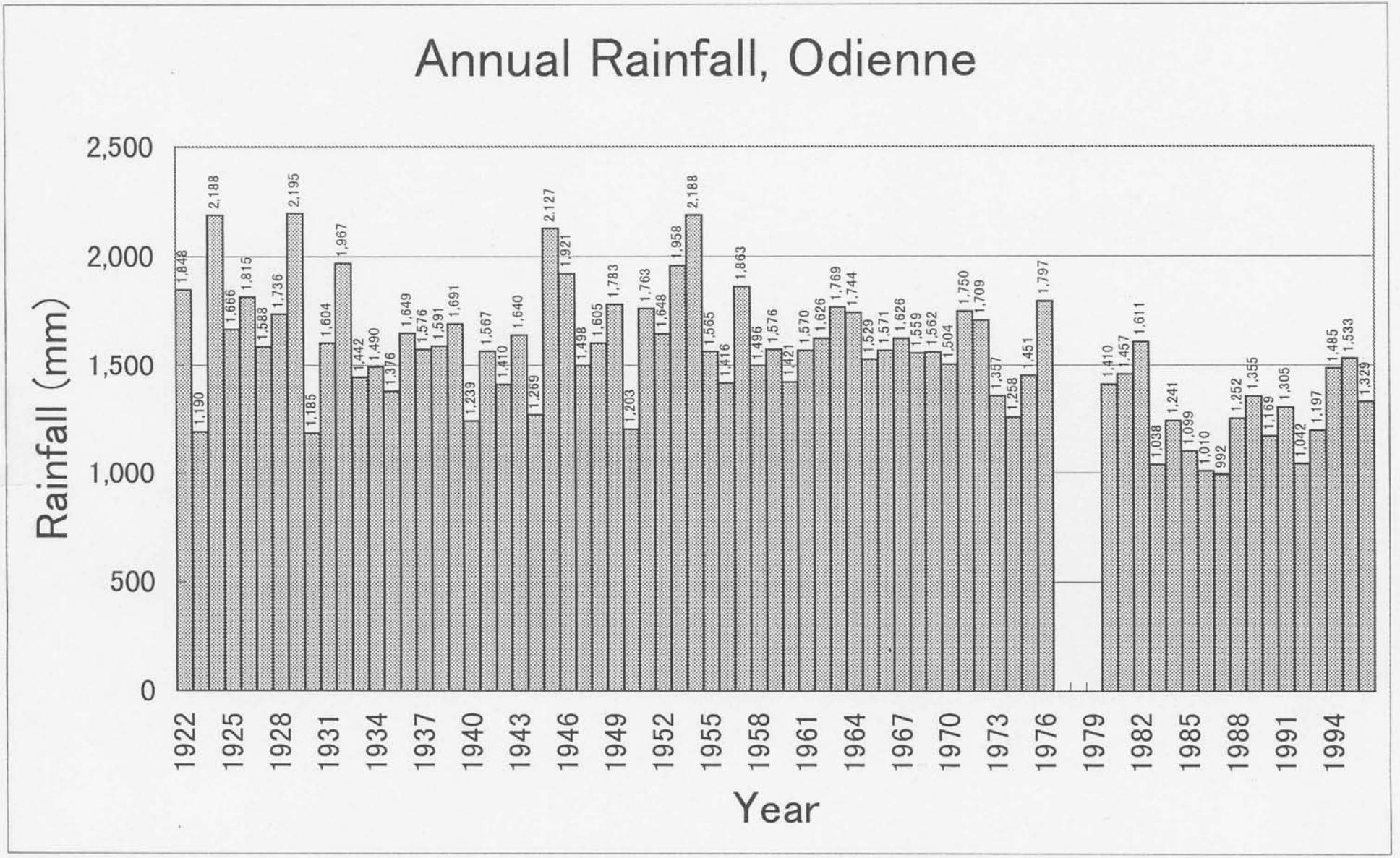
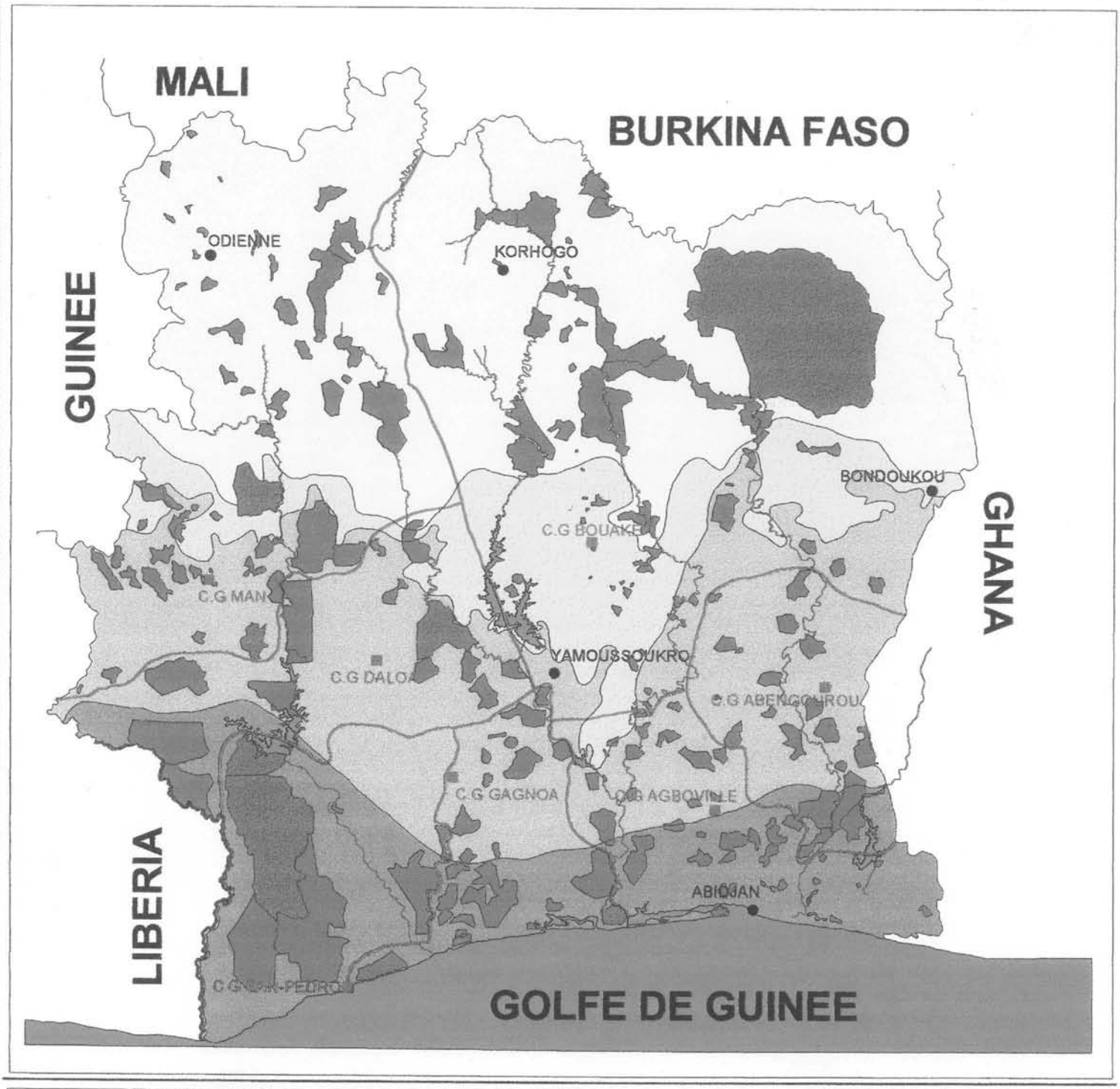


Figure 3.7 – 7 Annual Rainfall, Odienne



REPUBLIQUE DE COTE D' IVOIRE
MINISTERE DE L' ENVIRONNEMENT ET DE LA FORET

SODEFOR

SOCIETE DE DEVELOPPEMENT DES FORETS

Figure 3.7 – 8

General Locations of National Parks and Classified Forest

LEGENDE

- LES FORETS CLASSEES — **Classified Forest**
- LES PARCS NATIONAUX — **National Parks**
- SECTEUR OMBROPHILE
- SECTEUR MESOPHILE
- SECTEUR MESOPHILE ET SUB-SOUDANAIS
- SECTEUR SUB-SOUDANAIS ET SOUDANAIS
- LIMITE DE CENTRE DE GESTION
- LIMITE D' ETAT
- CENTRE DE GESTION
- CHEF LIEU DE DEPARTEMENT

Janvier 1999

CHAPTER 8 PRESENT STATUS AND ISSUES OF O & M FOR WATER CONTROL FACILITIES

8.1 Agricultural Facilities

(1) Present Status of O & M

Among approximately 600 dams, nearly 88% of dams are mainly used for the agriculture sector, consisting of agriculture (21%), livestock (63%) and fishery (4%).

