the Cabinet) was dissolved at the change of government on December 24, 1999. In accordance with the dissolution of the Cabinet, High Commissariat for Hydraulics (HCH) became to be invalidated in the same way as other two High Commissariats within the Cabinet. But HCH's former staff (except High Commissioner) were attached to newly created ministry, i.e. the Ministry of Development Planning and Government Coordination (the Ministry), and were ordered to continue the same works by the Official Notice of January 31, 2000 signed by the adjutant secretary of the Ministry.

Former High Commissioner for Hydraulics was nominated for "Special Advisor" of the Cabinet of the Minister of Development Planning and Government Coordination, and was assigned to control the former HCH by the Ministerial Decree No. 21 of March 13, 2000. The name of the Ministry was changed to "the Ministry of Development Planning" on May 18, 2000 and the Minister of the Ministry became Prime Minister also holding the post of the Minister of Ministry of Development Planning. Judging from the above mentioned situation, it seems that the organization headed by former High Commissioner for Hydraulics and composed of former HCH's staff has actually the same function as former HCH.

#### **1.1.5 Process for realization of a project**

Taking up a case of Urban Water Division of MOI as an example, the normal process for realization of a project can be explained as follows :

- ① Urban Water Division of MOI makes several plans related to urban water supply development, such as new construction of water supply facilities in some area, rehabilitation of existing facilities in some area. The plans should be made by paying high attention to the current direction of the President's policy. For example, in case the President publish a poverty relief as a basic policy, the plans should be adapted to this policy and be made and investigated from this point of view.
- ② Other divisions/departments at MOI, such as village water, road, post, telecommunication division/department, also make their plans. The Minister of Infrastructure selects (gives priority to) some plans among those of all divisions/departments at MOI. At other ministries, the selection of plans are executed in same manner.
- ③ The selected plans of all the ministers are gathered to the Minister of Development Planning and the Minister chooses the plans to be discussed at the Cabinet.
- ④ The plans approved by the Cabinet are carried out with government budget.



### **1.1.6 Role of local government**

As stated above, from planning stage till construction stage, the water resources management of all sectors are carried out by central government. Operation and maintenance are made by the local offices of central government directly or through Committees, or private companies that are under the control of central government.

The role of local governments in water sector is currently limited to convey the request/voice of residents to the central government. They are given no self – decision right concerning water resources development. Therefore, it can be said that local government, such as Region, Department, Prefecture, do not directly participate in the management of water resources at present.

### **1.1.7 Present organizational issues**

Water is a limited resources in quantity. Therefore, water resources management should be executed to satisfy equally all the different demands for finite water resources ; those of people, of industry, of agriculture, of hydroelectricity, etc. But, as stated above, there are a lot of organizations for water resources management, which may cause the fragmentation of management functions and the dispersion of water resources management. And such fragmentation of management function , in other words sectarian water resources management, have produced the following harmful effects on water resources development and management.

- Development plan is liable to link with sector policy and sector benefit ;
- Technical data and know-how are collected by each sector and not opened to other sectors ;
- Financial imbalance between sectors happens, i.e. some sectors have good revenue source, such as water using fee, electricity using fee, and such revenues of rich sectors are not divided to other financial difficult sectors ;
- As almost all the sectors have no clear penal regulations , it is difficult to pose sanctions against illegal water users.

It is because of the above mentioned reasons, the government comes to adopt an integrated management of water resources approach in legal and organizational frames to resolve the problems caused by the sectarian water resources management.

## **1.2 Present Law and Regulations Related to Water Resources**

### **1.2.1 Present legal issues**

The legal history of water resources management in Cote d'Ivoire is not so different from the other West African French speaking countries. In these countries, water resources management was governed by two sources of the right. One was the customary right and the other was the colonial right. The system of the customary right constituted the main part of water resources management in civil matter. The colonial right resulted from colonial legislative texts which were imported from France and modified according to local conditions.

In Cote d'Ivoire, a rule (not a law) related to water resources management was enacted by French colonial government in 1905. The rule was revised in 1921 and 1956. The colonial rule remained effective after Cote d'Ivoire gained independence from France in 1960.

In accordance with the increase of population and the progress of economy, conflicts over the utilization of water resources have gradually increased. These conflicts were, for example, as follows :

- Conflicts of utilization of water resources within the interior of every same sector ;
- Conflicts of utilization of water resources between different sectors, i.e. industrial sector and agricultural sector, domestic sector and industrial sector (Increase of using water for industrial activities have reduced drastically available water resources for human drinking water.) ;
- Rapid increase of water illnesses with people as main victims ;
- Problems linked to customary water right.

The lack of legal referential basis found difficulty to resolve the conflicts. Because the conflicts came not to be solved by negotiation or mutual consent.

The government was beginning to feel keenly the need to create a law related to water resources management.

The Law No. 98 – 755, dealing with creation of Water Law was enacted on December 23, 1998 with the aim of integrated management of water resources

### **1.2.2 Water Law**

Water Law consist of one hundred thirty – six (136) articles, which are divided into the following six (6) Titles :

#### **I. General Provisions**

- II. Juridical System for Water, and Hydraulic Development and Facilities
- III. Protection System for Water, and Hydraulic Development and Facilities
- IV. Management System for Water, and Hydraulic Development and Facilities
- V. Water Police, Offence and Sanctions
- VI. Transitory Measures and Miscellaneous Provisions

The objectives and basic conceptions of Water Law can be summarized as follows :

**(1) Objectives (Article 5)**

- (A) Preservation of the aquatic ecosystem, and humid sites and zones.
- (B) Protection against any kind of pollution, and restoration of surface water, ground water and sea water.
- (C) Protection, mobilization and management of water resources.
- (D) Development and protection of hydraulic improvement and facilities.
- (E) Valorization of water as economical resources, and fare distribution of water to satisfy or to conciliate different usage, activities, works and demand.
- (F) Consistent planning for utilization of water at national level and basins level.
- (G) Improvement of life conditions of different classes people by respecting stabilization of environment.
- (H) Rational and durable utilization of water resources for present and future generations.
- (I) Establishment of new institution for water resources management reconsidering the roles of the parties concerned.

**(2) Basic conceptions**

- (A) The methodology of water resources management is integrated one. (Article 5)
- (B) Water resources make a part of national common property. (Article 7)
- (C) Users of water resources in public hydraulic area are required to consult in advance or to get permission. (Article 12)
- (D) Water resources management is executed on the principle of administrating by basin – by –

basin basis. (Article 57).

(E) Administrator and users are strictly distinguished. (Article 58).

(F) Distribution of human drinking water is given the most priority in any case. (Article 70)

(G) After the distribution of human drinking water satisfies its need, the distribution of water to other sectors shall be effective. (Article 71)

(H) The following persons engage themselves in investigating illegal action against Water Law and subsequent juridical texts throughout collecting evidences and researching suspected persons. (Article 107)

\* Policemen and police officers ;

\* Public officers related to water sector services.

### **(3) Contributions**

(A) The lack of legal referential bases concerning water resources management is filled by Water Law.

(B) The national legislation related to expropriation of land for public usage and land registration system shall be reinforced.

(C) The national legislation on environment shall be reinforced.

(D) The national power related to water resources management shall be reinforced :

Creation of Water Authority ;

Creation of Basin Water Agency ;

Creation of Fund for Management of Water Resources and Hydraulic development and Facilities.

(E) The roles of local governments shall be reinforced :

Participation in National Water Committee and Basin Water Committee.

(F) The roles of users shall be reinforced :

Participation in National Water Committee and Basin Water Committee ;

Forming of association for protection of water resources.

Fig. 1.1 - 2 Organization Chart of Ministry of Agriculture and Animals Resources

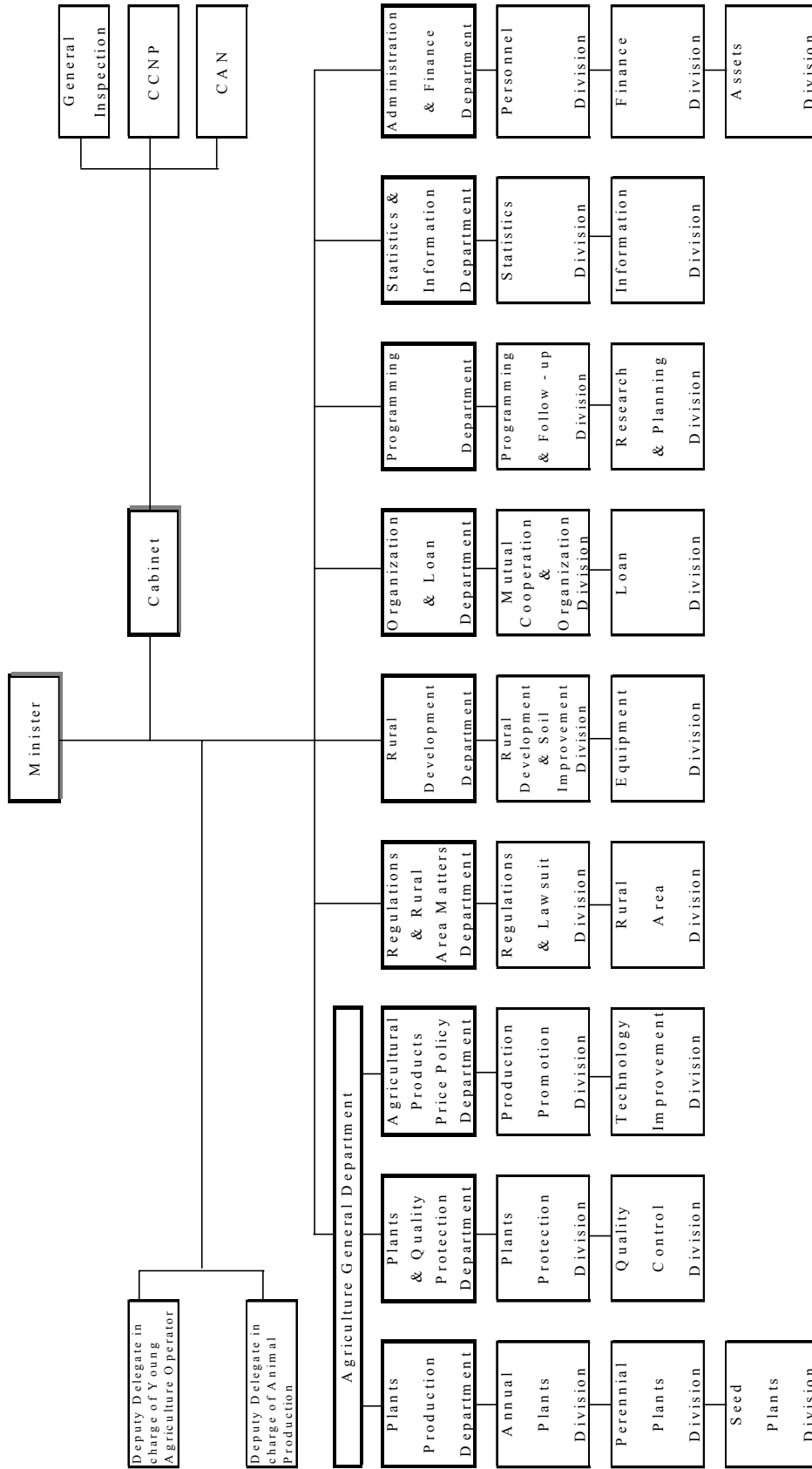
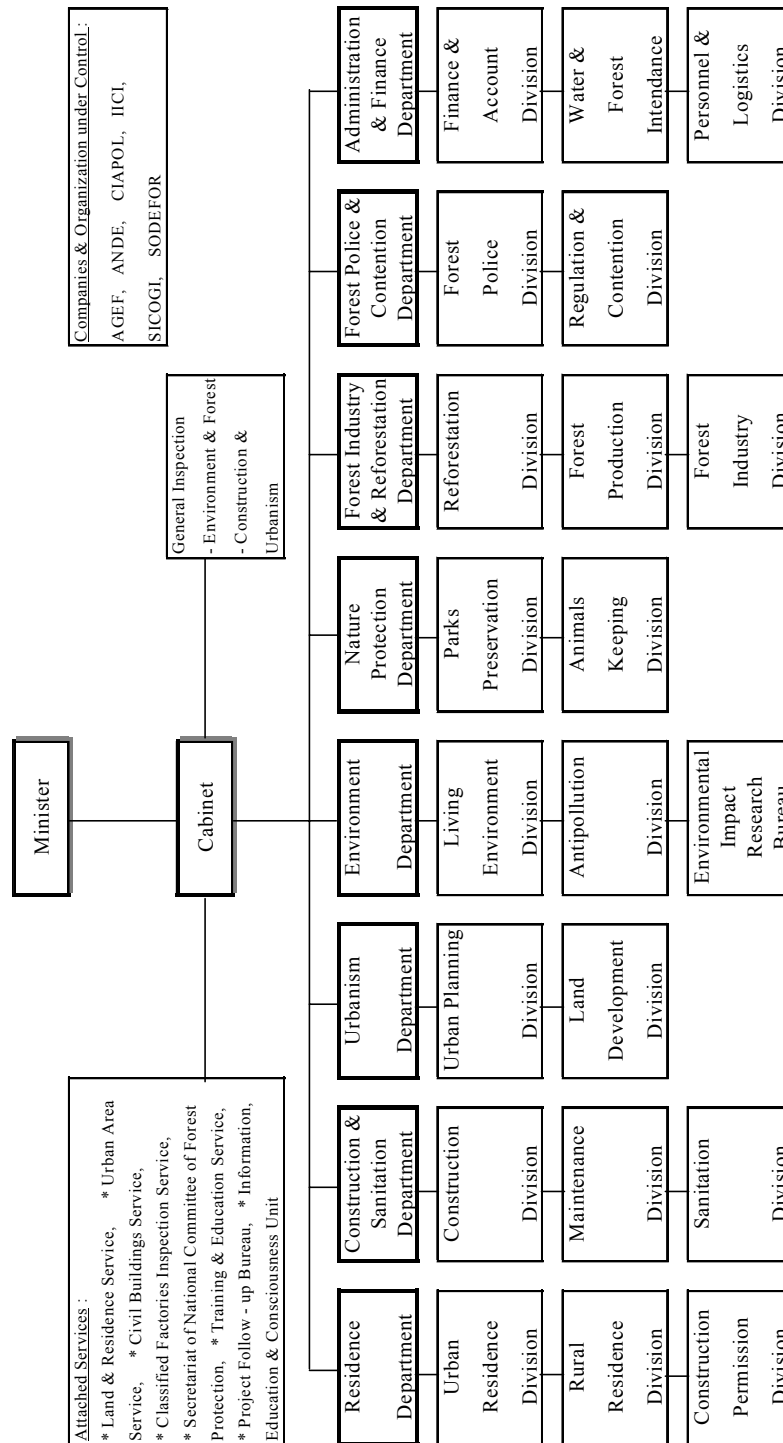
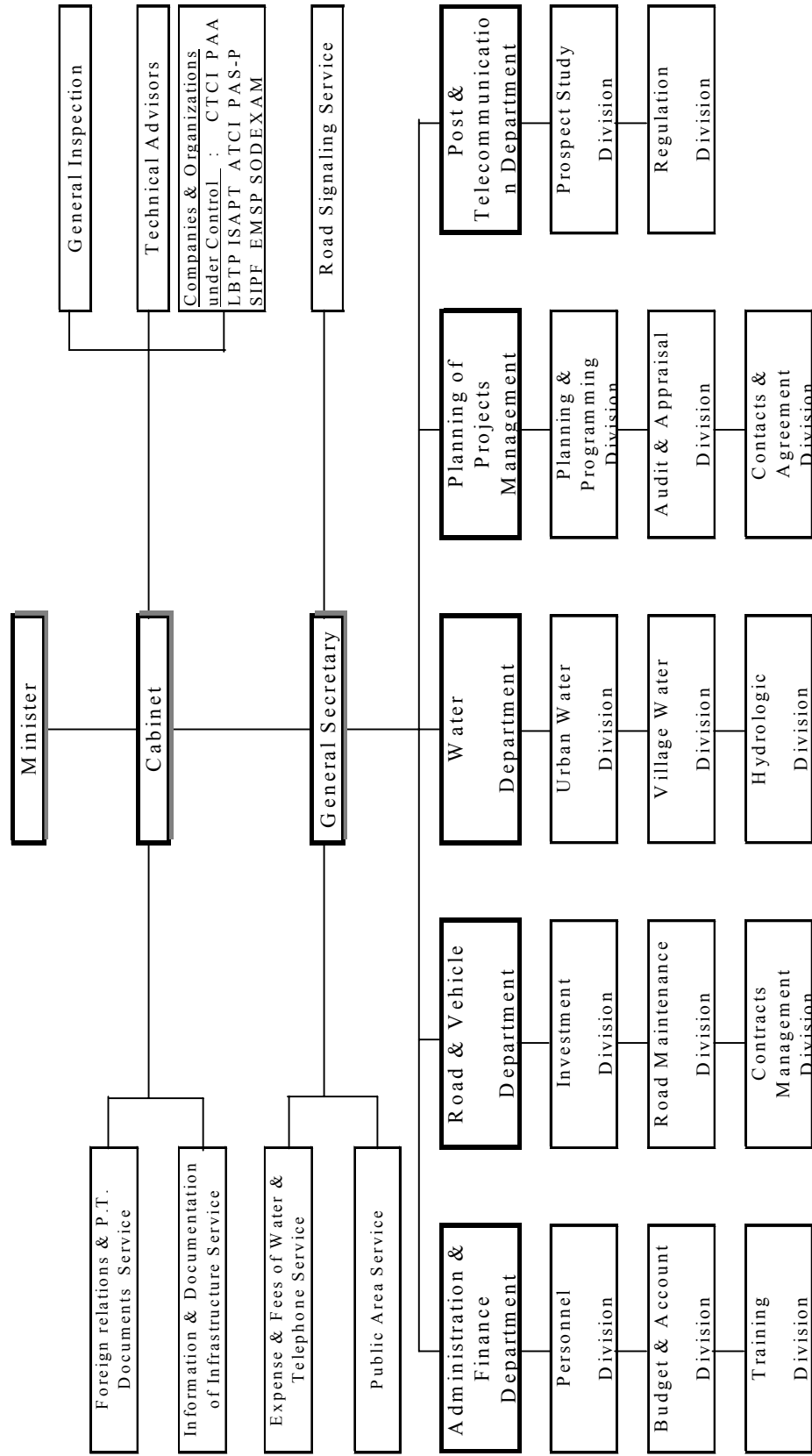


Fig. 2 - 1 - 1 - 3 Organization Chart of Ministry of Construction and Environment



**Fig. 1.1.1 - 1 Organization Chart of Ministry of Infrastructure**



## **CHAPTER 2 PROPOSED ORGANIZATION AND ITS OPERATION**

### **2.1 Basic Principles for Proposed Organization**

Basic principles for proposed organization are relied upon two bases, namely the one is Water Law (“Loi No. 98 – 755 du 23 Decembre 1998 portant Code de l’Eau” in French) and the other one is Water Resources Management Plans of the Study Team.