Farmers themselves usually operate dams for agriculture, livestock and fishery. Only a few dams have the farmer's association or group. The guidance by ANADER (private company under the Ministry of Agriculture) or PNR (Ministry of Agriculture) is very limited to a few dams.

Other kinds of structures/facilities such as diversion weir and intake, pumping station and sluice gate/pipe do not have the storage function. The operation is generally done, without the specific operation rule, by simple way of open/close or switch on/off according to the requirement of water.

The most noteworthy matter is that many dams and irrigation systems are actually not used at present. It seems there are many issues which need to be improved.

(2) Issues on O & M

There are the following issues on O & M of water control facilities/structures for agricultural uses:

(a) Agriculture/farmers associations are not organized at most dams. And the farmers themselves carry out the operation, without any guidance. There are only a few dams with farmer's association. It was informed that the farmer's associations are generally not functioning well, even if it is organized. For example, in Bouake, it was informed that only two associations are successfully managed among 21 associations (not for irrigation).

(b) Except some dams, many dams do not have their operation rule. Their operation is done on the basis of the requirement without detailed considerations for the effective water use.

(c) There is no O & M manual for the associations to be used for agricultural facilities. If a governmental agency can take care of the operation, the method of the guidance is generally as follows:

- Explain them only verbally (Many farmers are illiteracy)
- Gate operation is usually based on the frequency of handle turning.

- Necessary release of water is based on the requirement of paddy (depending on the growth level), but not based on the reservoir storage level.
- Detailed operation is decided after discussion with farmers.

Farmer has difficulty of appropriate operation, if any guidance is given occasionally. There are some difficulties for the government to give sufficient guidance to farmers, due to shortage of manpower and shortage of budget.

(d) There are many dams which were abandoned to use due to the following reasons:

- A part of structure was damaged but not repaired yet.
- Farmers do not have knowledge to take countermeasure against troubles
- Company or organization in charge of operation was dissolved.
- Villagers left the site due to social problems such as dispute of land ownership
- Irrigation canal system was not constructed.

(e) There are some dams of which water is not used sufficiently due to the following reasons:

- Irrigation canal system is not extended sufficiently to all the objective area.
- Water control facilities are not sufficiently operational.
- Farmland to be irrigated is too small comparing with the water supply capacity.
- Farmer can not sufficiently control the facilities
- Upstream farmer takes excessive water without consideration of the supply to the downstream
- It is rather costly to use water from dam.

(f) There are a few dams used for multi-purposes, generally for agriculture, livestock, and water supply. When the extraordinary dry season comes and the reservoir water level becomes much lower than the ordinary years, some disputes occasionally occur. However, as a general consideration, the priority is given to the water supply first and then to the livestock second. There is no written agreement or regulations on this issue. The water supply requirement is generally informed from SODECI to ANADER, however, occasionally the demand from SODECI is unreasonably too much from the estimate by ANADER.

Note: This issue happens only in severe dry years.

(g) There is no rule curve or regulation rule for reservoir operation. However, ANADER (in case of dam in charge) can occasionally analyze the appropriate operation from the reservoir storage condition and rainfall prediction based on the estimated demand for irrigation. The irrigation water supply valve is closed by ANADER if considered necessary, but informing the farmers beforehand. However, the farmers sometimes can not understand or agree to the closing due to the requirement for farming.

Note: This issue happens only in severe dry years.

(h) Many dams have no definite HWL and LWL. In addition, the reservoir capacity curve is not available at most dams. At the stage of planning and design, the basic features including water levels, storage capacity, and reservoir area are usually decided or calculated. However, after the completion, no care is taken for such reservoir water levels during the operation. In most dams, no water level staff gauge is established. Even there is staff gauge in the reservoir, nobody keep the records.

(i) The design drawings and reports are mostly not found for most dams. When the dam and irrigation is planned, the design report and drawings are prepared. However, almost no such documents are available after the completion of dam. The governmental agencies in charge do not have such documents. If asking the availability of a document, they may answer that it is considerable that somebody may keep the documents.

(j) It seems that not a few dams are designed or constructed properly from hydrological and structural viewpoints, although no definite review is possible.

8.2 Rural Water Supply Facilities

(1) Present Status of O & M

There are approximately 13,500 wells in Cote d'Ivoire as of 1999. It was informed that more than 8,000 wells are required to be exploited further and approximately 1,500 wells among them are already planned definitely. Majority of them is used for rural water supply. In other words, the rural water supply facilities mean wells and the appurtenant facilities.

The wells are exploited by the government assistance and many cases are with foreign grant aide. The well exploitation cost approximately 5 – 7 million CFA per well in case of a private contract, but 4 – 6 million CFA in case of a government contract, although the cost could be much different by various conditions. There are 4 or 5 private companies for well exploitation at present.

In a village, there are one or some wells, which are classified as follows:

(a) Deep well
(b) Shallow well

or

(a) Operation by hand-pump
(b) Operation by electrical pump

or

(a) Without distribution pipe (Water available only at well site)
(b) With distribution pipe

A committee for O & M of well is generally organized. The organization and O & M system is more or less different by village. However, a typical example is described as folllows:

(A) Committee for O & M

The following members organizes a committee (example):

- Chairman (1 person)
- Vice-chairman (1)
- Repair man (2)
- Accountant (1)
- Sanitary-care person (2)

(B) Budget for O & M

The budget for repair is prepared by the following methods (example):

(a) A certain amount (for example 150,000CFA per well) is collected and saved for repair in prior to the construction. The government office generally requests to prepare such budget as a condition of well exploitation in a village.

(b) Water charge is collected monthly (periodically).

(c) Water charge is collected at well site every time. The charge is more or less 10 CFA for a large bucket/basin.

(d) The time of water use is generally limited, mostly for a few hours in the morning and in the evening.

(e) There is a repair manual to be given to the village after the completion of well construction.

The governmental office has a basic policy that the villagers have to be conscious of their own responsibility for operation and maintenance of wells. The development of new wells in a village needs to confirm their intention to the necessity and self-consciousness to the O & M in prior to decide the assistance to the village.

After the construction of well, the government offices (head office and local office) provide the information and education on O & M in the following manner.

(a) The head office or regional office of "village water supply section" visits the relevant administration offices (Regional, department and sub-prefecture) to explain about the development of wells and the O & M system.

(b) The regional or local office of "village water supply section" visit villages and give

them the education concerning importance of clean water and also the instruction of operation and maintenance of the well facilities.

Concerning the spare parts, the government office selects only a sole agency in charge of storage and supply of spare parts and consumables. The agency has branch shops in major cities and the villagers can get necessary spare parts from a nearby shop.