#### **2.1.1 Main basic principles out of Water Law**

Main basic principles out of Water Law are as follows :

- An organization in charge of the management of water resources shall define “Water Authority” (“Autorite chargee de l’eau” in French) (Article 1) ;
- The methodology of water resources management is integrated one (Article 5) ;
- The management and operation of water resources shall be executed by the participation of all classes’ representatives such as follows :
  - \* planners, deciders and specialists ;
  - \* operators ;
  - \* users. (Article 9) ;
- Users of water resources in public hydraulic area are required to consult in advance or to get permission (Article 12) ;
- Water Authority shall receive the consultant in advance or the application of permission for the utilization of water, and hydraulic development and facilities. Water Authority , in some cases, shall jointly use its privilege with other ministries concerned (Article 56) ;
- A decree approved by the Cabinet Meeting shall define the organizations responsible for water resources management which shall be executed by basin – by – basin basis (Article 57) ;
- Administrators and users are strictly distinguished (Article 58) ;
- The data and information collected by the organizations related to water management should be communicated to Water Authority. (Article 93)
- General Principles for Improvement and Management of Water Resources (SDAGRE) shall be made by basin – by – basin or a group of basins – by – a group of basins basis (Article 94) ;
- SDAGRE shall be supplemented with Action Plans for Improvement and Management of Water Resources (PDADOH) (Article 97) ;



- A fund for management of water resources, and hydraulic development and facilities shall be created to assure the finance of activities of integrated management of water resources, planning and inventory of water resource, protection of water resources and sanitary surveillance. (Article 105) ;
- The fund sources for management of water resources, and hydraulic development and facilities shall be Government subsidies, taxes, operating revenue and others donations. (Article 106) ;
- The following persons engage themselves in investigating illegal action against Water Law and subsequent juridical texts throughout collecting evidences and researching suspected persons. (Article 107)

\* Policemen and police officers ;

\* Public officers related to water sector services.

### **2.1.2 Framework of water resources management organization deduced from the principles out of Water Law**

The following can be deduced from the above mentioned principles out of Water Law as the framework of water resources management organization.

- Water Authority should be created.
- What is called “Basin Water Agency” should be created at basins or groups of basins.
- All classes’ representatives shall participate in water resources management.

### **2.1.3 Proposed organizations assigned management tasks out of Water Resources Management Plans of the Study Team**

Water Resources Management Plans were drawn up by each expert of the Study Team. The Plans describe necessary management tasks to manage water resources effectively and efficiently up to the aiming year 2015. (Regarding to details of Water Resources Management Plans, please refer to Chapter 14 to Chapter 21 of this report .)

Organizations to take charge of these management tasks in order to realize and manage the Plans are proposed as follows :

Management Tasks	Extent of WA's Role	Executing Organization	Organizations Concerned
① Water use quantity control			
① - 1 Water use right management	◎	WA	MOJ
① - 2 River maintenance discharge management	◎	WA	MOI, MINAGRA, MOE
① - 3 Reservoir operation management	○	WA, MOI, MINAGRA, MOE	
① - 4 Establishment of drought countermeasure rule	○	WA, MOI, MINAGRA, MOE	
② Water resources development plan ;			
② - 1 Water resources development plan for multi-purpose management	○	WA, MOI, MINAGRA, MOE	MOP, MOF
② - 2 Water resources development plan for agriculture management	△	PNR(MINAGRA), DP (MINAGRA)	DAR (MINAGRA), MOP, MOF
② - 3 Water resources development plan for urban water supply management	△	UWD	DE (MOI), MOP, MOF, SODECI
② - 4 Water resources development plan for village water supply management;	△	VWD	DE (MOI), MOP, MOF
② - 5 Water resources development plan for hydro – electric power management	△	SOPIE	MOE, MOP, MOF
③ Water quality control and ecological conservation			
③ - 1 Water quality control of surface water management	△	DDE(MOCE)	SIIC, CIAPOL, MOH, LANEMA
③ - 2 Water quality control of ground water management	△	UWD (MOI)	DDE(MOCE), MOH, SODECI

Management Tasks	Extent of WA's Role	Executing Organization	Organizations Concerned
④ Watershed management			
④ - 1 Forest management	△	SODEFOR	DDE (MOCE), DPN (MOCE), DPFC (MOCE) DPIFR (MOCE)
④ - 2 Land use management	△	DDE (MOCE)	DH (MOCE), DPN (MOCE)
⑤ Operation and maintenance of water control facilities			
⑤ - 1 O & M of water control facilities for multi – purpose	○	WA, MOI, MINAGRA, MOE	
⑤ - 2 O & M of water control facilities for agriculture	△	PNR, DP	MINAGRA
⑤ - 3 O & M of water control facilities for urban water supply	△	UWD, SODECI	DE (MOI)
⑤ - 4 O & M of water control facilities for village water supply	△	VWD	DE (MOI)
⑤ - 5 O & M of water control facilities for hydro – electric power	△	SOPIE	MOE
⑥ Meteo – hydrological data network management (*)			
⑥ - 1 Establishment of observation facilities	○	BWA, WA	
⑥ - 2 Establishment of observation and measurement system	○	BWA, WA	
⑥ - 3 O & M of hydrological facilities	△	BWA	
⑥ - 4 Establishment of data transmission system	○	BWA, WA	
⑥ - 5 Data processing and management	◎	WA, BWA	
⑥ - 6 Establishment of monitoring and evaluation system	◎	WA, BWA	

Management Tasks	Extent of WA's Role	Executing Organization	Organizations Concerned
⑦ Establishment of data base for rivers (*)			
⑦ - 1 Preparation of river ledger	○	BWA, WA	MOI, MINAGRA, MOE
⑦ - 2 River ledger management	◎	WA, BWA	MOI, MINAGRA, MOE
⑧ Effective use of GIS			
⑧ - 1 Effective use of GIS	◎	WA	CCT

◎ : WA shall be the sole or main executing organization.

○ : WA shall be jointly manage the task with other organization(s).

△ : WA shall be consulted with other organization(s).

(\*) Please refer to paragraph 2.2.1 (2) Proposed organization of Water Authority.

- BWA : Basin Water Agency
- CCT : Cartography and Remote Detection Center
- CIAPOL : Ivorian Anti – Pollution Center (a state laboratory under MOCE)
- DDE : Environment Department (MOCE)
- DE : Water Department (MOI)
- DH : Residence Department (MOCE)
- DP : Programming Department (MINAGRA)
- DPFC : Forest Police and Lawsuit Department (MOCE)
- DPIFR : Forest Industry and Afforestation Department (MOCE)
- DPN : Nature Protection Department (MOCE)
- LANEMA : National Laboratory of Metrology
- MINAGRA : Ministry of Agriculture and Animals Resources
- MOCE : Ministry of Construction and Environment
- MOE : Ministry of Mines and Energy
- MOF : Ministry of Economy and Finance
- MOH : Ministry of Public Health
- MOI : Ministry of Infrastructure
- MOJ : Ministry of Justice
- MOP : Ministry of Development Planning
- PNR : National Rice Project (MINAGRA)

SIIC	: Classified Factories Inspection Service (MOCE)
SODECI	: Water Distribution Company in Cote d'Ivoire (a private company)
SODEFOR	: Forest Development Company (a state company under Ministry of Industry)
SOPIE	: Ivorian Electricity Operation Company (a state company under MOE)
UWD	: Urban Water Division (DE)
VWD	: Village Water Division (DE)
WA	: Water Authority

## **2.2 Proposed Organization at National Level**

### **2.2.1 Water Authority**

The Article 1 of Water Law define the administrative structure for water resources as Water Authority. Therefore, Water Authority should be created.

Former HCH had intended to create National Water Agency as another administrative organization at national level. As the result of having a look at the draft of relevant decree, it seems that many of its assignment overlap those of Water Authority. Therefore, it may be recommended not to create National Water Agency. (Please refer to CHAPTER 3 ARRANGEMENT OF LAWS AND REGULATIONS 3.1 Presidential Decrees to be Arranged 14 Creation and organization of National Water Agency.)

#### **(1) Proposed assignments of Water Authority**

The following assignments of Water Authority might be recommended judging from the above mentioned principles :

##### **(A) As sole executing organization :**

(“A and figure” means Article number of Water Law. “P and figure” means number of management task of Water Resources Management Plans of the Study Team.)

- To give users permission for utilization of water (water right) (A 12, A 56 & P ① - 1) ;
- To collect, process and manage national hydrological data (A 93 & P ⑥ - 5) ;
- To exercise water police (A 107) ;
- To manage river maintenance discharge (P ① - 2) ;
- To establish monitoring and evaluation system for meteo – hydrological network (P⑥ - 6) ;

- To manage river ledgers (P⑦ - 2) ;
- To develop Geographic Information System (GIS) (P ⑧ - 1) ;

In addition to the above, as Water Authority is an administrative organization for hydraulic matter at national level, it may be recommended to assign the following tasks :

- To make a national water distribution plan ;
- To make drafts of Presidential Decrees and Ministerial Decrees for due enforcement of Water Law (Needless to say, Ministerial Decrees shall be made with collaboration of ministries concerned) ;
- To promote the international, regional and bilateral cooperation for integrated management of water resources ;
- To supervise Basin Water Agency ;

**(B) As joint executing organization, collaborating with other organizations concerned :**

- To manage the fund for water resources management (A 105 & 106) ;
- To manage reservoir operation (P① - 3) ;
- To establish drought countermeasure rule (P① - 4) ;
- To manage multi – purpose water projects development (P ② - 1) ;
- To execute operation and management of multi – purpose water control facilities (P ⑤ - 1) ;
- To establish observation facilities of meteo – hydrological network (P⑥ - 1) ;
- To establish observation and measurement system of meteo – hydrological network (P⑥ - 2) ;
- To establish data transmission system of meteo – hydrological network (P⑥ - 4) ;
- To prepare river ledger (P⑦ - 2) ;

**(2) Proposed organization of Water Authority**

Judging from the above mentioned assignment, the proposed organization chart of Water Authority shall be as shown in Fig. 2.2 – 1.

According to the Article 58 of Water Law, namely administrator and users are strictly distinguished, the transfer of Hydrological Division at Water Department in Ministry of Infrastructure to Water Authority may be recommended. Because the Division has administrative character rather than user.

It may be recommended that the fund for water resources management, which shall be established in accordance with the Article 105 and 106 of Water Law, shall be opened with and controlled by Ministry of Economy and Finance, and Water Authority shall be only one of management committee member.

### **2.2.2 National Water Committee**

As stipulated in Article 9 of Water Law, all classes' representative should participate in water resources management. Therefore, creation of what is called "National Water Committee" is recommended. The Committee shall be a consultative organization for Water Authority. Members of the committee shall be chosen from three (3) different fields, namely, ① planners, deciders and specialist (= government officers, members of national and local assemblies, professor, etc.), ② operator (=government officers, private companies staff, etc.) and ③ users (=personal users, corporate users, etc.). The Committee shall consult on and make propositions on the basic policy which the government is going to undertake in the sector of water. Water Authority shall become secretariat of this Committee.

### **2.2.3 Inter – Ministries Committee**

In order to discuss about water projects which shall have multiple purposes, creation of what is called . "Inter – Ministries Committee" is recommended. The Committee shall compose of the representatives from ministries implicated into water sector services. Water Authority shall take the role of secretariat of this Committee. In case the discussion within the Committee shall not come to an agreement, it should be arbitrated between the Ministers concerned.

### **2.2.4 Adjustment between Water Authority and other ministries**

It may be needed to adjust the relation ship between Water Authority and other existing ministries concerned to water sector. Taking up a case of Urban Water Division's urban water facility rehabilitation project as an example, the present process and some examples of future process for realization of the project can be summarized as follows :

① Making of Plan	② Coordination of the entire projects within Ministry of Infrastructure	③ Approval of permission for water utilization	④ Coordination of the entire projects of all ministries	⑤ Approval of some projects chosen by MOP with allocation of budget	⑥ Assess and Approval (In case of the amount of a project is over CFAF15 million )
<b>Present process</b>					
Urban Water Division (UWD)	Minister of Infrastructure (MOI)	Not executed.	Minister of Development Planning (MOP)	Cabinet	Minister of Economy and Finance (MOF)
<b>Some examples of future process</b>					
<b>Example A</b>					
UWD	MOI	Water Authority (WA)	MOP	Cabinet	MOF
<b>Example B</b>					
UWD	MOI	WA	MOP & WA	Cabinet	MOF
<b>Example C</b>					
UWD	MOI & WA	WA	MOP & WA	Cabinet	MOF
<b>Example D</b>					
UWD	MOI & WA	WA	MOP & WA	Cabinet	MOF & WA
<b>Example E</b>					
UWD & WA	MOI & WA	WA	MOP & WA	Cabinet	MOF & WA

In alphabetical order of the above examples, the function of WA shall become stronger.

Namely,

Example A : WA shall permit water utilization.



Example B : In addition to the function of Example A, WA shall join the coordination of the entire water sector projects at MOP.

Example C : In addition to the function of Example B, WA shall participate the coordination of the entire water sector projects within MOI.

Example D : In addition to the function of Example C, WA shall join the assess and approval of large scale water sector projects at MOF.

Example E : In addition to the function of Example D, WA shall join the making of planning at UW.

Regarding planning of water project development, each sector has enough data and experiences. So it is better to restrict WA's role within the permission of water utilization. Taking the above point into account, Example A or Example B may be recommended.

## **2.3 Proposed Organization at Basin Level**

### **2.3.1 Basin Water Agency**

In accordance with the Article 57 of Water Law, it is recommended to create what is called "Basin Water Agency" in order to perform consistent water resources management throughout river basins. Former HCH has proposed to divide the basins of Cote d'Ivoire into three (3) groups of basins and establish a basin agency at each group of basins, which can be recommended by the Study Team too.

Three (3) groups of basins are as follows :

- Sassandra and Cavally (including Fae, Nuon and Niger) ;
- Bandama and Boubo ;
- Comoe and Agneby (including Bia and Volta).

Each three basin groups shall be separated into following hydraulic district and have a district office at the place in parenthesis ;

#### **\* Sassandra group :**

- Bani – Niger (Odiene) ;
- Sassandra (Man) ;
- Cavally (Tabou) ;
- Fae – San Pedro (San Pedro) :

\* Bandama group :

- Bandama Blanc (Korhogo) ;
- Marahoue (Bouafle) ;
- N'Zi (Dimbokro) ;
- Boubo (Divo) ;

\* Comoe group :

- Volta noire (Bondoukou) ;
- Comoe (Abengourou)
- Agneby (Agboville) ;
- Bia (Aboisso).

**(1) Proposed assignments of Basin Water Agency**

Judging from the above mentioned principles from Water Law and Water Resources Management Plans of the Study Team, the assignments of Basin Water Agency might be as follows :

- To make General Principles for Improvement and Management of Water Resources (SDAGRE) by basins (A 94) ;
- To make Action Plans for Improvement and Management of Water Resources (PDADOH) (A 97) ;
- To establish observation facilities of meteo – hydrological network (P⑥ - 1) ;
- To establish observation and measurement system of meteo – hydrological network (P⑥ - 2) ;
- To operate and manage hydrological facilities (P⑥ - 3) ;
- To establish data transmission system of meteo – hydrological network (P⑥ - 4) ;
- To process and manage hydrological data (P⑥ - 5) ;
- To establish monitoring and evaluation system of meteo – hydrological network (P⑥ - 2) ;

It may be recommended that SDAGRE and PDADOH shall be examined and approved by Water Authority taking the coordination of each basin's and the nation's plan and program into account.

In addition to the above assignments, as a state organization under the control of Water Authority, following shall be recommended to be assigned ;

- To supervise the observation of conditions of water right permission.

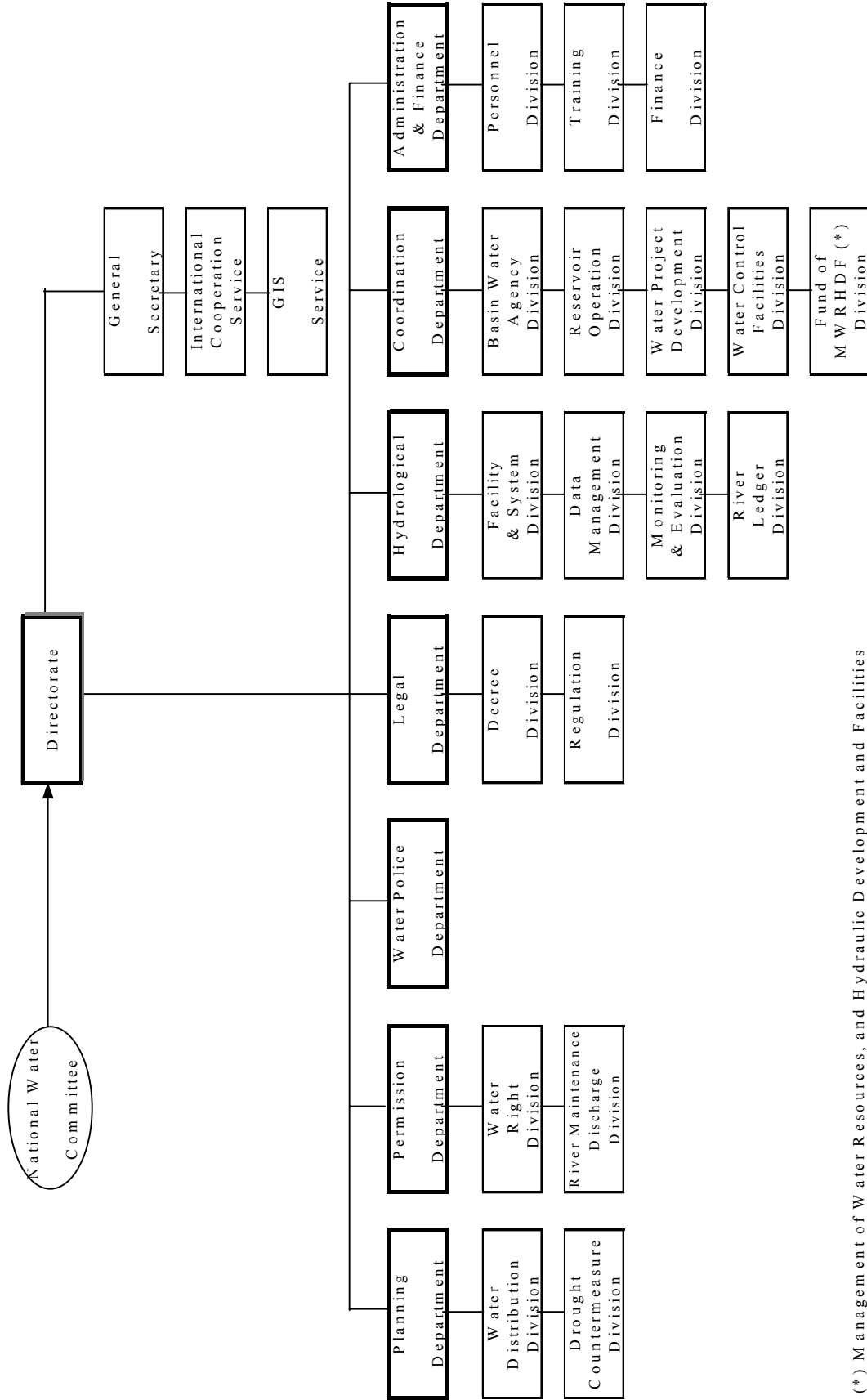
## **(2) Proposed organization of Basin Water Agency**

Judging from the above mentioned assignment, the proposed organization chart of Basin Water Agency shall be as shown in Fig. 2.2 – 2. (The Figure illustrates Sassandra Basin Water Agency, and other two Basin Water Agencies (Bandama and Comoe) shall be same, except the name of branch offices.)

### **2.3.2 Basin Water Committees**

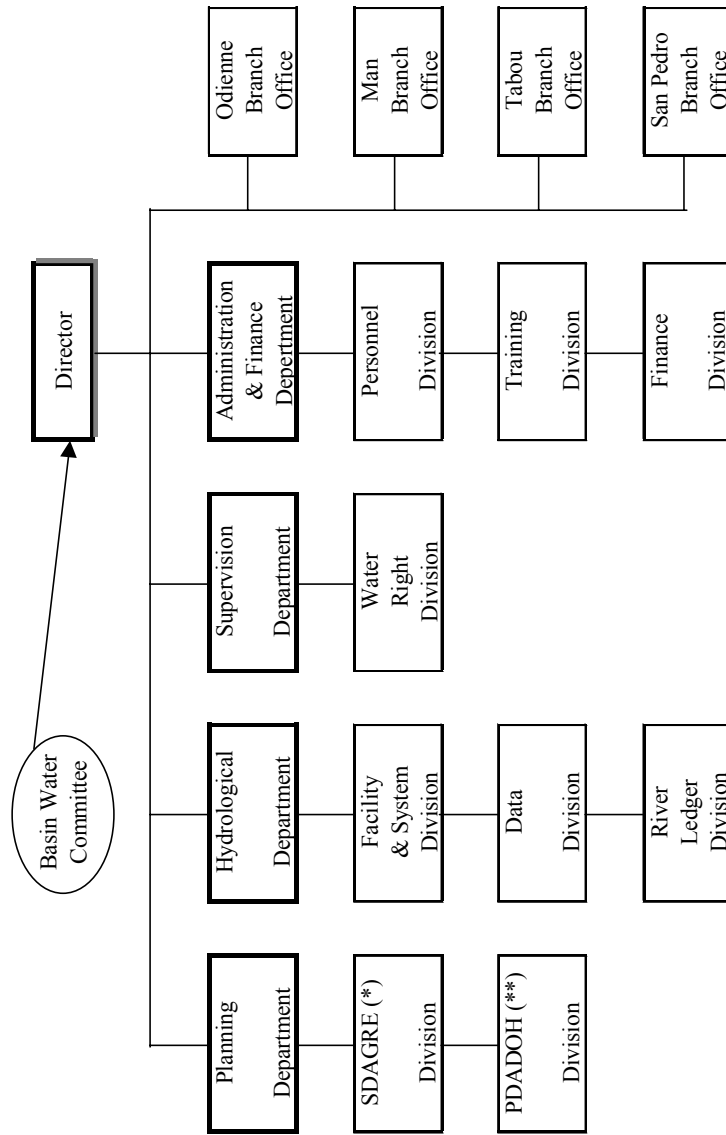
In accordance with Article 9 of Water Law, creation of what is called “Basin Water Committee” is also recommended at respective three basins. The Committees shall be consulting organization at the level of the basins, and shall consult on water resources management plan, programming and rate of the fees within each basin. In the same way as National Water Committee, members of Basin Water Committees shall be chosen from three (3) different fields.

Fig. 2.2 - 1 Proposed Organization Chart of Water Authority



(\*) Management of Water Resources, and Hydraulic Development and Facilities

Fig. 2.2 - 2 Proposed Organization Chart of Sassandra Basin Water Agency



(\*) General Principles for Development and Management of Water Resources

(\*\*) Action Plans for Development and Management of Water Resources

## 2.4 Cost Estimation for Proposed Organizations

Cost of proposed organizations can be estimated as follows.

### 2.4.1 Water Authority

Item	Price (Unit : Million CFAF)	Calculation Base
(1) Survey & Design	168.0	(2) x 15%
(2) Office Construction	1,120.0	4,000m <sup>2</sup> x 280,000CFAF / 1,000,000
(3) Office Equipment	336.0	(2) x 30%
(4) Cars	70.0	14,000,000CFAF x 5cars / 1,000,000
(5) O & M	311.8	(5).1 + (5).2
(5).1 Personnel	222.7	a. + b. + c. + d. + e. + f. + g.
a. Director	12.0	1,000,000CFAF/month x 1person x 12months / 1,000,000
b. Deputy Director	18.0	500,000CFAF/month x 3persons x 12months / 1,000,000
c. Department Manager	32.4	300,000/month x 9persons x 12months / 1,000,000
d. Division Manager	43.2	200,000CFAF/month x 18persons x 12months / 1,000,000
e. Staff	90.0	100,000CFAF/month x 75persons x 12months / 1,000,000
f. Secretary	22.3	60,000CFAF/month x 31persons x 12months / 1,000,000
g. Driver	4.8	80,000CFAF/month x 5persons x 12months / 1,000,000
(5).2 Others	89.1	(5).1 x 40%

(Note 1) The Prices of office construction and car are based on the information obtained by inquiry by the Study Team.

(Note 2) Director, deputy directors, general secretary, department managers and division managers are attended by one secretary.

(Note 3) Number of staff by division are to be assumed as follows.

Name of Division	Number of Staff (Persons)
GIS	3
Water Distribution	3
Drought Countermeasure	3
Water Right	7
Water Police	9
River Maintenance Discharge	3
Decree	3
Regulation	3
Facility & System	3
Data Management	3
Monitoring & Evaluation	3
River Ledger	3
Basin Water Agency	3
Reservoir Operation	5
Water Project Development	5
Water Control Facility	5
Fund of MWRHDF	2
Personnel	3
Training	3
Finance	3
<b>Total</b>	75

## 2.4.2 Basin Water Agencies

Item	Price (Unit : Million CFAF)	Calculation Base
(1) Survey & Design	441.0	(2) x 15%
(2) Office Construction	2,940.0	$(2,700\text{m}^2 \times 280,000\text{CFAF} + 200\text{m}^2 \times 280,000\text{CFAF} \times 4) / 1,000,000 \times 3\text{agencies}$
(3) Office Equipment	882.0	(2) x 30%
(4) Cars	414.0	$(14,000,000\text{CFAF} \times 3\text{cars} + 24,000,000\text{CFAF} \times 4\text{cars}) / 1,000,000 \times 3\text{agencies}$
(5) O & M	551.4	(5).1 + (5).2
(5).1 Personnel	393.8	a. + b. + c. + d. + e. + f.
a. Director	18.0	$500,000\text{CFAF}/\text{month} \times 1\text{person} \times 12\text{months} / 1,000,000 \times 3\text{agencies}$
b. Department Manager	43.2	$300,000\text{CFAF}/\text{month} \times 4\text{persons} \times 12\text{months} / 1,000,000 \times 3\text{agencies}$
c. Division and Branch Office Manager	93.6	$200,000/\text{month} \times 13\text{persons} \times 12\text{months} / 1,000,000 \times 3\text{agencies}$
d. Staff	180.0	$100,000\text{CFAF}/\text{month} \times 50\text{persons} \times 12\text{months} / 1,000,000 \times 3\text{agencies}$
e. Secretary	38.9	$60,000\text{CFAF}/\text{month} \times 18\text{persons} \times 12\text{months} / 1,000,000 \times 3\text{agencies}$
f. Driver	20.2	$80,000\text{CFAF}/\text{month} \times 7\text{persons} \times 12\text{months} / 1,000,000 \times 3\text{agencies}$
(5).2 Others	157.5	(5).1 x 40%

(Note 1) The Prices of office construction and car are based on the information obtained by inquiry by the Study Team.

(Note 2) Director, department managers, branch office managers and division managers are attended by one secretary.



(Note 3) Number of staff by division and branch office are to be assumed as follows.

<b>Name of Division and Branch Office</b>	<b>Number of Staff (Persons)</b>
SDAGRE	2
PDADOH	2
Facility & System	5
Data	3
River Ledger	3
Water Right	4
Personnel	2
Training	2
Finance	3
Odienne	6
Man	6
Tabou	6
San Pedro	6
<b>Total</b>	<b>50</b>

## **2.5 Human Resources Development Plan**

Accompanying with the implementation of integrated water resources management, the development of qualified human resources is inevitably required. As no comprehensive manpower inventory/statistics of water sector on nationwide can be obtained, it can not be definitely said that the organizations concerned with water sector suffer from serious shortage of skilled and experienced staff. The integrated water resources management may need new concept, technique and technology. Human resources for newly generated tasks to manage water resources in integrated manner should be at least trained systematically and as quickly as possible. Effort should be made to train more skilled in-house human resources. Although one of temporary solution may be to engage the local or expatriate consultants.

### **2.5.1 Required human resources of Water Authority**

It seems that the most important assignment of Water Authority shall be to give users permission for utilization of water. The preparation of criteria and manual for water right and the development of human resources to investigate the application of users are indispensable in formulation of this permission system. The following staff seem to be necessary for investigation and screening of the applications from water users :

- water facilities (especially dam) engineer ;
- hydrologist ;
- water use engineer ;
- water resources engineer ;

- expert for legal system of water ;
- economist.

### 2.5.2 Required human resources of Basin Water Agency

The establishment of monitoring network system of hydrological observation seems to be the most important tasks for Basin Water Agency (BWA). The operation and maintenance might not be so serious problem, if the BWA staff learn well the method of operation and maintenance when the facilities/machinery are installed. But, training and cultivation of in – house mechanic to repair new facilities/machinery may be recommended.

### 2.5.3 Human resources development plan

Former HCH made up a report titling “National Hydraulic Program 2000 – 2015 ”, in which a plan of reinforcement of human capacities has been described. The plan shall be executed at the cost of 1 million US dollar and at the period of three years. This plan has aimed at the reinforcement of all peoples for the knowledge about water. The plan has included the education to teach primary school’s pupils and women the importance of water, to transfer technologies to local government officers and private companies’ staff, to open workshops of new technology for government officers related to water sector, etc. The human resources development plan which focus on the training of staff for new management tasks should be established. An idea of human resources development plan of the Study Team is as follows :

Occupational Category	Desirable Minimum Experience Period of Trainee (Years)	Duration Period of Training	Number of Persons to be Trained (Persons)
Dam Engineer	10	6 months	2
Hydrologist	5	6 months	2
Water Use Engineer	5	6 months	2
Water Resources Engineer	5	6 months	2
Expert for Legal System of Water	10	1 year	2
Economist	10	1 year	2
Mechanic	3	6 months x 2 times	6

Development of human resources for new technique, which has not yet introduced into Cote d’Ivoire, may require the assistance of foreign countries. Japan also have various technical cooperation scheme, aiming at transfer of knowledge and technology which are needed by the developing countries.

## CHAPTER 3 ARRANGEMENT OF LAWS AND REGULATIONS

### 3.1 Presidential Decrees to be Arranged

Some articles of Water Law stipulate that details of conditions, procedures, methods, organizations, standards, etc. shall be determined by Decree (“Decret” in French), i.e. Presidential Decree, approved by the Cabinet Meeting. Therefore, the creation of several Presidential Decrees are absolutely necessary for due enforcement of Water Law. The following Presidential Decrees may need to be created, judging from the articles of Water Law. Marked ⊙ in remarks column means that a draft of Presidential Decrees has been already prepared by former HCH.

	<b>Title or Content of Presidential Decree</b>	<b>Article Number of Water Law Concerned</b>	<b>Remarks</b>
1	Assignment and organization of Water Authority	1 and 58	⊙
2	Procedure and methods for recognition of vested right on public hydraulic area	8, 11, 61, 62 and 63	⊙
3	Regulations of ecological audit against factories, hydraulic development and facilities, and source of pollution	8, 11, 53, 61, 62 and 63	⊙
4	Application procedure, and the conditions of conferment, modification, renewal and abandonment of permission related to water resources, and hydraulic development and facilities in public hydraulic area	11, 12, 13, 14, 15, 16, 17, 29, 30, 31, 33 and 56	⊙
5	Conditions of water accumulation on privately – owned lands and fixing the application and permission procedure for capacity, nature and aim of accumulation	20, 22, 23, 24, 25 and 26	⊙
6	Methods of applied legal institution, and the application procedure for delimitation of protection area of water resources, and hydraulic development and facilities	34, 35, 36, 38, 39, 40 and 47	⊙
7	Methods of establishment of standards for human drinking water and determining the preventable measures for pollution of consuming water	34, 35, 37, 43, 78, 79, 80, 81, 82, 83, 84 and 85	⊙
8	Standards of liquid waste to public hydraulic area	37	
9	Standards of planning, construction and protection of hydraulic development and facilities	37	
10	Conditions and method for grading and downgrading of water resources, and hydraulic development and facilities, and for conferment of public utilization	42	
11	Methods for declaration of water shortage state and dealing with ban for waste use of water	45, 46 and 120	⊙
12	List of hydraulic development and facilities to be consistent with national interest and determining the special measures for protection	54	

	<b>Title or Content of Presidential Decree</b>	<b>Article Number of Water Law Concerned</b>	<b>Remarks</b>
13	National policy for management of water, and hydraulic development and facilities	55	
14	Creation and organization of National Water Agency (*)	57 and 58	◎
15	Creation and organization of Basin Water Agency	57 and 58	
16	System and conditions for water utilization other than human usage	73	
17	Method to commission private persons or companies to operate public services related to water, hydraulic development and facilities	75	
18	Announcement of drinkable water resources	86 and 87	
19	Determination of interval for execution of inventories of water resources, and hydraulic development and facilities	91	
20	Conditions for allocation of subsidy	104	
21	Creation and organization of “Funds for Water Resources, and Hydraulic Development and Facilities”	105 and 106	◎
22	List of violations which are possible for settlement out of court	113	

(\*) Please refer to CHAPTER 2 PROPOSED ORGANIZATION AND ITS OPERATION 2.2 Proposed Organization at National Level 2.2.1 Water Authority.

### **3.2 Contents of Decrees Prepared by Former HCH**

The brief explanation of each draft of the decrees is as follows :

#### **(1) Assignment and organization of Water Authority**

This decree shall prescribe the assignment of Water Authority. In addition, the decree shall determine the organization of Water Authority.

#### **(2) Procedure and methods for recognition of vested right for water utilization on public hydraulic area.**

This decree shall expect an implementation of public opinion survey executed by Water Authority.

The recognition of vested right for water utilization on public hydraulic area is decided by the regulation of Water Authority, which shall be published in official gazette. The vested right for water utilization on public hydraulic area can be inscribed on land register book. (Article 62)

#### **(3) Regulation of ecological audit against factories, hydraulic development and facilities, and source of pollution**

Ecological audit intends to clarify the extent of pollution of factories (both specified factories by Factory Inspection Service (SIIC) and non – specified factories) , hydraulic development and facilities.

This decree shall define the right and assignment to realize the ecological audit. Water Authority shall determine, by its ministerial decree, laboratories designated to execute examinations and analyses which are useful for the ecological audit.

**(4) Application procedure, and the conditions of conferment, modification, renewal and abandonment of permission related to water resources and hydraulic development and facilities in public hydraulic area.**

This decree shall determine the mechanism and procedure related to consultation in advance and define the conditions of conferment, modification, renewal and abandonment of permission. At the same time, the decree shall precise the conditions of permission, and authorize Water Authority to execute a research for environmental impact. In addition, the decree shall order Water Authority to carry out public opinion survey.

**(5) Conditions of water accumulation on privately – owned lands and fixing the application and authorization procedure for capacity, nature and aim of accumulation.**

This decree shall establish two methods of water accumulation on privately – owned lands according to volumes ;

1) In case accumulation volume is under 2,500m<sup>3</sup>, consultation in advance with the authority concerned is required.

2) In case accumulation volume is over 2,500m<sup>3</sup>, permission is required.

In case accumulation volume is over 10,000m<sup>3</sup>, permission and technical study are required.

In case accumulation volume is over 20,000m<sup>3</sup>, permission and study for impact of the project are required.

**(6) Methods of applied legal institution, and the application procedure for delimitation of protection area of water resources and hydraulic improvement and facilities.**

The protection area is an obligation from the point of view of public health. (Article 38)

The protection area shall be classified into narrow, middle and wide area.

This decree shall clarify the following items :

- the right and assignment for determination of protection area ;

- the actions to be permitted within protection area :
- the actions to be strictly forbidden within protection area.

**(7) Methods of establishment of standards for human drinking water and determining the preventable measures for pollution of consuming water.**

The standards for human drinking water shall include the following items :

- procedures and methods for testing, sampling and analysis ;
- water quality standard
- physico – chemical ,biological and bacteriological properties.

The standards for drinking water shall be determined by a joint ministerial decree of Water Authority and Ministry of Health. (Article 78 of Water Law)

**(8) Methods for declaration of water shortage state and dealing with ban for waste use of water.**

This decree shall precise the following items :

- the method to be defined in the regulation dealing with declaration of water shortage state ;
- the right and assignment for Water Authority and Ministries related to information activities to people and enlightenment of people for conservation of water resources.

**(9) Creation and organization of National Water Agency**

This decree shall prescribe the assignment of National Water Agency. In addition, the decree shall determine the organization of National Water Agency.