(2) Issues on O & M

In general, 75 – 80 % of well exploitation is successful. But, among them, a large number of wells are out of use after some period of operation. The rate of abandoned well is generally 35 – 40 % of the successful wells. The causes are classified as follows:

(a) Problem of water (Approx. 25 %)

- Water quality deterioration
- Water level lowering/changes

(b) Function of pump (Approx. 65 %)

- Out of order

(c) Others (Approx. 10 %)

- Spare parts , not available

Note: Shortage of budget is not included in the above causes.
These troubles occur mostly at wells with hand-pump.

There are the following issues on O & M of water control facilities/structures obtained from the site reconnaissance and hearing from the villagers as well as the governmental offices in charge:

(a) The government side provides a guidance of operation and maintenance to farmers/users just after the completion of well construction.

(b) The government side generally gives the periodical services to check the conditions and repair, if necessary, after the construction. However, such service system for assisting in repairing is not available after a year.

(c) In a rural village, many people are not educated and illiteracy rate is high, so that the repair manual is not always useful for them.

(d) Due to increase of population in a village, additional wells are exploited. However, both wells have to be abandoned when the water level goes down due to excessive use from wells located closely.

(e) Due to shortage of budget, wells are abandoned to use when the repair or replacement of spare parts is necessary.

(f) Spare parts are sometimes out of stock mainly due to budget issues.

(g) Many villagers do not have sufficient capacity of understanding the education provided by the governmental officers.

8.3 Urban Water Supply Facilities

(1) Present Status of O & M

There are 564 localities of urban water supply service areas. There are three kinds of water sources, that is, ground water (well), dam and river (pumping). The breakdown is as follows:

- Ground water : more than 400 locations
- Dam : 26 locations
- River intake (pumping) : 18 locations

The water taken from dams or rivers needs the water treatment facilities. The groundwater generally does not need the treatment, but in Abidjan, the simple treatment is required due to water quality with low PH. The water supply capacity per a water source is larger in case of dam. Most major cities have their main water source in dam. But in Abidjan, all the water is taken from the underground aquifer.

SODECI is a private company, with 47 % of the capital by a French company and 53% by the government of Cote d'Ivoire, in charge of O & M of urban water supply. There are 465,599 units of connectors (mainly household) as of 1999. The government is in charge of funding for the construction of all structures and facilities, including dams, treatment plants and distribution pipes.

The number of connection has been steadily increasing year by year, at nearly 10 % increase annually in these some years. The basic features of water supply services are summarized in the following table:

Year	No. of total connection unit	Annual production (million m^3)	Annual consumption (million m^3)	Accounted percentage (%)
1974/75	57,163	59,200	43,028	72.68
1985/86	185,602	85,828	76,576	89.22

1990/91	254,132	99,498	86,032	86.47
1995/96	344,855	118,147	100,064	84.69
1998	421,417	135,315	112,993	83.50

As far as seen during the inspection at some intake/reservoir sites and water treatment plants, it seems that O & M by SODECI is good enough. For example, the unaccounted water ratio is low and number of persons working at each treatment plant is very limited. SODECI has many experienced staff (approximately 1,470 members including 5 French staff) and the annual revenue of 35 billion CFA by the capital of 4.5 billion CFA)

The water charge is fixed in the whole country. The current (May 2000) water charge for domestic water use of ordinary family is approximately 250CFA/ m^3, (Unit charge is different by quantity of consumption, but almost in a range of 200~280 CFA/m^3), which is equivalent to nearly 42 yen/ m^3 at current exchange rate. The unit rate of water charge is higher for the large consumption (Maximum rate becomes higher than 500 CFA/ m^3 for a user of 300 m^3/3-months). The sewage charge is generally added in the bill of water charge. The rate is different by the conditions of sewage service, but much lower than the water charge.

Although the data is a little old (1985) and the present charge is higher, the example is shown in the following table:

City	Yen/m^3	City	Yen/m^3
Tokyo	185.0	London	130.0
New York	37.3	Paris	114.2
Washington	444.4	Cairo	586.0
Los Angeles	218.2	Bangkok	94.0
Toronto	42.0	Sydney	177.8
San Paulo	171.8	Peking	11.7

Note: Japanese yen is one of stable currencies.

If the current charges are estimated by converting from those in 1985, the rate of these countries may become higher. The water charge seems to be accepted level even for low-income people in Cote d'Ivoire.

The major reasons of low water charge will be as follows:

- Management by SODECI's for O & M is efficient.
- Development cost of water is not costly. (Especially in Abidjan with large consumption)
- Water quality is not yet contaminated, so that the treatment is not costly.
- Present service area is generally for populated districts. (In other country, the water supply is provided to many isolated locations as well.)

The reference data for urban water supply by SODECI are shown in Tables 3.8-1 to 5.

(2) Issues on O & M

The urban water supply is generally well operated and maintained and there are no serious issues. However, the following issues (although they may not be a serious one) on O & M of water control facilities/structures are to be presented for a reference:

(a) Some water supply/distribution pipes are old (mostly steel) and damage and leakage is seen at some locations, although such pipes are to be replaced according to a schedule (Information from a local office).

(b) It takes time to find a location of damage (Information from a local office).

(c) There is no periodical check and replacement of meter. The meter condition is checked only when a user claims a problem or any questionable indication is found.

(d) At most pumping/intake sites, there is no stand-by generator. Accordingly the pumping is stop when the power supply is cut off, although such case is not frequent.

(e) At some reservoirs, the water quality is more or less contaminated due to inflow of effluent from a town or drainage water from the surrounding agricultural. (Probably more contaminated in the future)

(f) There are a few dams constructed for water supply, which were abandoned to use due to the following reasons:

- A part of structure was damaged but not repaired yet.
- O & M cost was expensive.
- Water quality in the reservoir was contaminated.
- Actual water demand was much smaller than expected.

(g) Unaccounted ratio of water supply is low, but it become higher in these years (17 % in 1998) in comparing with 10 ~ 15 years ago (only 11% in 1985/86). The major causes of water loss are such as follows:

- Leakage from pipe
- Washing of tanks and treatment ponds

- Flashing of mud in pipe
- Illegal connection

The reason of decreasing the unaccounted ratio in these years is not sure.

(h) Some ground water sources, without treatment, contain comparatively high concentration of iron.

(i) Most major spare parts, consumables and equipment are imported from France. There are some difficulties occasionally for obtaining them in time. There is sometimes not enough stock in France or the budget is not enough.

(j) The service area of urban water supply has been expanding every year. However, most newly expanded areas are located in a rural area or more or less an isolated area, which does not have enough population, although the development cost is high. In addition, the unit consumption volume is much less than that of city areas. The government decides the newly expanded areas.

(k) The water charge rate is fixed in the country. That is, the rate in Abidjan with low cost of operation is the same as that of a rural isolated district, where the operation cost per m^3 is much higher. The government basically decides the water charge rate.

8.4 Hydro-Electric Power Facilities

(1) Present Status of O & M

There are six dams mainly used for the hydro-electric power as listed as follows:

Name	River	First Year of Operation	Installed capacity (MW)	Annual Generation (GWH)
Ayame I	Bia	1959	20	
Ayame II	Bia	1965	30	
Kossou	Bandama	1972	174	
Taabo	Bandama	1979	210	
Buyo	Sassandra	1980	165	
Grah (or Faye)	San Pedro	1983	5	
Total			604	

The past records of hydroelectric power generation of these six stations are summarized as

follows:

Description	AYAME I	AYAME II	KOSSOU	TAABO	BUYO	GRAH
Operation year	1959 - present	1965 - present	1972 - present	1979 - present	1980 - present	1983 - present
1996-97	67,958	122,167	189,344	636,602	876,836	359
Max.	106,945	171,717	247,745	744,410	876,836	4,585
Mini.	15,310	47,543	2,265	112,030	172,132	359 (0 ?)
Mean	64,245	111,328	109,641	439,507	611,600	2,811

These dams and power stations are all operated by CIE under the contract with Ministry of Energy. The Dispatching Service of CIE in Abidjan decides the operation rule everyday from the comprehensive viewpoints of demand and supply capacity of the whole country.