**(10) Creation and organization of Funds for Management of Water Resources, and Hydraulic Development and Facilities**

According to the Article 105 of Water Law, a fund for water resources, and hydraulic development and facilities shall be set up in Governmental Paying Agency (la Caisse Autonome d'Amortissement in French (CAA)).

The objectives of the Funds shall finance the following activities :

- integrated management of water resources ;
- planning of water resources and hydraulic improvement and facilities ;
- protection of water resources ;
- sanitary surveillance ;
- construction and maintenance for hydraulic improvement and facilities.

The Funds shall be under control of Water Authority and Ministry of Economy and Finance.

In accordance with the Article 106 Of Water Law, the Funds shall be provided with the following sources :

- government subsidies ;
- various fees defined at Article 101 of Water Law ;
- operating revenue ;
- other donations.

### 3.3 Ministerial Decrees to be Arranged

It may not be necessary to say that the full completion of President Decrees are not enough to enforce Water Law. More detailed regulation such as Ministerial Decree (“Arrete” in French) and Regulations within relevant organizations (“Decision” in French) shall be required.

Ministerial Decrees to be arranged seem to be as follows :

	<b>Title or Content of Ministerial Decree</b>	<b>Article Number of Water Law Concerned</b>	<b>Ministry Concerned (If Any)</b>
1	Determination of laboratories designated to execute examinations and analyses which are useful for the ecological audit	8, 11, 61, 62 63	MOCE
2	Details of public announcement	14	
3	Composition of special committee to which public announcement is trusted	14 and 30	
4	Specification of levels of discharge in public hydraulic area	16	
5	Terms of reference for study of environmental impact accompanying with permission of water use		MOCE
6	Boundary of protection area	38	
7	Method of declaration of water shortage state	45	
8	Contents of specifications, period of permission, method of renewal, etc. with permission of water use	56	
9	Method of official notice of permitted water right	56	
10	Standards of drinking water	78	MOH
11	Method of prevention of drinking water pollution	85	MOH

MOCE : Ministry of Construction and Environment

MOH : Ministry of Public Health

### **3.4 Legal Framework to be Arranged Surrounding Water Law**

If the above mentioned presidential and ministerial decrees related to Water Law are completed, it seems necessary to arrange legal frame framework surrounding Water Law. The following shall be main ones to be arranged.

#### **3.4.1 Environment**

##### **(1) Law related to sewerage**

The purpose of the law is to improve sewerage system in the nation by setting matters related to the formulation of comprehensive river basin sewerage plans and standards for the construction and management of public sewerage system, river basin sewerage and urban storm sewers and thereby contribute to sound growth of cities, improvement of public health and preservation of the quality of public waters.

##### **(2) Law related to industrial water and ground water**

The purpose of the law is to secure the reasonable supply of industrial water and preserve the ground water resources at the same time and thereby to contribute the development of industries and preservation of land subsidence.

#### **3.4.2 Water use**

##### **(1) Law related to water resources development promotion**

The purpose of the law is to secure the supply of water coping with the development of industries and the increase of populations, to promote the integrated development of water resources and rationalization of water use, and thereby to contribute the growth of national economy and the improvement of people's life.

##### **(2) Law related to multipurpose dam**

A multipurpose dam can be defined as a dam of which functions include hydroelectric power generation, irrigation, domestic water supply and industrial use. The purpose of the law is to create the right of dam utilization (the right to accumulate fixed volume of the dam water in definite area for specific use), and thereby to contribute the full utility of multipurpose dam.



### **(3) Law related to electric power facilities development promotion**

Electric power facilities development includes the construction, installation and improvement of dam, reservoir, building, machinery, equipment, etc. for hydroelectric and thermal power generation. The purpose of the law is to develop and improve electric power facilities quickly and to increase the supply of electric power, and thereby to contribute the encouragement of industries and acquisition of foreign exchange.

### **(4) Law related to agricultural land improvement**

The purpose of the law is to execute properly and smoothly the development, improvement and preservation of agricultural land and to develop and improve the basis of agricultural production, and thereby to contribute the increase of the productivity and general output of agriculture, and the reform of agricultural structure.

### **(5) Law related to dam or reservoir construction area's improvement**

In the case where the basic conditions of a area changes as a result of the construction of a dam or reservoir, a special countermeasure should be taken in order to prevent dam or reservoir water pollution, and to improve the life conditions of the area's residents and the basis of the area's industries. The purpose of the law is to promote the construction of dam or reservoir and to develop water resources and thereby contribute to stabilization and improvement of the residents' livelihood and welfare.

## **3.5 Matters to be Examined**

The following matters seem to be examined when the law and regulations related to water resources management shall be established for due enforcement of Water Law.

### **3.5.1 Assistance of outside specialist for making of ministerial decrees and/or regulations/rules.**

As stated above, in order to enforce Water Law completely , the all of following should be realized ;

- To complete all necessary decrees ;
- To get approval of ministries related to water resources management ;
- To amend decrees according to discussions with relevant ministries ;
- To enact all decrees by approval of the Cabinet and President ;

- To complete and enact all necessary ministerial decrees by approval of relevant ministers ;
- To complete and decide all necessary regulations and/or rules by approval of the chief of relevant institutions.

It shall take long time to do the entire above matters by Ivorian side alone. The early realization of those matters may have need of assistance of outside specialist. It may be a good way to ask an assistance from foreign countries who have a lot of experience regarding water management.

### **3.5.2 Establishment of water right**

Among the management of water resources, the most important legal and administrative control's subject may be water right, i.e. right of water utilization, from economical aspect of water resources.

Water right shall define, at least, the following items ;

- Character and contents ;
- Permitted range (objective, volume of water usage, etc.) ;
- Doctrine of permission (doctrine of prior appropriative right, doctrine of prior upper stream, doctrine of equality, etc.) ;
- Permitted period ;
- Adjustment of right (protection of existing customary right, treatment of competitive applications, etc.)

## Appendix 1

### Comparison of Three (3) Countries Water Resources Management Method (1/2)

	Japan	France	Cote d'Ivoire
<p>Power of Government</p> <p>Centralization or Decentralization</p>	<p>Centralization</p> <ul style="list-style-type: none"> <li>- Basic plan for water resources development is decided by government.</li> <li>- Utilization of river water is required to obtain permission of Minister of Construction.</li> </ul>	<p>Decentralization</p> <ul style="list-style-type: none"> <li>- General Principles for Improvement and Management of Water (SDAGE) is decided by each Basin Committee existed at each group of basins.</li> <li>- Permission for taking and displacing of water is given by Prefect (Chief of government local office).</li> </ul>	<p>Decentralization</p> <ul style="list-style-type: none"> <li>- Some assignment and powers shall be transferred to Basin Water Agencies, self – management organizations that shall be independent from Water Authority. (The contents of assignment and powers are not yet decided at present.)</li> </ul>
<p>Power of Department in Central Government</p> <p>Centralization or Coordination</p>	<p>Coordination (Water Resource Department in National Land Agency)</p> <ul style="list-style-type: none"> <li>- In case Prime Minister decide basic plan, the agreement of Cabinet Meeting is required.</li> <li>- Flood control, maintenance flow are basically controlled by Ministry of Construction, but each sector's water utilization are controlled by each concerned Ministries.</li> </ul>	<p>Coordination (Inter – Ministries Water Committee (MISE))</p> <ul style="list-style-type: none"> <li>- Water policy at local area level is decided by each concerned Ministries such as Ministry of Agriculture, Ministry of Industry, Ministry of Public Works, Ministry of Public Health.</li> <li>- MISE coordinate each Ministry's water services.</li> </ul>	<p>Coordination (Water Authority)</p> <ul style="list-style-type: none"> <li>- Water Authority exercise its privilege in joint with concerned Ministries.</li> <li>- Quality standard for human drinking water is jointly decided by Water Authority and Ministry of Health.</li> </ul>

### Comparison of Three (3) Countries Water Resources Management Method (2/2)

	Japan	France	Cote d'Ivoire
Participation of NPO  Yes or No	No  - No formal organization, in which users or local government participate, exist.	Yes  - Members of Basin Committee consist of members of assembly, government officers and users such as farmer, consumer, private company, environmentalist.	Yes  - Members of National Water Committee and Basin Committee consist of national and local members of assembly, government officers, and users and private companies
Characteristics of concerned Organization  Public or Private	Administrative organ  - Identities of construction of water facilities are, in principle, local public bodies and the technical/ financial assistance are given by central government.	Public corporation having the characteristics of administrative organ and private companies  - Each Water Agency has financial autonomy.  - Almost all water supply is made by private companies.	Administrative organ and private companies  - Supervision of designing and construction are executed by central government.  - Urban water supply is made by private company.  - Hydroelectricity supply and hydroelectric dams' maintenance are carried out by private company
Method of Management of Administrative Organ  Restriction or Discussion	Restriction  - River water is public property and does not become a subject of private right.	Restriction, encouragement and discussion  - Economical value of water is recognized	Restriction  - Water resources make a part of national common heritage.
Main Purpose of Water Management	Flood control and maintaining normal functions of river flow	Securing of water quality	Securing of water quality and quantity

## **Appendix 2**

### **Draft of Decree Prepared by Former HCH Related to Permission of Water Utilization**

Republic of Cote d'Ivoire

Prime Minister

**Decree No. – of -----, 1999**

On proposal of the Prime Minister, the Chief of the Government ;

Considering the Constitution ;

Considering the law No. 98 – 755 of December 23, 1998 dealing with Water Law, especially the Article 11, 12, 13, 14, 15, 16, 17, 29, 30, 31, 33 and 56 ;

Considering the law No. 96 – 766 of October 3, 1996 dealing with Environment Law ;

Considering the decree No. 96 – 894 of November 8, 1996 determining the regulation and procedure in application to the study related to the environmental impact of development project ;

Considering the decree No. 96 – PR/001 of January 24, 1996 dealing with the nomination of the Prime Minister ;

Considering the decree No. 98 – PR/005 of August 11, 1998 modifying the decree No.96 – PR/002 of January 26, 1996 dealing with the nomination of the Government members ;

Considering the decree No. 96 – 136 of January 26, 1996 dealing with creation of the High Commissariat for Hydraulics ;

Considering the decree No. 98 – PR/006 of October 1, 1998 modifying the decree No.96 – 179 of March 1, 1996 dealing with the assignment of the Government members ;

The President of the Republic

hereby declare that the Cabinet Meeting has agreed and I have approved the following Decree :

## **Title**

### **Determining the Application Procedure, and the Conditions of Conferment, Modification, Renewal and Abandonment of Permission related to Water Resources and Hydraulic Development and Facilities in Public Hydraulic Area.**

#### **TITLE 1 GENERAL PROVISIONS**

**Article 1** This decree determine the application procedure, and the conditions of conferment, modification, renewal and abandonment of permission related to water resources and hydraulic development and facilities in public hydraulic area.

**Article 2** According to the Article 11 of Water Law, water resources and hydraulic development and facilities in public area make a part of public hydraulic area.

**Article 3** According to the Articles 12 and 30 of Water Law, water utilization in public hydraulic area, as well as the site, realization and exploitation of hydraulic development and facilities, are required to have consultation in advance or to obtain permission.

**Article 4** According to the Article 31 of Water Law, the installations, development, facilities, works and activities which are capable to bring about the effects such as follows, are required to get the permission :

- To hinder navigation ;
- To endanger the public health and security ;
- To hurt free flow of water ;
- To spoil the quality and quantity of water resources ;
- To increase seriously the risk of flood ;

- To change seriously the quality or the diversity of aquatic environment.

The installations, development, facilities, works and activities which are not so capable to bring about the above dangers are required to have the consultation in advance and should respect the prescription enacted by the legislation now in use.

## **TITLE II CONSULTATION**

**Article 5** The consultation in advance to utilize water should be accompanied by the documents containing the following information :

- A) The identification of applicant and its address
- B) In case of juristic person, its juridical nature, name, object, head office and the identification of physical persons who represent the juristic person ;
- C) The documents of the above A) and B) of user, in case applicant and user is different ;
- D) The geographic location of the facilities or the installation of water utilization, taking – in, the portion of public hydraulic area and the object of water usage ;
- E) The estimated volume of water utilization, indicating maximum discharges expressed in cubic meter per hour and the estimated monthly usage volume ;
- F) The characteristics of the installation of water utilization facilities and its consistency ;
- G) The type of water usage and the portion of land of public hydraulic area ;
- H) The estimated depth of the facility and the levels of aquifer that are to be collected, the architecture of the facility, including the equipment, when it is concerned to ground water ;
- I) The surface to be irrigated, when it is concerned to irrigation, or the surface to be improved, when it is concerned to lake, pond and marsh ;
- J) The site of the project, the quantity, quality and general characteristics of waste

water ;

K) A drawings of the planing installations ;

L) A covenant of the applicant engaging that the exploitation shall not create any risk of pollution of aquifers which are really necessary for the operation, and that the applicant take especial precautions against toxic and dangerous products.

**Article 6** According to the Article 56 of Water Law, the consultation should be addressed to Water Authority who dispose the application in thirty (30) days.  
In case thirty (30) days is over without re – action of Water Authority, it means that the consultation is accepted.

### **TITLE III PERMISSION**

**Article 7** According to the Articles 13, 14 and 17 of Water Law, the permission, which should be granted for a determined period and , in some case, after a public inquiry, should :

- preserve the national patrimony ;
- take into account the right and usage previously settled ;
- reconcile the interests of various categories of users ;
- safeguard the right of dwellers.

**Article 8** Permission shall not be granted for development or facilities which are meant to divert the water resources that compromises the right of usage of dwellers.

In the same way, the water utilization which show immediate risk or in a long run, cause directly or indirectly a constraint or an obstacle to the public service of water supply, especially, for normal alimentation, shall not be permitted.

### **CHAPTER 1 APPLICATION OF PERMISSION**

**Article 9** All application of permission for water utilization shall be accompanied by the documents containing the following information ;



- M) The identification of applicant and its address ;
- N) In case of juristic person, its juridical nature, name, object, head office and the identification of physical persons who represent the juristic person ;
- O) The documents of the above A) and B) of user, in case applicant and user is different ;
- P) The geographic location of the facilities or the installation of water utilization, taking – in, the portion of public hydraulic domain and the object of water usage ;
- Q) The estimated volume of water utilization, indicating maximum displacement expressed in cubic meter per hour and the estimated monthly usage volume ;
- R) The characteristics of the installation of water utilization facilities and its consistency ;
- S) The type of water usage and the portion of land of public hydraulic domain ;
- T) The estimated depth of the facility and the levels of aquifer that are to be collected, the architecture of the facility, including the equipment, when it is concerned to ground water ;
- U) The surface to be irrigated, when it is concerned to irrigation, or to be improved, when it is concerned to lake, pond and marsh ;
- V) The site of the project, the quantity, quality and general characteristics of waste water ;
- W) A drawings of the planing installations ;
- X) A covenant of the applicant engaging that the exploitation shall not create any risk of pollution of aquifers which are really necessary for the operation, and especially take precautions against toxic and dangerous products.

**Article 10** According to the Article 29 of Water Law, Water Authority can require the study of environment impact which is to be accompanied with the application of permission.

The referential terms of this study shall be fixed by a joint ministerial decree of Water Authority and Minister of Environment, according to the procedure applied to the study of environmental impact studies defined by the decree No. 96 – 894 of November 8, 1996.

**Article 11** According to the Article 56 of Water Law, the application for permission should be transmitted by registered letter with acknowledgement or with a receipt in return to Water Authority or to the representative of the organization in charge of basin management.

## **CHAPTER 2 PUBLIC INQUIRY**

**Article 12** The public inquiry foreseen in the Article 14 of Water Law is ordered, in case there is a need, by the decision of Water Authority.

**Article 13** The decision shall contain the following :

- the object of inquiry ;
- the opening and closing date of inquiry ;
- the place of inquiry ;
- the place of water utilization ;
- the site of construction of facilities ;
- the member of committee of inquiry ;
- the place of deposit of inquiry files as well as the recorded books to collect the observations of the concerned persons. The recorded books are at the disposal of the public during the lasting period of inquiry.

**Article 14** The above mentioned opening date of inquiry shall be published by Water Authority. The opening date is posted on a notice board at the office of local administration, at the town hall and at any places easily accessible to the public at least in advance of fifteen (15) days of inquiry date.

**Article 15** The public inquiry is trusted to a special committee of which composition is fixed by a ministerial decree of Water Authority. Nevertheless, in any case, the committee comprises necessarily a hydrologic or hydrogeologic expert, according to the disposition of Article 30 of Water Law.

**Article 16** During the period of the inquiry, the local administrative authority open the file of the inquiry to public, which should contain the application of the applicant and the recorded book to collect observation and claiming of the third parties.

**Article 17** At the end of the inquiry, the committee makes up a complete report signed by all the members with their comments.

**Article 18** The file of the inquiry, the complete report, the recorded book of observations and the committee's comments are transmitted to Water Authority in fifteen (15) days after the completion of these documents.

### **CHAPTER 3 CONFERMENT, RENEWAL, ABANDONMENT AND MODIFICATION OF PERMISSION**

**Article 19** After considering the result of public inquiry, the report, the recorded book of observation and the opinion of committee, Water Authority shall make final decision as regard the response to the application of permission.

**Article 20** The conclusion of permission shall duly contain specifications which shall determined by ministerial decree of Water Authority.

**Article 21** Any objection to application of permission shall be justified and notified to the applicant in ,at least, one (1) month.

**Article 22** Water Authority shall fix the validity period of permission.  
Water Authority shall establish the method of renewal by its rule.

**Article 23** The permission can be withdrawn or modified according to the conditions specified by the Article 15 of Water Law.

**Article 24** In applying the provisions of the Article 33 of Water Law, any change in the quality of the applicant should be communicated to Water Authority, as well as any incident or accident..

The applicant is required to send an annual report on functioning of its activity to Water Authority.

#### **CHAPTER 4 PERMISSION OF DIGGING, REPLACEMENT OR REHABILITATION OF WELLS OR BORINGS AND GROUND WATER UTILIZATION**

**Article 25** The permission of digging, replacement or rehabilitation of wells or borings and ground water utilization are delivered and , in the contrary case, modified or withdrawn according to the provisions of Water Law and this decree under reserve of the provisions of this chapter.

**Article 26** In applying the Article 16 Paragraph 2 of Water Law, some levels of different discharges in the public hydraulic area are fixed for each zone , referring to the extent of the water stratum. The specification shall be fixed by ministerial decree of Water Authority on the basis of technical study of following items :

- Hydrogeological aspects ;
- Depth of water stratum ;
- Utilization and quality of water in water stratum ;
- Evaluation of engineering to drop ground water level.