CIE is a private company with nearly 3,400 staff (including 12 French staff). The official share of the company stock is 51% by SAUR (French company) and EDF (French Power corporation) and 49% by the Cote d'Ivoire side (the government, CIE staff and company). The capital is 14 billion CFA and the annual sale is approximately 170 billion CFA (75 billion for CIE and the rest for the government). CIE is in charge of O & M of electric power generation and supply including the thermal power and hydropower. The electric charge is also collected by CIE. Beside the CIE, there are some other companies/corporations, which are organized under the Ministry of Energy as follows:

- SOPIE : Public corporation for electric power development planning
- SOGEPE : Public corporation for Financial management of water sector facilities
- ANARE : Public corporation for coordination of related organizations
- CIPREI : Private company for a thermal power station
- CINERGY : Private company for a thermal power station

The power generation capacity is enough for the present demand in Cote d'Ivoire. However, it is beneficial and necessary to generate more power due to requirement of the neighboring countries. At present, CIE supplies the electricity to VRA (Gahana) at the rate of 4.8 US cents/KWH, to CEB (Benin and Togo) at the rate of 27 CFA/KWH, and to Mali (by 30 KV line). While the electricity rate to consumers in Cote d'Ivore is approx. 58 CFA/KWH on an average, as of 1999. CIE will supply to Burkina Faso and Mali as well.

The power loss from the generation to the actual consumption is approximately 86 %, while the loss from the power generation to the end of transmission line (before the distribution to consumers) is approx. 92 %.

The operation of all the power station is controlled by the Dispatching Center of CIE located in Adbijan. The necessary information and data of the actual conditions of all the power stations and the reservoirs can be seen to the center. The center also can see the daily and hourly demand records. The center estimate the required power generation based on the estimated demand of the next day. Then the center decide the operation (number of unit and hour for operation) of the next day and inform the conditions of operation for the next day to all the power stations.

The dispatching center is well operated. There are only 12 staff members in total. But, the operation is made by 3 shift for 24 hours control. There are usually only 2 or 3 staff working in the center.

CIE holds discussion with the government side (Ministry of Energy, SOPIE, SOGEPE and ANARE) every three years since 1992 for the maintenance of facilities. The agreement is prepared after the discussion for the program of maintenance works, which should be carried out by the government side.

The reference data for electric power supply by CIE are shown in Tables 3.8-6 to 8 and Figures 3.8-1 and 3.8-2.

(2) Issues on O & M

The hydropower station is operated almost on schedule of the original planning and design at Taabo dam and Ayame I & II dams, but not on schedule at Kossou dam, Buyo dam and Faye dam.

As seen in the table of power generation and some other detailed records, there are the following issues on the operation of these dams and power stations:

(a) The actual power generation is very low in comparison with the installed capacity.

(b) The actual power generation is not constant and varies remarkably every year. It is very low in certain years.

The major causes of the above situation are as follows:

(a) Inflow to reservoir is lower than the design discharge, especially in Kossou dam.

- Due to reduction of rainfall, especially in the northern area, the runoff to rivers has been decreased.
- Due to extensive use (and loss) of water in the upstream basin, mostly by constructing reservoirs/ponds, the runoff volume is remarkably decreased. (It is noted, however, the most reservoirs located in the upstream/northern areas are already constructed before the construction of large dams for hydro-power.)

(b) Turbine and Generator do not work effectively:

- The design combined efficiency of turbine and generator is 85%, however the actual efficiency is 70 % or less (in case of Kossue dam), mainly due to lower reservoir level and less discharge the design.

(c) Power demand for hydro-power is lower than the projected one:

- Due to economic recession, the demand increase rate has been lower than the projected one.
- Some thermal power stations (such as TAG 1-4, VRIDI II and AZITO/CINERGY) have been constructed in these 15 years, while no hydro-electric power station has been constructed since 1983. Possibly, the thermal power is considered to be more reliable for stable power supply and also more economically feasible.

(d) Other reasons

- Turbine and Generator sometimes need maintenance and repair.
- The planned capacity and structures (reservoirs) are too large in consideration of actual runoff. (This is not yet verified, but it would be a probable reason.)
- The evaporation loss from reservoir surface is very large.

As seen above, issues related to inappropriate operation are not included as a major reason of the low power generation. It seems that the change of operation can not expect remarkable increase of power generation.

The more specific information on issues concerning O & M of respective dam is presented as follows:

(A) Kossou dam

Kossou dam with power station has the following issues:

(a) The reservoir water level has never reach to HWL (El. 206 m). The spillway (with the crest elevation of El.196m and the design capacity of 2,160 m^3/s) has been never used. The past highest water level is El. 192.81 m.

(b) The past lowest water level reached to El.180.21 m, while the original LWL was El.186m. The LWL for operation was changed to El. 183m and again to El.180m for keeping the power generation. Some dredging works was carried at the time of LWL change.

(c) Three sets of generator have the following design capacity:

Total power 175 MW

No.1 : Q= 152.28 m^3/s, H=49.5m
No.2 : Q= 146.33 m^3/s, H=40.5m
No.3 : Q= 136 m^3/s, H=35m

Annual power generation 505 GWH

However, the actual power generation has been very low and unstable since the commencement of operation in 1972. The past maximum annual generation was 247.7 GWH(1981-82), while the past minimum was only 2.2 GWH(1983-84). More than half of the past years has recorded the annual power generation less than 100 GWH.

(d) The inflow to the reservoir was much lower than that estimated in the design, although no reliable design documents are obtained.

The above situations mean that the Kossou dam and power station was too large. That is, a large amount of waste/loss has happened not only for the construction cost and O & M cost but also for various environmental conditions.

There is no detailed survey and study to identify the causes and the possible countermeasures to reduce the further loss. At present, the following causes are considerable and will be necessary to be confirmed by survey & study.

(a) Inappropriate estimate of inflow and the excessive large structure and reservoir by a consulting company in charge of planning and design.

(b) Natural inflow was remarkably reduced since the completion of the project due to decrease of rainfall, decrease of runoff percentage, or excessive use in the upper basin.

(c) Evaporation in the reservoir was much larger than the estimate.

(d) Leakage from dam foundation was large due to insufficient foundation treatment.

(e) Leakage from the reservoir was unexpectedly happened.

Note: The causes (b) ~ (e) are also to be more or less included to the cause (a).

(B) Faye/Grah dam

Faye/Grah dam with power station has the following issues:

(a) The power station was planned to be operated 24 hours a day, however, the operation is possible only 3 or 4 hours a day during the dry season(January to March) due to shortage of water inflow and storage

(b) The dam was planned to use the reservoir water for industrial water supply as well as the power generation. However, the intake gates (two units) are not used at all due to the cancellation of the planned factory.

(c) There was extraordinary leakage from the reservoir through the dam and dam foundation. However, it was already stop by piling sheet-piles in front of the dam embankment of the reservoir side.

(C) Buyo dam

At Buyo dam, the turbine axis is inclined caused by expansion of foundation concrete. It is necessary to repair almost every three years in the past. There are three turbines there. Accordingly, every year, one turbine is not operated for the repair. If three turbines are constantly operated, more power generation is possible without releasing water from the spillway.

Note: At present, a project of repair for this issue started by AFD assisstance.

(D) Taabo dam

At Taabo dam, there is no serious issue at present. However, according to the information of CIR staff, it seems that the annual inflow discharge has slightly decreasing gradually. If this tendency continues, the efficiency of operation may become low.

(E) Ayame dam (I & II)

At Ayame dam, the power generation is almost on schedule. However, in these 10 years, water plants increased remarkably. They sometimes enter to the turbine facilities and cause trouble of operation.

(F) Other considerable issues

(a) The sedimentation records in reservoir were not available.

(b) The capacity of transmission lines is not enough for the increasing power supply.

As described above, the present operation itself seems to be not the major issues of insufficient water during the dry season at many dams. However, it is sure that the more effective use of

water is expected if the present operation can be done more efficiently.

Table 3.8-2 Water Charge by SODECI

Sanitation and Water Fares according to Users
(August 1999)

SLICES	Connectable Users Fares			Non-connected Connectable Users Fares			Non-connectable Users Fares		
	Water	Asst	M3 price Water + Asst	Water	Asst	M3 price Water + Asst	Water	Asst	M3 price Water + Asst
Slice1	184	15	199	184	8	192	184	3	187
Slice2	286	35	321	286	25	311	286	6	292
Slice3	464		539	464	55	519	464	20	484
Slice4	532	102	634	532	102	634	532	120	652

Water Fare

Description	Regulation Date	Applied Fares in CFA F	Surtax in CFA F/M^3
ADM-EPA & Cities all.	From 01/04/94 to 30/04/96	311	128,3
EPIC, State Societies & Societies of mist economy	From 01/04/94 to 30/04/96	From 0 to 30m^3 / TR=159 From 31 to 300m^3 / TR=230 From 91 to 300m^3 / TR=368 > From 300m^3 / TR=424	15,9 47,3 185,3 241,3

ADM-EPA & Cities all.	From 01/05/96 to Now	390	128,3
EPIC, State Societies & Societies of mist Economy	From 01/05/96 to Now	From 0 to 18m3 / TR= 184 From 19 to 90m3 / TR= 286 From 91 to 300m3 / TR= 464 > to 300m3 / TR=532	40 88 266 334

Table 3.8-3 Locations of Water Sources for Urban Water Services

DIRECTION REGIONALE	Localités	Prise d'eau
GAGNOA	DIVO	Prise en rivière
	LAKOTA	Prise en rivière
	GAGNOA	Barrage
	SOUBRE	Prise en rivière
	SASSANDRA	Prise en rivière
	SAN PEDRO	Prise en rivière
KORHOGO	KORHOGO	Barrage
	FERKESSEDOUGOU	Prise en rivière
	OUANGOLODOUGOU	Barrage
	BOUNDIALI	Prise en rivière
	TENGRELA	Barrage
	ODIENNE	Barrage
	MININIAN	Barrage
DALOA	DALOA LOBO	Barrage
	BOUAFLE	Prise en rivière
	VAVOUA	Barrage
	SEGUELA	Barrage
	MANKONO	Prise en rivière
	ISSIA	Prise en rivière
BOUAKE	BOUAKE KAN	Barrage
	BOUAKE LOKA	Barrage
	KATIOLA	Barrage
	DABAKALA	Barrage
	NIAKARA	Barrage
BASSE COTE	AGBOVILLE	Barrage
	ABOISSO	Prise en Rivière
	TIASSALE	Prise en Rivière
	RUBINO	Barrage
ABENGOUROU	ABENGOUROU ADAOU	Barrage
	ABENGOUROU ANIASSUE	Prise en Rivière
	ADZOPE	Barrage
	AKOUPE BACON	Barrage
YAMOUSSOUKRO	YAMOUSSOUKRO VGE 1 ET 2	Barrage Kongolo Prise en rivière
	DIMBOKRO	Prise en Rivière
	TIEBISSOU	Barrage Kongolo
	BONGOUANOU	Barrage Kongolo
	M'BATTO	Barrage Kongolo
	TOUMODI KIMOUKRO	Prise en Rivière
	DAOUKRO	Prise en Rivière
MAN	MAN	Barrage Kongolo
	TOUBA	Barrage Kongolo
	DANANE	Prise en Rivière
	DUEKOUE	Barrage Kongolo

(June 30, 2000 From SODECI)

Table 3.8-4 Locations (Detail) of Urban Water Supply Services (12 pages)

LOCALITES DESSERVIES PAR AEP
DR ABIDJAN

p 31/05/2000

DIRECTION REGIONALE	CENTRE SODECI (Adm)	LOCALITES A ADDUCTION ANTONOME	UNITES D'EXPLOITATION		LOCALITES DESSERVIES	POPULATION 2000/facultatif	ABONNES ~~31/12/99~~
			Usine de traitement	Forages			
ABIDJAN	ABIDJAN	ABIDJAN	9	80	ABIDJAN		244 855
				3	ANYAMA		6 219
				1	NIANGON-ADJAME		
					KILOMETRE 17		
					ABADJIN-KOUTE		
					BIMBRESSO		
					ABADJIN-DOUME		
TOTAL	1	1	9	84	7		

Table 3.8-4 Locations (Detail) of Urban Water Supply Services (12 pages)

LOCALITES DESSERVIES PAR AEP
DR GAGNOA

31/05/2000

DIRECTION REGIONALE	CENTRE SODECI (Adm)	LOCALITES A ADDUCTION ANTONOME	UNITES D'EXPLOITATION		LOCALITES DESSERVIES	POPULATION 2000/facultatif	ABONNES ~~30/12/99~~
			Usine de traitement	Forages			
GAGNOA	SAN- PEDRO	SAN- PEDRO	1		SAN- PEDRO		7 619
	OUME	OUME		5	OUME DOUGBAFLA GNANOUFLA		1 907
	GAGNOA	GAGNOA	1		GAGNOA GNAHIO DEGOUE ONYTABRE ONYBABRE MAHIDIO		5856
		KAKREDOU		1	KAKREDOU KOKOUEZO		
	SASSANDRA	SASSANDRA	1	4	SASSANDRA NIEZEKO LEBLEKRO GAOULOU MECEI SIAPAO		
	LAKOTA	LAKOTA	1	1	LAKOTA NIAMBRE NIEMELILIE		1 518
		ZOKOLILIE		1	ZOKOLILIE		
	DIVO	DIVO	1	1	DIVO		3 558
		HERMAKONO		1	HERMAKONO		
	SOUBRE	SOUBRE	1	3	SOUBRE		2 541
		MAYO		2	MAYO		
		YACOLIDABOUO		1	YACOLIDABOUO		
		YABAYO		1	YABAYO		
		LESSIRI		1	LESSIRI		
		YACOLO		1	YACOLO		
		OUREGBABRE		1	OUREGBABRE		
	FRESCO	FRESCO		2	FRESCO		626
	GUIBEROUA	GUIBEROUA		2	GUIBEROUA		627
	GUITRI	GUITRI		2	GUITRI		286
	TABOU	TABOU		3	TABOU		673
	BUYO	BUYO		2	BUYO		183
	OURAGAHIO	OURAGAHIO		1	OURAGAHIO		342
		KPAPEKOU		1	KPAPEKOU		
	OKROUHIO	OKROUHIO		1	OKROUHIO		
		GBALEBOUO		1	GBALEBOUO		
		KPADAH		1	KPADAH		
		OTTAWA		1	OTTAWA		
	GRAND-ZATTRY	GRAND-ZATTRY		1	GRAND-ZATTRY		73
	GUEYO	GUEYO		1	GUEYO		
	MEADJI	MEADJI		2	MEADJI		
	ZIKISSO	ZIKISSO		1	ZIKISSO		
	HIRE	HIRE		1	HIRE DOUAVILLE		
		LELEBLE		1	LELEBLE		
	DIEGONEFLA	DIEGONEFLA		1	DIEGONEFLA		51
	GRAND-BEREBY	GRAND-BEREBY		1	GRAND-BEREBY		
TOTAL			6	50			

Table 3.8-4 Locations (Detail) of Urban Water Supply Services (12 pages)