**Article 27** A ministerial decree of Water Authority shall fix the general technical specifications which are applicable to the works of boring for the seeking and development of water, as well as the complementary documents which should be given with the application for permission of well digging and boring, a part from the indications of the above Article 9.

**Article 28** A permission of trial digging of ground water or well shall not be available for several wells, borings or other points of trial digging, even if they are located in the same area.

**Article 29** The permissions of trial digging shall fix notably :

- the daily volume, expressed in cubic meters per day, which shall become the base

of license fee ;

- the maximum instant discharge, expressed in liter per second, which shall be taken into account when the verification shall be executed by the water police ;
- any useful information, either on the usage of water or on the characteristics of wells, borings or any other pumping. The pumping sometimes means the group or groups of pumping which function simultaneously or the subsidiary equipment.

**Article 30** Any installation of pumping, whatever the discharge is, should equip, on the expenses of beneficiary, the water volume meter approved by the authority who has delivered the permission.

**Article 31** The permissions of trial digging of ground water that are delivered in application of this decree shall be submitted to periodical verifications by the appointed agents for this respect.

If it comes out of the verifications that the discharges used by the license holder during two years or over after the delivery date of permission of trial digging of water are inferior to those which the license holder was permitted to do, the corresponding permission shall be possible to be readjusted as it should be without the applicant being paid any indemnity by the authority of water.

**Article 32** The agents duly appointed can require from the owner of a installation of pumping the start of the installations in order to check their characteristics. Those agents, in case of need, proceed to the investigation of infringement of the law.

#### **CHAPTER 5 PERMISSION RELATED TO OPERATIONS OF DREDGING, DEEPENING, WIDENING, STRAITENING, REGULARIZING OF TEMPORARY OR PERMANENT RIVERS**

**Article 33** The permissions related to operations of dredging, of deepening, of widening, of straightening or of regularizing of temporary or permanent river are delivered , in case of need, modified or deprived according to the provisions of Water Law and by this decree, under reserve of the provision of this chapter.

**Article 34** In case of permission related to operations of dredging, of deepening, of widening, of straightening or of regularizing of temporary or permanent river, the application method in the above Article 9 shall be completed by the following information :

- A) The object of operations ;
- B) The name and location of the river concerned ;
- C) The length of the section of river ;
- D) The nature and foreseeable duration of the works to be done ;
- E) A position outline and configuration of the river or the section of the river concerned ;
- F) Longitudinal and cross – section profiles of the river or the section of the river ;
- G) A study evaluating the impact of the projected operations on public water area and aquatic ecosystem and also the necessary measures to improve them.

**Article 35** After receiving the application, the representative of the organization in charge of management of basins concerned shall write a report after an inquiry on the site. The terms of the application are verified and the persons concerned, as well as anyone whose opinion is supposed to be useful are to be listened.

Water Authority shall inform the applicant about the reply of its application in sixty (60) days after receiving of the application and the required information of the above Article 34.

Water Authority shall deliver the permission which should be necessarily contain :

- the identification of the applicant ;
- the nature of the allowed operations ;
- the period of validity of the permission, which should not be more than ten (10) years ;
- the works that are to be done, the period in which the works should be performed ;
- the characteristics of fitting works which are to be achieved in the area of river regime ;

- the conditions of renewal and modification.

#### **TITRE IV FINAL PROVISIONS**

**Article 36** All provisions previous to this decree are abrogated.

**Article 37** The Minister of Interior and Decentralization, the Minister of Economic Infrastructure, the Minister of Agriculture and Animal Resources, the Minister of Industry, the Minister of Environment and Forestry and Water Authority , as far as each is concerned, are responsible for the execution of this decree that shall be published on the Official Gazette of the Republic of Cote d'Ivoire.

Abidjan, -----, 1999

## CHAPITRE I - DEFINITIONS

## Article 1

Au sens de la présente loi portant Code de l'Eau, on entend par :

**Autorité** : tout détenteur du pouvoir tant à l'échelle nationale que locale.

**Autorité chargée de l'eau** : structure désignée pour la gestion des ressources en eau.

**Assainissement** : collecte, évacuation et rejet ou destruction selon les exigences sanitaires, avec ou sans traitement préalable, des eaux pluviales, des eaux usées ou des déchets solides.

**Bassin versant** : aire géographique dont le relief détermine l'écoulement des eaux superficielles et des effluents de diverses natures vers un point de convergence ; ce point est appelé exutoire du bassin.

**Cantage** :

- 1) action de prélever de l'eau de source, lac ou rivière, pour l'alimentation d'une adduction,
- 2) dispositif de prélèvement contrôle des eaux de source,
- 3) canal ou conduite de dérivation d'un lac ou d'un cours d'eau pour les besoins agricoles, domestiques ou industriels.

**Eau ou ressources en eau** : l'eau est un liquide transparent, incolore, inodore et sans saveur à l'état pur. Les termes eaux et ressources en eau sont utilisés de façon interchangeable.

**Eau de surface** : toutes les étendues d'eau y compris leurs dépendances légales en contact avec l'atmosphère (à la surface de la terre).

**Eau minérale** : eau provenant d'une nappe souterraine contenant des sels.

**Eau potable** : toute eau est considérée comme potable si elle n'affecte pas la santé du consommateur à court, moyen et long termes. Ses caractéristiques physicochimiques et microbiologiques font l'objet de dispositions réglementaires.

**Eau sacrée** : eau considérée ou utilisée, avec ou sans son contenu, par une communauté qui appelle un respect absolu digne d'adoration et de vénération.

**Eau souterraine** : toutes les eaux contenues dans les roches réservoirs dans le sous-sol, localisées en dessous de la couche hypodermique du sol (zone non saturée).

**Eaux ou mers territoriales** : zone de mer s'étendant des côtes d'un pays jusqu'à une ligne considérée comme sa frontière maritime. Cette frontière est définie par la convention de Montego bay du 10 décembre 1982 à 12 miles (1 mile = 1609 mètres).



**Fonds supérieur** : espace ou domaine situé à l'amont (supérieur) et à l'aval (inférieur).

**Forage** : creusement d'un trou circulaire de diamètre prédéfini, à partir de la surface du sol jusqu'à une couche, une zone aquifère et est muni d'un système mécanique d'élévation pour en tirer de l'eau.

**Franc bord** : terrain libre de propriétaire, en bordure d'une rivière ou d'un canal, dont les dimensions font l'objet de dispositions réglementaires.

**Nappe phréatique** : nappe souterraine, peu profonde, facilement atteinte par des puits.

**Périmètre de protection** :

- \* Périmètre de protection immédiat : aire clôturée où toute activité installation ou dépôt est interdit en dehors de ceux explicitement autorisés.
- \* Périmètre de protection rapproché : aire où peut y être interdit ou réglementé toute activité ou tout dépôt de nature à nuire directement ou indirectement à la qualité des eaux. Ces terrains peuvent être acquis par voie d'expropriation.
- \* Périmètre éloigné : aire où les activités peuvent être réglementées si elles présentent un risque de pollution.

**Principe d'information et de participation** : toute personne a le droit d'être informée de l'état des ressources en eau et de participer aux procédures préalables à la prise de décisions susceptibles d'avoir des effets préjudiciables sur les ressources en eau.

**Principe de planification et de coopération** : les autorités publiques, les institutions internationales, les associations non gouvernementales et les particuliers concourent à protéger les ressources en eau à tous les niveaux possibles, à participer à l'élaboration de schéma directeur des ressources en eau.

**Principe de précaution et de prévention** : les mesures préliminaires prises de manière à éviter ou à réduire tout risque ou tout danger pour un milieu donné (ressources en eau) lors de la planification ou de l'exécution des activités susceptibles d'avoir un impact dans ce milieu environnemental.

**Pollution des eaux** : l'introduction dans le milieu aquatique de toute substance susceptible de modifier les caractéristiques physiques, chimiques et/ou biologiques de l'eau et de créer des risques pour la santé de l'homme, de nuire à la faune et à la flore terrestres et aquatiques, de porter atteinte à l'agrément des sites ou de gêner toute autre utilisation rationnelle des eaux.

**Principe pollueur-payeur** : ensemble de règles définies qui sanctionnent toute personne physique ou morale qui, directement ou indirectement, provoque une modification défavorable dans un milieu donné par l'introduction de substances nocives. Les dommages causés sont soumis à une taxe ou/et redevance.

## CHAPITRE II : DOMAINE D'APPLICATION

### Article 2

La présente loi portant Code de l'Eau détermine les principes fondamentaux applicables :

- \* au régime juridique des eaux, des aménagements et ouvrages hydrauliques ;
- \* au régime de protection des eaux, des aménagements et ouvrages hydrauliques;
- \* à la gestion des eaux, des aménagements et ouvrages hydrauliques.

Il précise les règles générales :

- \* de préservation et de répartition des eaux ;
- \* de préservation, de qualité des aménagements et ouvrages hydrauliques ;
- \* d'utilisation harmonieuse des eaux sacrées ;
- \* de la police des eaux, des infractions et sanctions.

Les eaux définies dans la présente loi portant Code de l'Eau comprennent les eaux continentales et les eaux de la mer territoriale.

Principe usager-payeur : ensemble de règles définies qui permettent de faire une tarification de l'utilisation de l'eau selon les usages. Ces utilisations sont soumises à une taxe ou/et à une redevance.

Puits : excavation creusée à partir de la surface du sol, jusqu'à une couche, un terrain aquifère, pour en tirer de l'eau.

Réseau d'assainissement et de drainage : ensemble d'ouvrages destinés à collecter et à évacuer les eaux usées ou pluviales.

Réseau hydrographique : ensemble des canaux de drainage naturels permanents où s'écoulent les eaux provenant du ruissellement ou restituées par les nappes souterraines, soit sous forme de sources, soit par restitution continue le long du lit du cours d'eau.

Zones humides : terrains exploités ou non, habituellement inondés ou gorgés d'eau douce, salée ou saumâtre de façon permanente ou temporaire. La végétation quand elle existe, y est dominée par des plantes hygrophiles pendant au moins une partie de l'année.

Étude d'impact environnemental : ensemble des procédés utilisés pour évaluer les effets d'une donnée ou d'une activité sur l'environnement et proposer toute mesure ou action en vue de faire disparaître, réduire ou atténuer les effets néfastes pour l'environnement susceptibles d'être engendrés par une telle activité.

### Article 3

Sont soumis aux dispositions de la présente loi :

- \* les personnes physiques ou morales, de droit public ou privé, exerçant une activité en rapport avec les ressources en eau ;
- \* les aménagements et ouvrages hydrauliques ;
- \* les installations classées conformément aux lois et règlements en vigueur ;
- \* les installations non classées, les ouvrages et activités réalisés à des fins domestiques ou non, par toute personne physique ou morale, de droit public ou privé et entraînant soit des prélèvements sur les eaux de surface ou les eaux souterraines, restituées ou non, soit une modification des déversements, écoulements, rejets ou dépôts directs ou indirects, chroniques ou épisodiques, même non polluants.

### Article 4

La présente loi portant Code de l'Eau ne s'applique pas :

- \* aux situations de guerre;
- \* aux activités militaires. Toutefois, les auteurs de telles activités sont tenus de prendre en compte les préoccupations de protection des ressources en eau, des aménagements et ouvrages hydrauliques et de veiller à cet effet à ne porter atteinte au domaine public hydraulique tel que défini à l'article 11 de la présente loi portant Code de l'Eau.

### CHAPITRE III : OBJECTIFS

#### Article 5

La présente loi portant Code de l'Eau a pour objet une gestion intégrée des ressources eau, des aménagements et ouvrages hydraulique.

Cette gestion vise à assurer :

- \* la préservation des écosystèmes aquatiques, des sites et des zones humides ;
- \* la protection contre toute forme de pollution, la restauration des eaux de surface, des eaux souterraines et des eaux de la mer dans la limite des eaux territoriales ;
- \* la protection, la mobilisation et la gestion des ressources en eau ;
- \* le développement et la protection des aménagements et ouvrages hydrauliques ;
- \* la valorisation de l'eau comme ressource économique et sa répartition de manière à satisfaire ou à concilier, lors des différents usages, activités ou travaux, les exigences :

- de l'alimentation en eau potable de la population ;

- de la santé, de la salubrité publique, de la protection civile ;
- de la conservation et du libre écoulement des eaux et de la protection contre les inondations ;
- de l'agriculture, de la pêche et des cultures marines, de la pêche en eau douce, de l'industrie, de la production d'énergie, des transports, du tourisme, des loisirs et des sports nautiques ainsi que toutes les autres activités humaines légalement exercées ;
- \* la planification cohérente de l'utilisation des ressources en eau tant à l'échelle du bassin versant hydrologique qu'à l'échelle nationale ;
- \* l'amélioration des conditions de vie des différents types de populations, dans le respect de l'équilibre avec le milieu ambiant ;
- \* les conditions d'une utilisation rationnelle et durable des ressources en eau pour les générations présentes et futures ;
- \* la mise en place d'un cadre institutionnel caractérisé par la redéfinition du rôle des intervenants.

## CHAPITRE IV : PRINCIPES

### Article 6

La présente loi portant Code de l'Eau adhère aux principes admis dans la gestion intégrée des ressources en eau que sont les principes de précaution, de prévention, de correction, de participation, d'usager-payeur, de pollueur-payeur, de planification et de coopération.

### Article 7

L'eau fait partie du patrimoine commun national.

Sa protection, sa mobilisation et sa mise en valeur, dans le respect des équilibres naturels, sont d'intérêt général.

Elle ne peut faire l'objet d'appropriation que dans les conditions déterminées par les dispositions de la présente loi.

### Article 8

L'utilisation des ressources en eau se fait dans les conditions déterminées par les lois et règlements en vigueur et les dispositions de la présente loi portant Code de l'Eau, sous réserve du respect des droits antérieurement acquis sur le domaine public hydraulique tel que défini à l'article 11 de la présente loi et des droits des tiers.

### Article 9

La gestion et la mise en valeur des ressources en eau, des aménagements et ouvrages hydrauliques doivent associer à tous les échelons :

- \* les planificateurs, les décideurs et les spécialistes en la matière ;
- \* les exploitants ;
- \* les usagers.

### Article 10

L'existence des eaux sacrées est tolérée. Toutefois, leur utilisation doit être conforme à l'intérêt général et répondre aux impératifs de maintien et de renforcement de la cohésion du groupe social et de l'unité nationale.

## CHAPITRE I : DISPOSITIONS COMMUNES

### Article 11

Font partie du domaine public hydraulique, au sens de la présente loi portant Code de l'Eau :

A/ Les ressources en eau, notamment :

- les eaux de la mer territoriale ;
- les cours d'eau navigables ou flottables dans les limites déterminées par la hauteur des eaux coulant à plein bord avant de déborder, ainsi qu'une zone de passage de 25 mètres de large à partir de ces limites sur chaque rive et sur chacun des bords des îles ;

- les sources et cours d'eau non navigables ni flottables dans les limites déterminées par la hauteur des eaux coulant à plein bord avant de déborder ;

- les lacs, étangs et lagunes dans les limites déterminées par le niveau des plus hautes eaux avant le débordement avec une zone de 25 mètres de large à partir de ces limites sur chaque rive extérieure et sur chacun des bords des îles ;

- les nappes aquifères souterraines.

B/ Les aménagements et ouvrages hydrauliques installés sur le domaine public, notamment :

- les canaux de navigation et leurs chemins de halage, les canaux d'irrigation et de dessèchement et les aqueducs exécutés dans un but d'utilité publique, ainsi que les dépendances de ces ouvrages ;
- les conduites d'eau, les conduites d'égouts, les ports et rades, les digues maritimes et fluviales, les ouvrages d'éclairage et de balisage ainsi que leurs dépendances ;
- les ouvrages déclarés d'utilité publique en vue de l'utilisation des forces hydrauliques.

### Article 12

Les prélèvements dans les eaux du domaine public hydraulique et la réalisation d'aménagements ou d'ouvrages hydrauliques sont soumis, selon les cas, à autorisation ou à déclaration préalable.

### Article 13

Toute autorisation doit :

- \* préserver le patrimoine national;
- \* prendre en compte les droits et usages antérieurement établis ;

- \* concilier les intérêts des diverses catégories d'utilisateurs.

#### Article 14

L'autorisation est accordée, sous réserve du droit des tiers, pour une durée déterminée et le cas échéant après enquête publique.

#### Article 15

L'autorisation peut être retirée ou modifiée avec indemnisation :

- \* dans l'intérêt de la salubrité publique, et notamment lorsque ce retrait ou cette modification est nécessaire à l'alimentation en eau potable ;
- \* pour prévenir ou faire cesser les inondations ou en cas de menace pour la sécurité publique ;
- \* en cas de menace majeure pour le milieu aquatique, et notamment lorsque les milieux sont soumis à des conditions hydrauliques critiques non compatibles avec leur préservation.

L'autorisation peut être retirée à tout moment, sans indemnité après une mise en demeure adressée à l'intéressé par écrit :

- \* si l'objet pour lequel elle a été accordée n'a pas reçu un commencement d'exécution dans un délai de deux ans ;

- \* lorsque les ouvrages ou installations sont abandonnés ou ne font plus l'objet d'un entretien régulier ;

- \* en cas d'infraction des conditions prescrites dans l'autorisation.

#### Article 16

Tout refus, retrait ou modification d'autorisation doit être motivé.

Un décret pris en application de la présente loi portant Code de l'eau détermine les conditions d'octroi, de modification, de renouvellement et de retrait des autorisations, et les seuils relatifs aux débits prélevés sur le domaine public hydraulique.

#### Article 17

Le droit d'usage de l'eau et l'utilisation des aménagements et ouvrages hydrauliques sont limités par l'obligation de ne pas porter atteinte aux droits des riverains et de restituer l'eau de façon qu'elle soit réutilisable.

#### Article 18

Toute exploitation ou installation relative à l'utilisation des ressources en eau dans un but d'intérêt général grève les fonds de terre intermédiaires d'une servitude de passage, d'implantation, d'appui et de circulation, conformément aux lois et règlements en vigueur :

#### Article 19

Les aménagements et ouvrages hydrauliques doivent comporter des dispositifs maintenant une quantité minimale d'eau qui garantisse en permanence la vie, la circulation et la reproduction des espèces.

#### Article 20

En cas d'accumulation d'eau sur fonds privé, l'exploitant du fonds peut être tenu d'en déclarer la capacité, la nature et la finalité.