LOCALITES DESSERVIES PAR AEP
DR KORHOGO

DIRECTION REGIONALE	CENTRE SODECI (Adm)	LOCALITES A ADDUCTION ANTONOME	ITES D'EXPLOITATION		LOCALITES DESSERVIES	POPULATION 2000/facultatif	ABONNES ~~31/12/99~~
			Usine de traitement	Forages			
	KORHOGO	KORHOGO	1	5	KORHOGO		6377
	FERKESSEDOUGOU	FERKESSEDOUGOU	1		FERKESSEDOUGOU		476
	BOUNDIALI	BOUNDIALI	1		BOUNDIALI		1.606
	TINGRELA	TINGRELA	1		TINGRELA		746
	MANINIAN	MANINIAN	1		MANINIAN		169
	OUANGOLODOUGOU	OUANGOLODOUGOU	1	1	OUANGOLODOUGOU		927
	ODIENNE	ODIENNE	1	3	ODIENNE		2725
	TIEME	TIEME		1	TIEME		158
	KANAKONO	KANAKONO		1	KANAKONO		86
	MADINANI	MADINANI		1	MADINANI		191
	SIRASSO	SIRASSO		1	SIRASSO		204
	GBON	GBON		4	GBON		469
	KOLIA	KOLIA		1	KOLIA		230
	KOUTO	KOUTO		3	KOUTO		362
	DIKODOUGOU	DIKODOUGOU		1	DIKODOUGOU		244
	NAPIELEDOUGOU	NAPIELEDOUGOU		2	NAPIELEDOUGOU		398
KORHOGO	M'BENGUE	M'BENGUE		1	M'BENGUE		430
	NIELLE	NIELLE		2	NIELLE		391
	SINEMATIALI	SINEMATIALI		1	SINEMATIALI		651
	KONG	KONG		1	KONG		143
	SAMATIGUILA	SAMATIGUILA		2	SAMATIGUILA		222
	DIAWALA	DIAWALA		2	DIAWALA		181
	TIORONIARADOUGOU	TIORONIARADOUGOU		1	TIORONIARADOUGOU		113
	KOMBORODOUGOU	KOMBORODOUGOU		1	KOMBORODOUGOU		230
	KASSERE	KASSERE		1	KASSERE		204
	NIOFOIN (GE)	NIOFOIN (GE)		1	NIOFOIN		120
	KANIASSO	KANIASSO		1	KANIASSO		45
	TIENKO	TIENKO		1	TIENKO		146
	SEGUELON	SEGUELON		1	SEGUELON		98
	BAKO	BAKO		1	BAKO		87
	SEYDOUGOU	SEYDOUGOU		1	SEYDOUGOU		77
	GUIEMBE	GUIEMBE		1	GUIEMBE		117
	GOULIA	GOULIA		1	GOULIA		73
TOTAL			7	44			

Table 3.8-4 Locations (Detail) of Urban Water Supply Services (12 pages)

LOCALITES DESSERVIES PAR AEP
DR DALOA

DIRECTION REGIONALE	CENTRE SODECI (Adm)	LOCALITES A ADDUCTION ANTONOME	UNITES D'EXPLOITATION		LOCALITES DESSERVIES	POPULATION 2000/facultatif	ABONNES 31/12/99
			Usine de traitement	Forages			
DALOA	DALOA	DALOA	1		DALOA		8591
					ZEBRA		
					TORAGUHE / GUEYA		
					DERAHOUAN		
					ZAGUIGUIA		
					GOGOGUHE		
					SAPIA		
					BALOUZON		
					GBOKORA		
					TAGOURA		
				1	KIBOUO		
					TAPEGUHE		
					BEKOKO		
					ZAHIA		
					ZETODIGBA		
	GBALAGOUA	GBALAGOUA		1	GBALAGOUA		
				1	DAGBABOUA-BLA		
					GUEDEGUHE		
	GONATE	GONATE		1	GONATE		
				1	BONON		
				1	BEBOUO SIBOUO		
	BOBOUA-BAHOUAN	BOBOUA-BAHOUAN		1	BOBOUA-BAHOUAN		
					GABOUA		
					ZOKOGUHE-DIDEGUHE		
					BRIZEBOUA		
					MADOGUHE		
	VAVOUA	VAVOUA	1	3	VAVOUA		1366
					KANZAKRO		
					SEBOUAFLA		
	SEGUELA	SEGUELA	1		SEGUELA		2200
					NIAGORO		
				1	GUIBROSSO		
				1	DUALLA		
				1	MASSALA		
				1	WOROFLA		
				1	SARHALA		
	KOUEGO	KOUEGO		1	KOUEGO		
	KANI	KANI		2	KANI		393
	MANKONO	MANKONO	1	2	MANKONO		883
					OUSSOUGOULA		
	GOHITAFLA	GOHITAFLA		2	GOHITAFLA		331
	ZUENOULA	ZUENOULA		2	ZUENOULA		1138
	BOUAFLE	BOUAFLE	1	1	BOUAFLE		3472
					GARANGO		
					LOPEIFLA		
	PAKOUABO	PAKOUABO		1	PAKOUABO		
					TIBEITA		
					KRINGAMBO		
	SINFRA	SINFRA		6	SINFRA		1098
	ISSIA	ISSIA	1		ISSIA		1772
				1	LIGA		
					BEREGUHE		
					MABOGUHE		
					ZOBIA		
				1	SAIOUA		
	TIENINGBOUE	TIENINGBOUE		2	TIENINGBOUE		372
	BOUANDOUGOU	BOUANDOUGOU		3	BOUANDOUGOU		
					BABADOUGOU		
	TCHEBLEGUHE	TCHEBLEGUHE		1	TCHEBLEGUHE		
TOTAL			6	40			

Table 3.8-4 Locations (Detail) of Urban Water Supply Services (12 pages)

LOCALITES DESSERVIES PAR AEP

DR BOUAKE

DIRECTION REGIONALE	CENTRE SODECI (Adm)	LOCALITES A ADDUCTION ANTONOME	UNITES D'EXPLOITATION		LOCALITES DESSERVIES	POPULATION 2000/facultatif	ABONNES 31/12/99
			Usine de traitement	Forages			
BOUAKE	BOUAKE	BOUAKE	2	6	BOUAKE AGBAGNANSOU AGBANOU AGBAYANOUA AHOBE AKANZAKRO AKETE ALLODJEKRO ALLOKO-ALLUBO ANDO-ALLUBO ANDO-BLEKRO ANDO-BO ANDO-ZOUME ANGOUAYAOKRO ANOBLE ASSAFOU ASSAMOIKRO ASSANDRE ASSENGOU ASSIRIKRO ATTIENKRO BENDE-KOUASSIKRO BLEKRO BOBLENOU DIBRI-N'DENOU DIEGBOKRO DJEBONOUA DJEKRO FLEBONE FOTOKOUAMEKRO GBANIKOUAMEKRO GOGONOUA GOLI-AMANI KANAGOPLI KIMOUKRO KLOKLO-SAKASSOU KLOSLAMBO KOFFIKRO KOKORENOU KONANKRO KONDEYAOKRO KONGODEKRO KONGOSSOU KOUASSIBLEKRO KOURELE KPANGBASSOU KPATANOU KPATO LOKASSOU MAMELAPLI MANGOFI MINANKRO MORIKRO NEKOUMANOU N'GBATTA-ANGAMANKRO N'GUESSAN-POKOUKRO N'ZOKOSSOU PETESSOU PINIKRO PITIESSI TOTOKRO		28316

Table 3.8-4 Locations (Detail) of Urban Water Supply Services (12 pages)