Les conditions d'accumulation artificielle des eaux sur les propriétés privées sont fixées par voie réglementaire.

### CHAPITRE II : DU REGIME DES EAUX

#### Article 21

Les ressources en eau comprennent :

- \* les eaux atmosphériques ou météoriques ;
- \* les eaux de surface ;
- \* les eaux souterraines ;
- \* les eaux de la mer territoriale.

#### Section I : Les eaux atmosphériques ou météoriques

#### Article 22

Les eaux atmosphériques ou météoriques appartiennent à celui qui les reçoit sur son fonds. Il a le droit d'en user et d'en disposer.

#### Article 23

L'accumulation artificielle des eaux tombant sur fonds privé est autorisée à condition que :

- \* ces eaux demeurent sur ce fonds ;



\* leur utilisation soit conforme aux prescriptions édictées par les lois et règlements en vigueur.

#### **Article 24**

Conformément aux lois et règlements en vigueur, tout propriétaire doit établir des toits ou ouvrages de manière que les eaux pluviales s'écoulent sur son terrain ou sur la voie publique.

### **Section II : Les eaux de surface et les eaux souterraines**

#### **Article 25**

Nul ne doit empêcher le libre écoulement des eaux de surface et des eaux souterraines.

#### **Article 26**

Les eaux de source peuvent être utilisées par celui qui a une source dans son fonds privé de terre, sous réserve du respect des dispositions prévues aux articles 17, 18 et 32 de la présente loi portant Code de l'Eau.

### **Section III : Les eaux sacrées**

#### **Article 27**

La gestion des eaux sacrées est assurée par la collectivité concernée sous le contrôle de l'Etat.

#### **Article 28**

L'utilisation des eaux sacrées doit concilier :

- \* les impératifs de préservation du patrimoine national ;
- \* le respect des droits des tiers ;
- \* le souci de préservation et de renforcement de la cohésion du groupe social et de l'unité nationale.

### CHAPITRE III : DU REGIME APPLICABLE AUX AMENAGEMENTS ET OUVRAGES HYDRAULIQUES

#### Article 29

Les aménagements et ouvrages hydrauliques soumis au régime d'autorisation font l'objet d'une étude d'impact environnemental préalable.

#### Article 30

L'emplacement, la réalisation et l'exploitation des aménagements et ouvrages hydrauliques sont soumis, selon les cas, à autorisation ou à déclaration préalable, conformément aux dispositions des articles 31 et 32 de la présente loi portant Code de l'Eau.

L'implantation est précédée de l'intervention :

\* d'un expert hydrologue ou hydrogéologue pour les ouvrages et aménagements hydrauliques soumis à autorisation ;

\*des services de l'Autorité chargée de l'eau et des Ministères compétents pour les aménagements et ouvrages hydrauliques soumis à déclaration.

#### Article 31

Sont soumis à autorisation préalable, les installations, aménagements, ouvrages, travaux et activités, susceptibles d'entraver la navigation, de présenter des dangers pour la santé et la sécurité publique, de nuire au libre écoulement des eaux, de dégrader la qualité et la quantité des ressources en eau, d'accroître notablement le risque d'inondation, de porter gravement atteinte à la qualité ou à la diversité du milieu aquatique.

Sont soumis à déclaration préalable, les installations, ouvrages, travaux et activités qui, n'étant pas susceptibles de présenter de tels dangers, doivent néanmoins respecter les prescriptions édictées par la législation en vigueur

#### Article 32

Tout aménagement ou ouvrage de déviation ou de dérivation de la ressource en eau qui prive les autres usagers de la jouissance normale est interdit.

#### Article 33

Tout exploitant d'un aménagement ou ouvrage hydraulique doit notifier, par écrit, à l'Autorité compétente :

- \* les événements importants et accidents survenus ;
- \* le changement d'exploitant ;
- \* la cessation d'activité.

#### CHAPITRE I : DISPOSITIONS COMMUNES

#### Article 34

La protection des ressources en eau, des aménagements et ouvrages hydrauliques est assurée au moyen :

- \* de mesures de police ;
- \* de normes ;
- \* de périmètres de protection ;
- \* de mesures de classement et de déclassement ;
- \* du régime d'utilité publique.

#### Article 35

Toute activité susceptible de dégrader les ressources en eau, les aménagements et ouvrages hydrauliques fait l'objet de mesures de réglementation par l'autorité compétente.

### Article 36

En vue de protéger les ressources en eau, les aménagements ouvrages hydrauliques, il est institué des normes et des périmètres de protection.

### Article 37

Les normes telles que précisées à l'article précédent sont :

- \* les normes de qualité des ressources en eau ;
- \* les normes de rejet ;
- \* les normes de conception, de mise en oeuvre et de protection des aménagements et ouvrages hydrauliques.

Ces normes sont déterminées en fonction des différents usages, en tenant compte notamment :

- des données scientifiques les plus récentes en la matière ;
- de l'état du milieu récepteur ;
- de la capacité d'auto-épuration de l'eau ;

- des impératifs du développement économique et social national ;
- des contraintes de rentabilité financière.

Ces normes sont fixées par voie réglementaire.

### Article 38

Le périmètre de protection, en tant que mesure de salubrité publique, est obligatoire.

Il existe trois types de périmètre de protection :

- \* le périmètre de protection immédiat ;
- \* le périmètre de protection rapproché ;
- \* le périmètre de protection éloigné.

Les limites de ces périmètres sont déterminées par décret. Elles peuvent être modifiées si de nouvelles circonstances l'exigent.

### Article 39

Toute activité autre que celle pour laquelle le périmètre de protection immédiat a été défini est interdite.

## CHAPITRE II : DE LA PROTECTION DES EAUX

### Article 40

Aucun travail souterrain, aucun sondage ne peut être pratiqué à l'intérieur du périmètre de protection sans autorisation préalable de l'Autorité compétente.

### Article 41

Le déversement des eaux résiduaires dans le réseau d'assainissement public ne doit nuire ni à la gestion de ce réseau, ni à la conservation des eaux, des aménagements et ouvrages hydrauliques.

### Article 42

Les ressources en eau, les aménagements et ouvrages hydrauliques peuvent, dans un but d'intérêt général :

\* faire l'objet de mesures de classement ou de déclassement;

\* se voir reconnaître la qualité d'utilité publique.

Un décret détermine les conditions et les modalités de classement, de déclassement et d'octroi du régime d'utilité publique.

### Article 43

La protection des ressources en eau est assurée aussi bien sur le plan quantitatif que qualitatif par l'institution de normes spécifiques.

### Article 44

Les eaux sacrées sont protégées par ceux auxquels la communauté en a conféré ce pouvoir et qui l'exercent dans l'intérêt de celle-ci sous le contrôle de l'Etat.

Elles peuvent, si l'intérêt le justifie, faire l'objet de mesures particulières de protection.

## Section I : Protection quantitative

### Article 45

Tout gaspillage de l'eau est interdit.

L'autorité peut, par voie réglementaire, déterminer les conditions à imposer aux particuliers, aux réseaux et installations publiques et privées afin d'éviter ce gaspillage.

#### **Article 50**

L'usage d'explosifs, de drogues, de produits toxiques comme appât dans les eaux de surface et susceptibles de nuire à la qualité du milieu aquatique est interdit.

#### **Article 51**

Il est interdit de déverser dans la mer, les cours d'eau, les lacs, les lagunes, les étangs, les canaux, les eaux souterraines, sur leur rive et dans les nappes alluviales, toute matière usée, tout résidu fermentescible d'origine végétale ou animale, toute substance solide ou liquide, toxique ou inflammable susceptibles de constituer un danger ou une cause d'insalubrité, de provoquer un incendie ou une explosion.

#### **Article 46**

Dans les parties du territoire national où les ressources en eau sont rares et/ou menacées, l'Administration est habilitée à édicter une réglementation plus stricte pour tenir compte de cette situation.

### **Section II : Protection Qualitative**

#### **Article 47**

Les points de prélèvement des eaux destinées à la consommation humaine doivent être entourés d'un périmètre de protection. Il est interdit dans ces périmètres de protection d'effectuer tout acte ou activité de nature polluante.

#### **Article 48**

Les déversements, dépôts de déchets de toute nature ou d'effluents radioactifs, susceptibles de provoquer ou d'accroître la pollution des ressources en eau sont interdits.

#### **Article 49**

Tout rejet d'eaux usées dans le milieu récepteur doit respecter les normes en vigueur.

### CHAPITRE III : DE LA PROTECTION DES AMENAGEMENTS ET OUVRAGES HYDRAULIQUES

#### Article 52

Il est interdit, sauf cas de force majeure :

- \* de dégrader, détruire ou enlever les aménagements et ouvrages hydrauliques ;
- \* d'endommager les ouvrages provisoires réalisés en vue de la construction ou de l'entretien de ceux visés ci-dessus.

#### Article 53

Les installations classées ou non, les aménagements ou ouvrages, sources de pollution, sont soumis à un audit écologique dans les conditions précisées par décret.

Les résultats de l'audit écologique sont transmis à l'autorité compétente et communicables aux tiers.

#### Article 54

Les aménagements et ouvrages hydrauliques présentant un intérêt national, dont la liste est déterminée par décret, font l'objet de mesures particulières de protection.

A cette fin, l'Autorité chargée de l'eau peut, en accord avec les Ministères chargés de la Défense, et de la Sécurité, faire assurer cette protection par les forces publiques.

### CHAPITRE I : LE CADRE INSTITUTIONNEL

#### Article 55

La politique nationale de gestion des eaux, des aménagements et ouvrages hydrauliques est définie par décret pris en Conseil des Ministres.

#### Article 56

L'Autorité chargée de l'eau assure la mise en oeuvre de cette politique.

A ce titre, elle reçoit les déclarations et les demandes d'autorisation préalables relatives à l'utilisation des ressources en eau, des aménagements et ouvrages hydrauliques.

Elle exerce ses prérogatives conjointement, et selon les cas, avec les Ministères compétents.

#### Article 57

Un décret pris en Conseil des Ministres définit les structures chargées de la gestion des ressources en eau fondée sur le principe de gestion par bassin versant hydrologique, et détermine les règles relatives à l'organisation, aux attributions et au fonctionnement de ces structures.

#### **Article 58**

Aux termes de la présente loi, le cadre institutionnel repose sur un principe caractérisé par la distinction entre le gestionnaire et les différents utilisateurs de l'eau.

#### **Section I : Le rôle du gestionnaire**

##### **Article 59**

L'Etat assure la gestion des ressources en eau en préservant la qualité des sources, en empêchant le gaspillage et en garantissant la disponibilité.

##### **Article 60**

L'Etat garantit :

- \* l'approvisionnement en eau potable ;
- \* la protection, la conservation et la gestion intégrée des ressources en eau ;
- \* la satisfaction des autres besoins.

L'Etat assure :

- \* le développement et la protection des aménagements et ouvrages hydrauliques ;

- \* la prévention et la lutte contre les maladies hydriques.

Il exerce, par ses services compétents, la police des eaux.

#### **Section II : Les droits et obligations des utilisateurs**

##### **Article 61**

La reconnaissance des droits antérieurement acquis sur le domaine public hydraulique est faite à la diligence et par les soins de l'administration ou à la demande des intéressés après enquête publique, dans les conditions qui sont déterminées par voie réglementaire.

##### **Article 62**

Peuvent faire l'objet d'une inscription au livre foncier les autorisations et les concessions de prélèvement d'eau, ainsi que les actes portant reconnaissance des droits acquis sur les eaux.



#### **Articles 63**

Les propriétaires dont les droits ont été régulièrement reconnus ne peuvent en être dépossédés que par voie d'expropriation. Cette mesure n'intervient que dans les conditions prévues par les lois et règlements en vigueur.

#### **Article 64**

Toute personne qui a connaissance d'un incident ou d'un accident présentant un danger pour la sécurité civile, la qualité, la circulation ou la conservation des ressources en eau doit en informer, dans les meilleurs délais, l'Autorité compétente.

L'Autorité compétente informe les populations par tous les moyens appropriés des circonstances de l'incident ou de l'accident, de ses efforts et des mesures prises ou à prendre pour y remédier.

#### **Article 65**

Toute personne à l'origine d'un incident ou d'un accident et tout exploitant ou, tout propriétaire sont tenus, selon les cas, dès qu'ils en ont connaissance, de prendre ou de faire prendre toutes les mesures possibles, pour faire cesser le danger ou l'atteinte au milieu. Ils doivent également prendre toutes les dispositions nécessaires pour y remédier.

#### **Article 66**

L'Autorité compétente prescrit aux personnes mises en cause les mesures à prendre pour mettre fin aux dommages constatés ou en circonscrire la gravité et notamment les analyses à effectuer.

#### **Article 67**

En cas de carence ou s'il y a un risque de pollution ou de destruction du milieu naturel ou encore pour la santé publique et l'alimentation en eau potable, l'Autorité peut prendre ou faire exécuter les mesures nécessaires aux frais des personnes responsables.

#### **Article 68**

Sans préjudice de l'indemnisation des victimes pour les autres dommages subis, les personnes intervenues matériellement ou financièrement ont droit au remboursement, par la ou les personnes à qui incombe la responsabilité de l'incident ou de l'accident, des frais exposés par elles. A cette fin, elles peuvent saisir les juridictions compétentes

#### **Article 69**

Les occupants d'un bassin versant ou les utilisateurs de l'eau peuvent se constituer en association pour la protection des ressources en eau et des ouvrages hydrauliques.

## CHAPITRE II : ORDRES DE PRIORITE

### Article 70

L'alimentation en eau des populations demeure, dans tous les cas, l'élément prioritaire dans la répartition des ressources en eau.

L'allocation des ressources en eau doit, à tout moment, tenir compte des besoins sociaux et économiques des populations.

### Article 71

Lorsqu'il a pu être satisfait aux besoins humains en eau, la répartition des ressources est effectuée en fonction des autres usages.

### Article 72

En cas de conflit pour la satisfaction de l'un ou l'autre des usages, autre que l'alimentation humaine, la répartition doit être faite par l'Autorité compétente.

### Article 73

Des décrets, pris en Conseil des Ministres, fixent les régimes et les conditions d'utilisation des eaux autres que celles destinées à l'alimentation humaine.

### Article 74

L'ordre de priorité peut être temporairement modifié lorsque surviennent certains événements exceptionnels tels que les cas de force majeure, de sécheresse et d'inondation.

### Article 75

L'Autorité chargée de l'eau et les Ministères compétents peuvent confier, à toute personne physique ou morale, le service public d'exploitation des eaux, des ouvrages et aménagements hydrauliques. Ces modes d'exploitation sont approuvés selon les cas par décret pris en Conseil des Ministres.

### Article 76

Le contrat de concession peut conférer au bénéficiaire le droit :

- \* d'établir, après approbation des projets par l'autorité concédante, tous ouvrages utiles ;
- \* d'occuper les parties du domaine public nécessaires à ses installations.

### Article 77

Sans préjudice des clauses particulières figurant dans le contrat de concession, la déchéance du concessionnaire peut être prononcée pour :

\* utilisation des eaux différente de celle autorisée ou hors de la zone d'utilisation fixée ;

\* non-paiement ou non-reversement des redevances ;

\* non-respect des obligations à caractère sanitaire, notamment dans le cas des sources thermales.

En cas de déchéance du concessionnaire, l'Autorité chargée de l'eau et les Ministères compétents peuvent ordonner la remise en l'état, le cas échéant, la faire effectuer d'office aux frais du concessionnaire déchu.

### **Section I : Les eaux de consommation**

#### **Article 78**

L'eau destinée à la consommation humaine doit être conforme aux normes de potabilité fixées par arrêté conjoint de l'Autorité chargée de l'eau et du Ministre chargé de la Santé.

#### **Article 79**

Quiconque offre au public de l'eau en vue de l'alimentation humaine, à titre onéreux ou à titre gratuit et sous quelque forme que ce soit y compris la glace alimentaire, est tenu de s'assurer que cette eau est potable et conforme aux normes en vigueur.

#### **Article 80**

L'utilisation d'eau pour la préparation et la consommation de toute denrée et marchandise destinées à l'alimentation tant humaine qu'animale doit répondre aux normes d'hygiène et de santé publique.

#### **Article 81**

Dans les zones pourvues d'un service de distribution publique d'eau, il est interdit aux personnes physiques ou morales et notamment aux restaurateurs, hôteliers de livrer pour l'alimentation et pour tous les usages ayant un rapport avec l'alimentation, toute eau autre que l'eau potable fournie par les services précités.

#### **Article 82**

L'usage des puits et des sources privés n'est autorisé pour l'alimentation humaine que si l'eau en provenant est potable, et si toutes les précautions sont prises pour mettre cette eau à l'abri de toutes contaminations dues, notamment à la proximité de latrines, dépôts de fumiers, d'ordures, d'immondices et de cimelières.

L'eau de ces puits doit présenter constamment les qualités de potabilité requises par la réglementation et les normes en vigueur.

#### **Article 83**

En milieu desservi par un réseau d'adduction d'eau potable, l'usage des eaux de puits pour la consommation humaine peut être interdit.

#### **Article 84**

Toute méthode de correction des eaux ou tout recours à un mode de traitement de ces eaux à l'aide d'additifs chimiques, doit être au préalable autorisé dans les conditions fixées par voie réglementaire. Les additifs éventuels ne doivent en aucun cas nuire à la potabilité de l'eau et en altérer les propriétés organoleptiques.

#### **Article 85**

Les mesures destinées à prévenir la pollution des eaux de consommation sont prescrites par arrêté conjoint de l'Autorité chargée de l'eau et des Ministères compétents.

#### **Section II : Les eaux minérales**

#### **Article 86**

La surveillance et le contrôle des opérations d'installation ayant trait à la conservation, à l'aménagement des eaux minérales, des eaux de source et eaux de table et même à leur conditionnement sont exercées par les services compétents.

#### **Article 87**

Les sources d'eaux telles qu'énoncées à l'article 86 ci-dessus peuvent être déclarées d'intérêt public par décret pris en Conseil des Ministres.

#### **Article 88**

L'exportation, l'importation, et la commercialisation des eaux minérales naturelles et des eaux de table sont soumises à une autorisation préalable délivrée conjointement par l'Autorité chargée de l'eau et les Ministères compétents.

#### **Section III : Les eaux utilisées à des fins agro-pastorales, industrielles et pour la satisfaction d'autres besoins**

#### **Article 89**

L'utilisation des eaux à des fins agro-pastorales, industrielles et pour la satisfaction d'autres besoins notamment la pêche, les loisirs et les transports nécessite des servitudes et doit respecter les textes et normes en vigueur ainsi que les impératifs visés par la présente loi portant Code de l'Eau.