LOCALITES DESSERVIES PAR AEP

DR BOUAKE

DIRECTION REGIONALE	CENTRE SODECI (Adm)	LOCALITES A ADDUCTION ANTONOME	UNITES D'EXPLOITATION		LOCALITES DESSERVIES	POPULATION 2000/facultatif	ABONNES 31/12/99
			Usine de traitement	Forages			
		BOUAKE-N'GUESSANKRO		1	N'GUESSANKRO		
					NIANDA		
					PAKOBO		
					POHOKRO		
				1	SAKASSOU (en partie)		
					SINGOLI		
					SOUKPEBO		
					TAYAMOUKRO		
					YABLASSOU		
		SAKASSOU-BOUAKE		1	SAKASSOU		
	KATIOLA	KATIOLA	1	2	KATIOLA		
					KATIONON		
					NIKOLO		
	DABAKALA	DABAKALA	1		DABAKALA		
	BEOUMI	BEOUMI	1		BEOUMI		
				1	SAHEBO		
	NIAKARAMANDOUGOU	NIAKARAMANDOUGOU	1		NIAKARAMANDOUGOU		
	M'BAHIAKRO	M'BAHIAKRO		2	M'BAHIAKRO		
	TORTIYA	TORTIYA	1	2	TORTIYA		
	BOTRO	BOTRO	1		BOTRO		
					BAMELA		
	BROBO	BROBO		2	BROBO		
	FRONAN	FRONAN		1	FRONAN		
	BONIEREDOUGOU	BONIEREDOUGOU		1	BONIEREDOUGOU		
	TAFIRE	TAFIRE		4	TAFIRE		
	PRIKRO	PRIKRO		2	PRIKRO		
	DIABO	DIABO		1	DIABO		
	SATAMA-SOKOURA	SATAMA-SOKOURA		1	SATAMA-SOKOURA		
TOTAL			8	28	88		

Table 3.8-4 Locations (Detail) of Urban Water Supply Services (12 pages)

LOCALITES DESSERVIES PAR AEP
DR BASSE-CÔTE

DIRECTION REGIONALE	CENTRE SODECI (Adm)	LOCALITES A ADDUCTION ANTONOME	UNITES D'EXPLOITATION		LOCALITES DESSERVIES	POPULATION 2000/facultatif	ABONNES 31/12/99
			Usine de traitement	Forages			
BASSE-COTE	BINGERVILLE	BINGERVILLE		4	BINGERVILLE SANTE ADJAME-BINGERVILLE		
		ELOKATE		1	ELOKATE ELOKATO EBRA VILLAGE MARCHOU		
		M'BATTO- BOUAKE		1	M'BATTO- BOUAKE		
		AGHIEN		1	AGHIEN		
	BASSAM	BASSAM		2	BASSAM AZZURETTI VITRE 1 VITRE 2		
	BONOUA	BONOUA		4	BONOUA YAOU ADIAHO		
	ADIAKE	ADIAKE		2	ADIAKE NIAMIENDISSOU ROY		
	ANYAMA	(USINE ANONKOUA-KTE)		3	ANYAMA YAPOKOI AZAGUIE BLIDA EBIMPE		
		ANYAMA ADJAME		1	ANYAMA ADJAME AHOUABO		
	ATTINGUIE	ATTINGUIE		1	ATTINGUIE		
	ANYAMA AKOUPE	ANYAMA AKOUPE		2	ANYAMA AKOUPE		
	JACQUEVILLE	JACQUEVILLE		2	JACQUEVILLE		
	AGBOVILLE	AGBOVILLE	1		AGBOVILLE BANGUIE ERYMACOUGUIE LAOGUIE GRAND-MOUTCHO		
	GRAND-YAPO	GRAND-YAPO		1	GRAND-YAPO		
	LOPOU	LOPOU		2	LOPOU YOHOULI		
	YASSAP	YASSAP		1	YASSAP		
	AKAKRO	AKAKRO		1	AKAKRO		
	VIEUX BADJEN	VIEUX BADJEN		1	VIEUX BADJEN		
	ORBAFF	ORBAFF		1	ORBAFF		
	NOUVEL OSROU	NOUVEL OSROU		2	NOUVEL OSROU		
	NIGUI ASSOKO	NIGUI ASSOKO		1	NIGUI ASSOKO		
	OPOYOUNEM	OPOYOUNEM		1	OPOYOUNEM		
	MONTEZO	MONTEZO MEMNI		3 2	MONTEZO MEMNI ALEPE MONGA GRAND-ALEPE		
	AHOUTOUE	AHOUTOUE		1	AHOUTOUE		
	TIASSALE	TIASSALE	1		TIASSALE N'DOUCI NIAMOUE NIANDA KANGANIANZE		
	AFFRIKRO	AFFRIKRO		1	AFFRIKRO		
	DABOU	DABOU		2	DABOU GBOUGBO AGNEBY		
	BOUBOURY	BOUBOURY		1	BOUBOURY		
	AKRADIO	AKRADIO		1	AKRADIO		
	ORGAFF	ORGAFF		1	ORGAFF		
	DEBRIMOU	DEBRIMOU		1	DEBRIMOU		
	BODOU	BODOU		1	BODOU MOPOYONEM		

LOCALITES DESSERVIES PAR AEP
DR BASSE-CÔTE

DIRECTION REGIONALE	CENTRE SODECI (Adm)	LOCALITES A ADDUCTION ANTONOME	UNITES D'EXPLOITATION		LOCALITES DESSERVIES	POPULATION 2000/facultatif	ABONNES 31/12/99
			Usine de traitement	Forages			
	ABOISSO	ABOISSO	1		ABOISSO ASSOUBA ADAOU AYEBO BIAKA KOUKOURANDOUMI GNAMIENKRO		
	KRINJABO	KRINJABO		2	KRINJABO EHOUESSEBO		
	NOUAMOU	NOUAMOU		1	NOUAMOU AYEBO		
	AYAME	AYAME	1	2	AYAME		
	RUBINO	RUBINO	1		RUBINO		
	SIKENSI	SIKENSI		2	SIKENSI		
	GOMON	GOMON		1	GOMON YAOBOU		
	MAFERE	MAFERE		2	MAFERE		
	GRAND - LAHOU	GRAND - LAHOU		2	GRAND - LAHOU BRAFFEDON N'ZIDA		
	YOCOBOUE	YOCOBOUE		1	YOCOBOUE GOUEGBEOUDOUGOU YAKASSE		
	AZAGUIE	AZAGUIE		1	AZAGUIE AZAGUIE-AHOUA AZAGUIE-MAKOUGUIE AZAGUIE-M'BRÔM		
	SONGON DAGBE	SONGON DAGBE		1	SONGON DAGBE SONGON M'BRATCHE SONGON AGBAN SONGON KASSEMBLE SONGON-TE ADIOPOTE ADIOPOTO 1 ADIOPOTO 2 GODOUME		
	ADJOUAN	ADJOUAN		1	ADJOUAN ABYATI		
	ETUEBOUE	ETUEBOUE		1	ETUEBOUE AKOUNOUGBE		
	AKOURE DOMOLON	DOMOLON		1	DOMOLON DABRE OGUEDOUME AKOURE		
	KETESSO	KETESSO		1	KETESSO		
	EBIKRO-N'DAKRO	EBIKRO-N'DAKRO		1	EBIKRO-N'DAKRO		
	KATADJI	KATADJI		1	KATADJI BADASSO ELIBOU		
	ASSINIE-MAFIA	ASSINIE-MAFIA		1	ASSINIE-MAFIA		
TOTAL			5	70			