### CHAPITRE III - LA PLANIFICATION ET LA COOPERATION

#### Article 90

Aux termes de la présente loi portant Code de l'Eau, il est prévu

- \* l'inventaire des ressources en eau, des aménagements et ouvrages hydrauliques,
- \* le développement d'un réseau national de collecte de données relatives aux ressources en eau, aux aménagements et ouvrages hydrauliques,
- \* la fixation ou l'institution des objectifs de qualité des eaux,
- \* les schémas Directeurs d'Aménagement et de Gestion des Ressources en Eau (SDAGRE),
- \* l'institution de systèmes, de zones et de plan d'alerte.

#### Article 92

L'inventaire des ressources en eau, des aménagements et ouvrages hydrauliques doit déboucher sur l'élaboration d'un plan d'action à court, moyen et long termes.

#### Article 93

Les données et informations collectées et élaborées par les structures de gestion des eaux doivent être communiquées à l'Autorité chargée de l'eau.

#### Article 94

Les Schémas Directeurs d'Aménagement et de Gestion des Ressources en Eau (SDAGRE) sont réalisés par bassin versant ou groupe de bassins versants hydrologiques.

#### Article 95

Les Schémas Directeurs d'Aménagement et de Gestion des Ressources en Eau (SDAGRE) fixent pour chaque bassin versant ou groupe de bassins versants, les orientations globales de la gestion intégrée des ressources en eau.

Ils définissent les objectifs de qualité et de quantité des eaux, des écosystèmes aquatiques et des zones humides ainsi que les aménagements et ouvrages hydrauliques à réaliser.

#### Article 91

Il est réalisé, selon une périodicité à déterminer par décret, un inventaire des ressources en eau, des aménagements et ouvrages hydrauliques.

Cet inventaire est établi sous la direction de l'Autorité chargée de l'eau en collaboration avec les Ministères compétents et les différents utilisateurs.

#### **Article 96**

Le projet des Schémas Directeurs d'Aménagement et de Gestion des Ressources en Eau (SDAGRE) est élaboré par l'Autorité nationale chargée de l'eau.

Après enquête publique, il est soumis pour avis au comité de bassin comprenant, notamment, des représentants de l'Etat, des Organisations Non Gouvernementales (ONG), d'élus locaux, d'usagers, d'exploitants, de spécialistes en la matière.

#### **Article 97**

Les Schémas Directeurs d'Aménagement et de Gestion des Ressources en Eau (SDAGRE) sont complétés par des Plans Directeurs d'Aménagement et de Développement des Ouvrages Hydrauliques (PDADOH).

#### **Article 98**

En cas de sécheresse ou d'accident susceptible de provoquer une pénurie d'eau ou une inondation, les autorités compétentes sont habilitées à prendre toutes mesures de stockage ou de prélèvement des eaux.

Dans ces cas, il peut être institué une zone d'alerte fixant les mesures à prendre et les usages de l'eau de première nécessité.

#### **Article 99**

L'Etat prend les mesures nécessaires pour favoriser la coopération dans le cadre de la gestion et la mise en valeur des ressources en eau en partage avec les Etats voisins.

Cette coopération vise à assurer :

- \* l'échange d'informations sur toutes les situations, notamment les situations critiques ;
- \* la mise en place de projets conjoints et de structures bilatérales et multilatérales de gestion des eaux ;
- \* la gestion intégrée des ressources en eau en partage.

## **CHAPITRE IV : LES MECANISMES FINANCIERS**

### **Section I : Les redevances et les primes**

#### **Article 100**

Toute personne physique ou morale utilisant les eaux du domaine public hydraulique est soumise au paiement d'une redevance, dans les conditions fixées par la présente loi portant Code de l'Eau et ses textes d'application.

L'Etat fixe les redevances.

Il peut allouer des primes pour toutes les activités tendant à une meilleure exploitation des eaux, des aménagements et ouvrages hydrauliques.

#### **Article 101**

Les redevances telles que prévues à l'article visé ci-dessus sont :

- \* redevance relative à la qualité;
- \* redevance relative à la quantité prélevée ;
- \* redevance relative à l'utilisation de la force motrice de l'eau ;
- \* redevance relative à l'utilisation de l'eau ;

\* redevance relative à la mobilisation des ressources en eau.

L'Autorité compétente peut définir, en tant que de besoin, d'autres types de redevances.

#### **Article 102**

L'assiette, le taux et le mode de recouvrement des redevances sont fixés conformément à la législation en vigueur.

#### **Article 103**

Les modes de concession tels que visés à l'article 75 ci-dessus, donnent lieu, selon les cas, à perception de redevances.

#### **Article 104**

Les conditions d'allocation des primes sont fixées par voie réglementaire.

### **Section II : Le fonds de gestion des ressources en eau, des aménagements et ouvrages hydrauliques**

#### **Article 105**

Il est créé un fonds de gestion des ressources en eau, des aménagements et ouvrages hydrauliques destiné à assurer le financement des activités de :

\* gestion intégrée des ressources en eau ;

\* planification et d'inventaire des ressources en eau, des aménagements et ouvrages hydrauliques ;

\* protection des ressources en eau ;

\* surveillance sanitaire ;

\* développement, d'entretien et d'exploitation des aménagements et ouvrages hydrauliques.

Un décret pris en Conseil des Ministres détermine les règles d'organisation et de fonctionnement du fonds.

#### Article 106

Le fonds de gestion des ressources en eau, des aménagements et ouvrages hydrauliques est alimenté par :

\* les subventions de l'État ;

\* les redevances ;

\* les produits des transactions ;

\* les autres libéralités.

## CHAPITRE I - DE LA CONSTATATION DES INFRACTIONS

### Article 107

Sont chargés de constater les infractions aux dispositions de la présente loi portant Code de l'Eau et des textes pris pour son application, d'en rassembler les preuves et d'en rechercher les auteurs :

\* les officiers et les agents de police judiciaire,

\* les fonctionnaires et agents des différents services compétents.

### Article 108

Les fonctionnaires et agents visés à l'article ci-dessus, prêtent serment devant le tribunal de première instance ou la section du tribunal de la circonscription administrative.

### Article 109

En vue de rechercher et de constater les infractions, les fonctionnaires et agents assermentés ont accès aux locaux, aux installations et aux lieux où sont réalisées les opérations à l'origine des infractions. Les propriétaires et exploitants sont tenus de leur livrer passage.



#### Article 110

Dans l'exercice de leurs fonctions, les fonctionnaires et agents assermentés peuvent requérir l'assistance de la force publique.

#### Article 111

Les infractions aux dispositions de la présente loi portant Code de l'Eau et des textes pris pour son application sont constatées par des procès-verbaux qui font foi jusqu'à preuve contraire.

#### Article 112

Le procès-verbal de constatation comporte, notamment, l'identité du contrevenant, les circonstances et le lieu de l'infraction, les explications de l'auteur présumé et les éléments faisant ressortir la matérialité des infractions.

#### Article 113

Certaines infractions, dont la liste est déterminée par décret, peuvent donner lieu à des transactions. Celles-ci sont effectuées par l'Autorité chargée de l'eau en liaison avec les ministères compétents.

#### Article 114

En cas d'échec de la transaction ou pour les infractions graves dont la liste est établie par décret, les procès-verbaux doivent être adressés dans les quinze (15) jours francs qui suivent le constat au Procureur de la République ou au juge de la section de tribunal compétent.

## CHAPITRE II - DES SANCTIONS

### Article 118

Est puni d'une peine d'emprisonnement de deux (2) mois à deux (2) ans et d'une amende d'un million (1000 000) à cinq millions (5 000 000) de francs ou de l'une de ces deux peines quiconque :

- \* poursuit une opération ou l'exploitation d'une installation ou d'un ouvrage sans se conformer à l'arrêté de mise en demeure, au terme d'un délai fixé par les prescriptions techniques contenues dans l'autorisation ou les règlements pris en application de la présente loi portant Code de l'Eau,
- \* Exploite une installation ou réalise des travaux en violation d'une mesure de mise hors service, de retrait ou de suspension d'une autorisation ou de suppression d'une installation ou d'une mesure d'interdiction prononcée en application de la présente loi portant Code de l'Eau.

### Article 119

Quiconque entreprend un travail souterrain ou un sondage dans le périmètre de protection sans autorisation préalable est passible d'une peine d'emprisonnement d'un (1) mois à six (6) mois et d'une amende de cinq cent mille (500 000) francs à dix (10) millions de francs ou de l'une de ces deux peines seulement.

### Article 115

En cas d'infraction flagrante aux dispositions prévues par la présente loi portant Code de l'Eau, les fonctionnaires et agents assermentés doivent faire arrêter les travaux et confisquer les objets ayant servi à commettre l'infraction.

### Article 116

Tout propriétaire de fonds supérieur qui, par des travaux, des aménagements particuliers aggrave la servitude d'écoulement des eaux est puni d'une peine d'emprisonnement de six (6) jours à deux (2) mois et d'une amende de cinquante mille (50 000) à trois cent mille (300 000) francs ou de l'une de ces deux peines seulement.

### Article 117

Quiconque prélève des eaux du domaine public, en quantité excessive, sans autorisation ou déclaration préalable est passible d'un emprisonnement de deux (2) à six (6) mois et d'une amende de trois cent soixante mille (360 000) francs à cinq millions (5 000 000) de francs ou de l'une de ces deux peines seulement.

En cas de récidive, la peine sera portée au double.

#### **Article 120**

Tout gaspillage de l'eau est passible d'une peine d'emprisonnement d'un (1) mois à six (6) mois et d'une amende de trois cent soixante mille (360 000) francs à dix (10) millions de francs ou de l'une de ces deux peines seulement.

#### **Article 121**

Quiconque se livre à une activité susceptible de dégrader la qualité des eaux, des aménagements et ouvrages hydrauliques est passible d'une peine d'emprisonnement de six (6) mois à deux (2) ans et d'une amende d'un (1) million à cent millions (100 000 000) de francs ou de l'une de ces deux peines seulement.

#### **Article 122**

Quiconque jette, déversé ou laisse s'écouler dans les eaux de surface, les eaux souterraines ou les eaux de la mer dans les limites des eaux territoriales, directement ou indirectement, tous déchets ou substances, dont l'action ou les réactions ont même provisoirement entraîné des effets nuisibles sur la santé ou des dommages à la flore ou à la faune ou des modifications significatives du régime normal d'écoulement des eaux, est puni d'un emprisonnement de deux (2) mois à deux (2) ans et d'une amende de deux millions (2 000 000) à cent millions (100 000 000) de francs ou de l'une de ces deux peines seulement.

#### **Article 123**

Quiconque use d'explosifs, de drogues, de produits toxiques dans les eaux de surface comme appât et susceptibles de nuire à la qualité du milieu aquatique est passible d'une peine d'emprisonnement de deux (2) à six (6) mois et d'une amende de trois cent soixante mille (360 000) francs à un million (1 000 000) de francs ou de l'une de ces deux (2) peines seulement.

#### **Article 124**

Quiconque endommage les aménagements ou les ouvrages hydrauliques par quelque moyen que ce soit, est passible d'un emprisonnement de deux (2) mois à deux (2) ans et d'une amende de cinq cent mille (500 000) francs à cent millions (100 000 000) de francs ou de l'une de ces deux (2) peines seulement.

#### **Article 125**

Quiconque use des eaux de puits pour la consommation humaine en milieu desservi par un réseau d'adduction d'eau potable en cas d'interdiction est passible d'une peine d'emprisonnement de six (6) jours à un (1) mois et d'une amende de cinquante mille (50 000) francs à trois cent mille (300 000) francs ou de l'une de ces deux peines seulement.

Le juge peut ordonner la destruction du puits.

**Article 126**

Quiconque importe, exporte ou commercialise, les eaux minérales ou de table non conformes aux normes en vigueur est passible d'une peine d'emprisonnement de deux (2) mois à un (1) an et d'une amende de cinq cent mille (500 000) francs à dix millions (10 000 000) de francs ou de l'une de ces deux peines seulement.

Le juge peut ordonner la confiscation et la destruction de ces produits.

**Article 127**

Quiconque offre au public de l'eau en vue de l'alimentation humaine ou animale, à titre gratuit ou onéreux et sous quelque forme que ce soit non conforme aux normes d'hygiène et de santé publique, est passible d'une peine d'emprisonnement de deux (2) mois à deux (2) ans et d'une amende de trois cent soixante mille (360 000) francs à deux millions (2 000 000) de francs ou de l'une de ces deux peines seulement.

**Article 128**

Les ouvrages existants doivent être mis en conformité dans un délai de deux (2) ans à compter de l'entrée en vigueur de la présente loi portant Code de l'Eau.

**Article 129**

Sous réserve de l'élaboration des normes telles que prévues dans la présente loi portant Code de l'Eau, les normes en vigueur sont celles de l'Organisation Mondiale de la santé (OMS).

**Article 130**

Les forages industriels sont soumis aux dispositions de la loi n° 95-533 du 18 juillet 1995 portant Code Minier. Il en est de même pour les sondages et les ouvrages souterrains.

**Article 131**

Les dispositions des articles 117, 118 et 133 du Code Pénal relatives aux circonstances atténuantes et au sursis ne sont pas applicables aux infractions prévues par les articles 121, 122, 123, 124, 125 et 126 de la présente loi portant Code de l'Eau.

**Article 132**

Les modalités d'application de la présente loi portant Code de l'Eau seront déterminées par décrets pris en Conseil des Ministres.

**Article 133**

La présente loi portant Code de l'Eau abroge toutes les dispositions antérieures contraires.

**Article 134**

La présente loi sera publiée au Journal Officiel de la République de Côte d'Ivoire et exécutée comme loi de l'État.

Fait à Abidjan, le 23 décembre 1998

Henri Konan BEDIE

*Copie certifiée conforme à l'original*  
P. Le Secrétaire Général du Gouvernement R. B.



LE CONSEILLER JURIDIQUE

J. GRIGNARD

### **3 RIVER AND RIVER BASIN**

### 3 RIVER AND RIVER BASIN

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## **CHAPTER 1 DIVISION OF THE COUNTRY BASED ON RIVER BASINS**

### **1.1 Primary Division**

It would be an essential matter for the study on water resources management to make definite division of the country based on river basins. The rivers or river basins can be divided in terms of scale (length, area, discharge, etc.), geological periods/age of origin, water resources development potentiality, level of socio-economic importance, administrative boundaries and so on.

The division of the country based on the river basins, which is also necessary for the definite presentation about the rivers in the country, is to be prepared first only in a primary level. It is noted that this division is based on the river basins, but some divisions include a kind of odd areas composed of some small river basins and drainage areas to the sea or to the international boundaries.

The division shall be made on the basis of the following categories of rivers and river basins:

- (a) Major/large-scale river is to be one unit of division. The rivers with drainage area over 10,000 km<sup>2</sup> at the river mouth or at the boundary of Cote d'Ivoire are considered as this category. They are only four rivers as listed as follows:

- Sassandra River
- Bandama River
- Commoe River
- Cavally River

- (b) The other river or rivers with drainage area less than 10,000 km<sup>2</sup> are classified to the following two groups:

- (i) Inland River: a river running in or running out of Cote d'Ivoire through the boundary.
- Nuon River and tributaries
  - Black Volta River and tributaries
  - Tributaries of Niger River
- (ii) Coastal River: a river running in the sea.
- Bia River, Tano River and other small rivers
  - Agneby River, Me River and other small rivers
  - Buobo River, Go River, Niouniurou River, Bolo River and other small rivers
  - San-Pedro River, Brime River, Niero River, Dodo River, Tabou River and other small rivers

The territory of Cote d'Ivoire is to be divided into eleven (11) areas based on major river basins as listed as follows:

No. of Division	Name of Division	Remarks
I	Sassandra	One of four major rivers
II	Bandama	One of four major rivers
III	Comoe	One of four major rivers
IV	Cavally	One of four major rivers
V	Nuon	Inland river (in Cote d'Ivoir)
VI	Niger	Inland river (in Cote d'Ivoir)
VII	Black Volta	Inland river (in Cote d'Ivoir)
VIII	Bia	Coastal rivers
IX	Agneby	Coastal rivers
X	Boubo	Coastal rivers
XI	San Pedro	Coastal rivers

The numbering of divisions is made in the following manner:

- No.I to No.III: Three major rivers with large part of basin in Cote d'Ivoire, from west to east.
- No. IV: One more major river with large part of basin outside Cote d'Ivoire.
- No.V to No. VII: Inland rivers in clockwise order
- No.VIII to No.XI: Coastal rivers from east to west (continuation of clockwise order)

The primary division is shown in Figure 3.1-1.

## 1.2 Secondary Division

The secondary division is made to a level of major tributaries. However, the remaining areas left from the division by major tributaries are considered as one of secondary divisions. They are such as follows:

- Area(s) along the mainstream (Division I to IV)
  - Area(s) along the national boundary (Division V to VII)
  - Area(s) along the coast (Division VIII to XI)
- Note: Some separated areas are considered as one secondary division.

The selection of major tributary was made from the following conditions with priority:

- A tributary with comparatively large river basin area

The territory of Cote d'Ivoire is to be divided into eleven (11) areas based on major river basins as listed as follows:

No. of Division	Name of Division	Remarks
I	Sassandra	One of four major rivers
II	Bandama	One of four major rivers
III	Comoe	One of four major rivers
IV	Cavally	One of four major rivers
V	Nuon	Inland river (in Cote d'Ivoire)
VI	Niger	Inland river (in Cote d'Ivoire)
VII	Black Volta	Inland river (in Cote d'Ivoire)
VIII	Bia	Coastal rivers
IX	Agneby	Coastal rivers
X	Boubo	Coastal rivers
XI	San Pedro	Coastal rivers

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- Area(s) along the mainstream (Division I to IV)
  - Area(s) along the national boundary (Division V to VII)
  - Area(s) along the coast (Division VIII to XI)
- Note: Some separated areas are considered as one secondary division.

The selection of major tributary was made from the following conditions with priority:

- A tributary with comparatively large river basin area

- A tributary located near a populated center
- A tributary with major stream gauging station

Note: A tributary on the secondary division is a primary tributary connected directly to the mainstream. That is, a secondary tributary with a confluence at a mainstream of primary tributary is not counted, even if the basin area is relatively large for preventing indefinite criteria.

The secondary divisions with number are listed in the following table:

No.		Name of River	
<b>Sassandra River</b>			
I	-	MR	Sassandra /Feredougouba (Upstream)
I	-	T1	Davo
I	-	T2	Lobo
I	-	T3	Nzo
I	-	T4	Kouin
I	-	T5	Bafing
I	-	T6	Boa
<b>Bandama River</b>			
II	-	MR	Bandama
II	-	T1	N'zi
II	-	T2	Marahoue
II	-	T3	Bou
II	-	T4	Solomougou
II	-	T5	Badenou
<b>Comoe River</b>			
III	-	MR	Comoe
III	-	T1	Manzan
III	-	T2	Beki
III	-	T3	Ba
III	-	T4	Diore
III	-	T5	Segbono
III	-	T6	Kinkene
III	-	T7	Kongo
III	-	T8	Iringou
III	-	T9	Kolonkoko
III	-	T10	Bawe
III	-	T11	Leraba
<b>Cavally River</b>			
IV	-	MR	Cavally
IV	-	T1	Hane
IV	-	T2	N'ce
<b>Nuon River</b>			
V	-	MR	Nuon /Cestos/ Nipoue
V	-	T1	Boang

<b>Nijar Tributaries</b>			
VI	-	T1	Bagoé
VI	-	T2	Kankelaba/Mahandiabani
VI	-	T3	Degou
VI	-	T4	Baoule
VI	-	T5	Sankarani/Kourou Kele
VI	-	BA	Border Area
<b>Black Volta and Tributaries</b>			
VII	-	T1	Koulida
VII	-	T2	Kolodio
VII	-	T3	Bineda
VII	-	T4	Kohodio
VII	-	BA	Border Area
<b>Bia and Other Coastal Rivers</b>			
VIII	-	M1	Bia
VIII	-	M2	Tano
VIII	-	CA	Coastal area
<b>Agneby and Other Coastal Rivers</b>			
IX	-	M1	Agneby
IX	-	M2	Me
IX	-	CA	Coastal area
<b>Boubo and Other Coastal Rivers</b>			
X	-	M1	Boubo
X	-	M2	Go
X	-	M3	Niouniourou
X	-	M4	Bolo
X	-	CA	Coastal area
<b>San Pedro and Other Coastal Rivers</b>			
XI	-	M1	San Pedro
XI	-	M2	Brime
XI	-	M3	Niero/Nero
XI	-	M4	Dodo
XI	-	M5	Tabou
XI	-	CA	Coastal area

Note: T means a major Tributary

M means a Mainstream with minor tributaries.

MR means a Remaining area along the Mainstream with minor tributaries. BA is Border Area(s), which is a remaining area not selected as a unit of basin.

CA is Coastal Area, which is a remaining area not selected as a unit of basin.

The secondary division of the country based on the river basins is made as shown in Figures 3.1-2 (1/2) & (2/2) and Figures 3.1-3 (1/6) to (6/6) in detail.

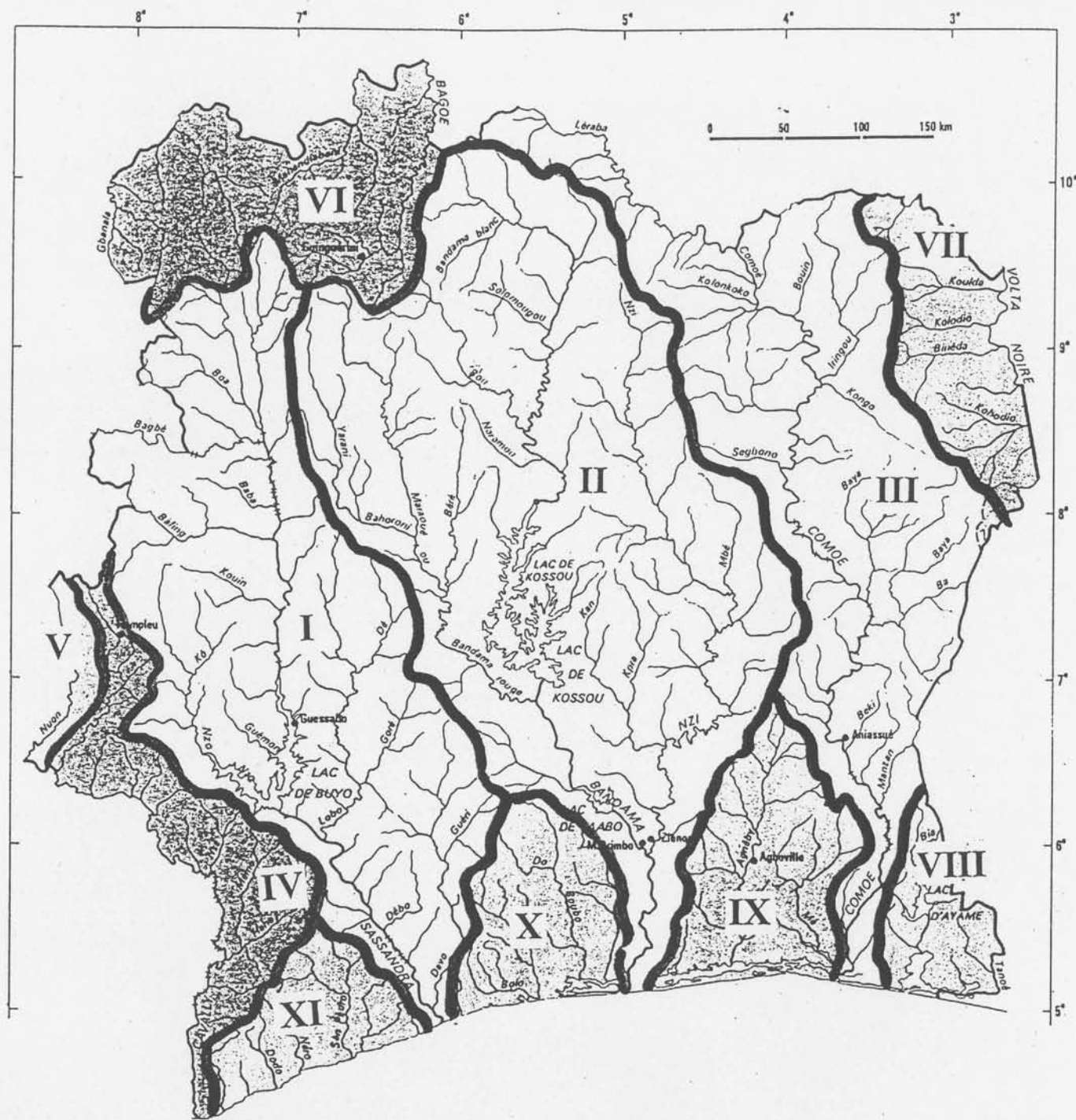


Figure 3.1 - 1 Primary Division of Côte d'Ivoire Based on River Basins

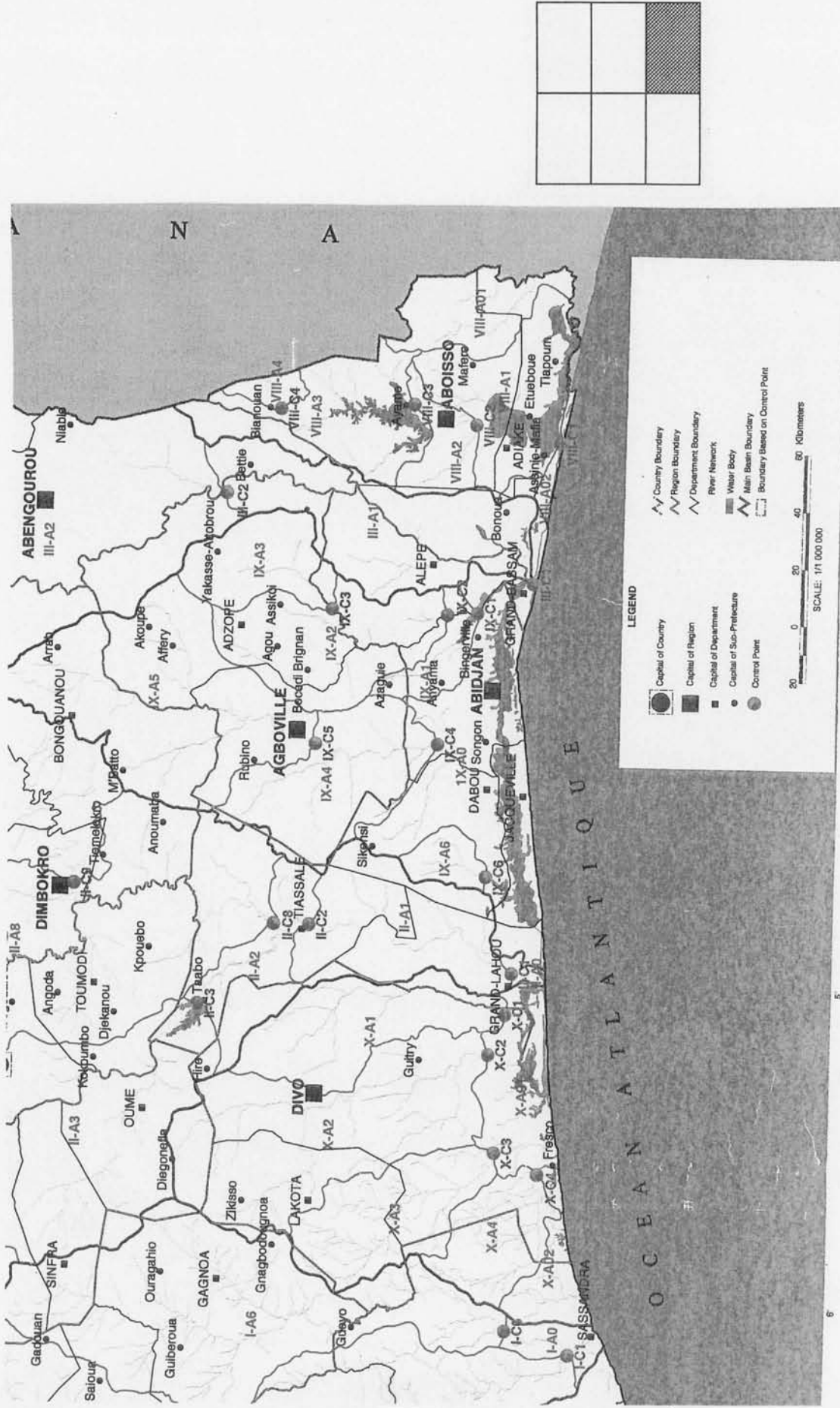


**Figure 3.1 – 2 Secondary Division of Cote d'Ivoire Based on River Basins (1/2)**





**Figure 3.1 – 2 Secondary Division of Cote d'Ivoire Based on River Basins (2/2)**



**Figure 3.1 – 3 Division of Cote d'Ivoire  
Based on River Basins, Detail (1/6)**

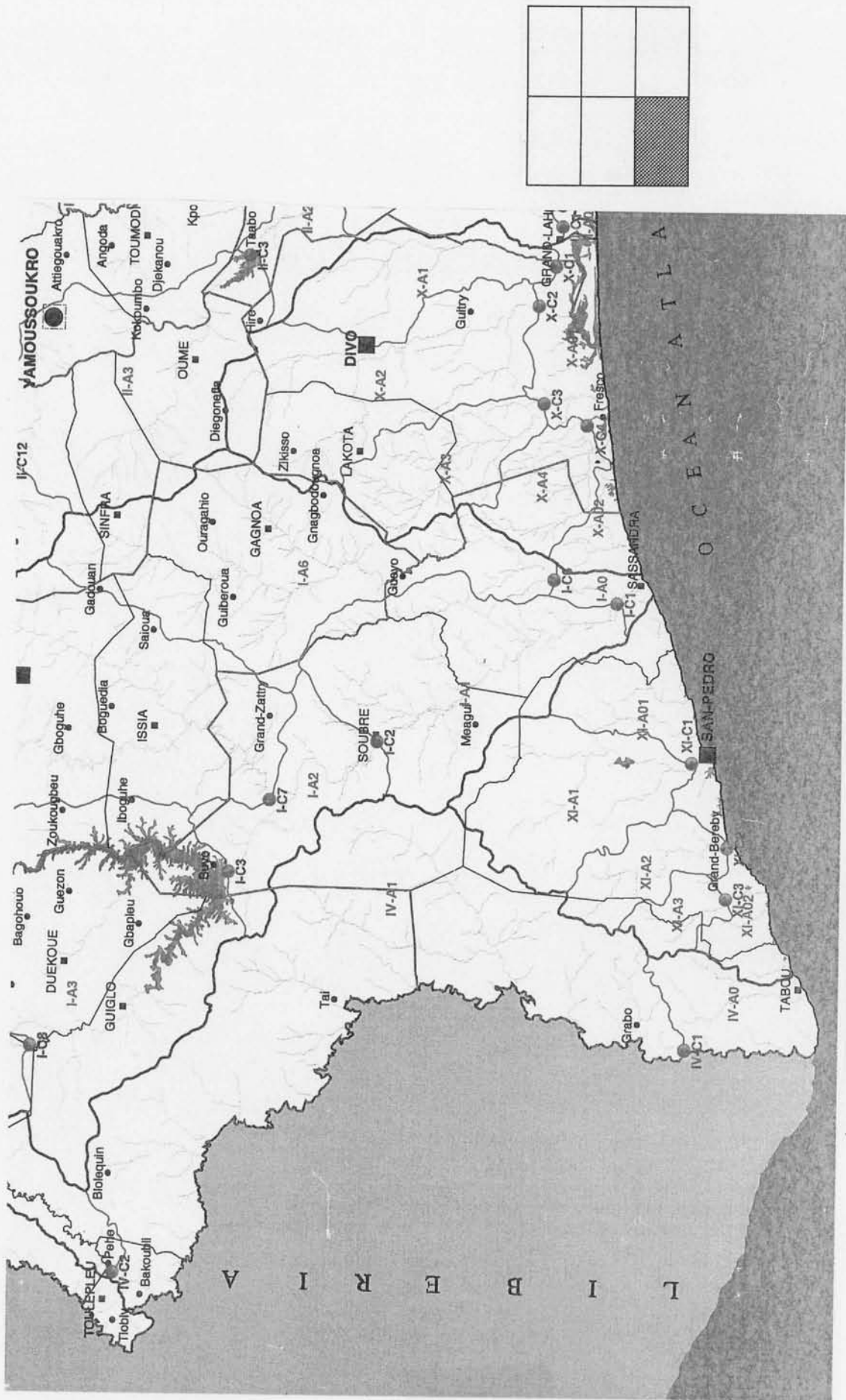


Figure 3.1 – 3 Division of Cote d'Ivoire  
Based on River Basins, Detail (2/6)



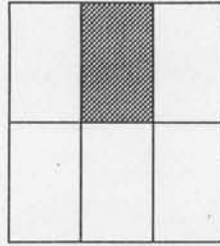
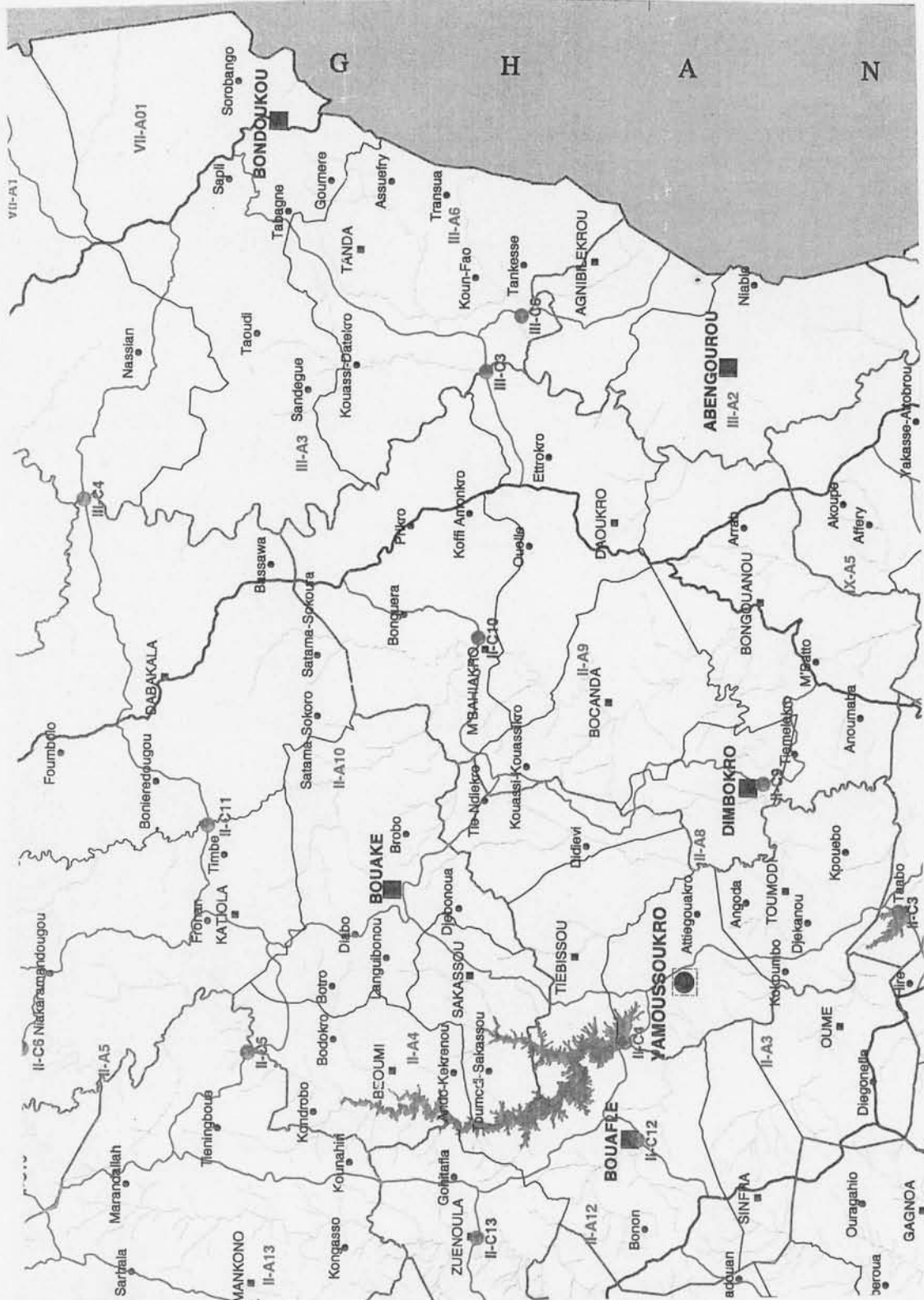


Figure 3.1 – 3 Division of Cote d'Ivoire  
Based on River Basins, Detail (3/6)