LOCALITES DESSERVIES PAR AEP
DR ABENGOUROU

DIRECTION REGIONALE	CENTRE SODECI (Adm)	LOCALITES A ADDUCTION ANTONOME	UNITES D'EXPLOITATION		LOCALITES DESSERVIES	POPULATION 2000/facultatif	ABONNES 31/12/99
			Usine de traitement	Forages			
	ADZOPE	ADZOPE	1		ADZOPE		
	ASSIKOI	ASSIKOI		1	ASSIKOI		
	AHOUABO	AHOUABO		1	AHOUABO ANANGUIE		
	MOAPE	MOAPE		1	MOAPE		
	BONDOUKOU	BONDOUKOU		6	BONDOUKOU		
	ABENGOUROU	ABENGOUROU Adaou	1		ABENGOUROU ADAOU		
		Abeng, Aniassué	1		ANIASSUE DRAMANEKRO ETIENKRO KODJINA		
	BOUNA	BOUNA		3	BOUNA		
	AGNIBELEKROU	AGNIBELEKROU		2	AGNIBELEKROU AYENOU ASSUAME		
	DAME	DAME		1	DAME KOTOKOSSO		
	TANGUELAN	TANGUELAN		1	TANGUELAN		
ABENGOUROU	TANDA	TANDA	1	1	TANDA		
	GRAND-AFFERY	GRAND-AFFERY		2	GRAND-AFFERY ASSEUDJI		
	AKOUPE	BACON	1		AKOUPE BACON AGBAOU ASSIKOUN AYEOUA ASSANGBADJI YADIO		
	BECOUEFIN	BECOUEFIN		1	BECOUEFIN		
	KOUN FAO	KOUN FAO		3	KOUN FAO KOUN ABRONSO ADEGUN KOUN AHONZI KOUAKOU-KRAKRO KORIA		
	TANKESSE	TANKESSE		1	TANKESSE		
	YAKASSE ATTOBROU	YAKASSE ATTOBROU		2	YAKASSE ATTOBROU ASSIE-ORIE		
	KOUASSI-DATEKRO	KOUASSI-DATEKRO		2	KOUASSI-DATEKRO		
	SANDEGUE	SANDEGUE		2	SANDEGUE		
	BETTIE	BETTIE		2	BETTIE		
	AGOU	AGOU		1	AGOU		
	BOUDEPE	BOUDEPE		1	BOUDEPE		
	GRAND-AKOUDZIN	GRAND-AKOUDZIN		1	GRAND-AKOUDZIN		
	ANDE	ANDE		1	ANDE		
	ASSUEFRY	ASSUEFRY		1	ASSUEFRY HIANGO		
	TRANSUA	TRANSUA		1	TRANSUA		
	SANKADJOKRO	SANKADJOKRO		1	SANKADJOKRO ZINZENOU		
	YAKASSE AGNI	PADIEGNAN		1	YAKASSE AGNI PADIEGNAN		
	NIABLE	NIABLE		1	NIABLE		
	ZARANOU	ZARANOU		1	ZARANOU		
	GOUMERE	GOUMERE		1	GOUMERE LOMO		
	TABAGNE	TABAGNE		1	TABAGNE DJOM HEREBO		
	YAKASE ME	YAKASE ME		1	YAKASE ME		
	BECEDI BRIAN	BECEDI BRIAN		2	BECEDI BRIAN BECEDI ANON		
	DIASSON	DIASSON		1	DIASSON NYAN		
	ABIE	ABIE		1	ABIE		
	EBILASSOKRO	EBILASSOKRO		1	EBILASSOKRO		
	APPROMPRONOU	APPROMPRONOU		1	APPROMPRONOU		
	AMELEKIA	AMELEKIA		1	AMELEKIA ZEBENOU		
	TEHINI	TEHINI		1	TEHINI		
TOTAL			5	53			

Table 3.8-4 Locations (Detail) of Urban Water Supply Services (12 pages)

LOCALITES DESSERVIES PAR AEP
DR YAMOUSSOUKRO

DIRECTION REGIONALE	CENTRE SODECI (Adm)	LOCALITES A ADDUCTION ANTONOME	UNITES D'EXPLOITATION		LOCALITES DESSERVIES	POPULATION 2000/facultatif	ABONNES 31/12/99
			Usine de traitement	Forages			
YAMOUSSOUKRO	**DIMBOKRO**	DIMBOKRO	1		DIMBOKRO AHUA		
	BENGASSOU	BENGASSOU		1	BENGASSOU ESSEYAKRO		
	YAMOUSSOUKRO	YAMOUSSOUKRO	3		YAMOUSSOUKRO ZAMBAKRO AEROPORT AKPESSEKRO LOGBAKRO DJAMALABO LOUKOUKRO TOUMBOUKRO BOZI ZATTA RADAR BONZI KOSSOU N'GATTAKRO MOROFE YEBOUEKRO NANAN SAHABO KAMI ABOUA KOUASSIKRO N'DA-KONANKRO SEMAN SANHOURIKRO KPOUSSOUSSOU DOUGOUNOU KOUADIOKRO		
		SUIBONOU		1	SUIBONOU		
		ATTIEGOUAKRO		1	ATTIEGOUAKRO		
		GOURIMINANKRO		1	GOURIMINANKRO		
		MAHOUNOU NANAFOUE		1	MAHOUNOU NANAFOUE		
		KAKOUBROUKRO		1	KAKOUBROUKRO		
		MAHOUNOU AKOUE		1	MAHOUNOU AKOUE		
		TENIKRO		1	TENIKRO		
		LOLOBO		1	LOLOBO		
		N'ZERE (GE)		1	N'ZERE (GE)		
		KONGOUANOU (GE)		1	KONGOUANOU (GE)		
		ABAKRO DUOKRO (GE)		1	ABAKRO DUOKRO		
		ANGOSSE (GE)		1	ANGOSSE (GE)		
		BOCABO (GE)		1	BOCABO (GE)		
		N'DEBO		1	N'DEBO		
		ALLAI-YAOKRO		1	ALLAI-YAOKRO		
		GBELISSOU		1	GBELISSOU		
	TOUMODI	TOUMODI KIMOUKRO	1		TOUMODI KIMOUKRO KOKOUMBO AKROUKRO DJEKANOU POKOUKRO ABLI KAHANKRO NIAMKE KONANKRO KPLESSOU ASSINZE N'GUESSANBAKRO ASSOUAKRO YEBOUEKRO ABOUA - N'DRIKRO WAWAKRO DIEKEKRO TOTOKOUASSIKRO ZAHAKRO LALIEKRO		
	KADJOKRO	KADJOKRO		1	KADJOKRO		
	KONAN- KOKOREKRO	KONAN- KOKOREKRO		1	KONAN- KOKOREKRO		
	ASSOUNVOUE	ASSOUNVOUE		2	ASSOUNVOUE		
	ANGODA	ANGODA		1	ANGODA		
	DAOUKRO	DAOUKRO	1	3	DAOUKRO BENANOU DADIEKRO 2 PEPRESSOU		
	KONGOTI	KONGOTI		1	KONGOTI		
	ABEANOU(GE)	ABEANOU(GE)		1	ABEANOU(GE)		
	ZANZANSOU (GE)	ZANZANSOU (GE)		1	ZANZANSOU (GE)		
	AMOROKI (GE)	AMOROKI (GE)		1	AMOROKI (GE)		
	AGNIASSIKASSO (GE)	AGNIASSIKASSO (GE)		1	AGNIASSIKASSO (GE)		
	BONGOUANOU	BONGOUANOU	1		BONGOUANOU		

Table 3.8-4 Locations (Detail) of Urban Water Supply Services (12 pages)

LOCALITES DESSERVIES PAR AEP
DR YAMOUSSOUKRO

DIRECTION REGIONALE	CENTRE SODECI (Adm)	LOCALITES A ADDUCTION ANTONOME	UNITES D'EXPLOITATION		LOCALITES DESSERVIES	POPULATION 2000/facultatif	ABONNES 31/12/99
			Usine de traitement	Forages			
YAMOUSSOUKRO					BROUKRO AHOROSSO EHUIKRO		
	TIEBISSOU	TIEBISSOU	1		TIEBISSOU		
		TOUNZUEBO		1	TOUNZUEBO		
		KONDE YAOKRO		1	KONDE YAOKRO		
		BOMIZAMBO		1	BOMIZAMBO		
		AGUIBRI		1	AGUIBRI		
		SAKIARE MENOU		1	SAKIARE MENOU		
	M'BATTO	M'BATTO	1		M'BATTO ASSOUMOUKRO ASSIE AKPESSE N'GRAMASSABO		
		TIEMELEKRO		1	TIEMELEKRO		
		ANOUMABA (GE)		1	ANOUMABA (GE)		
		ASSAHARA (GE)		1	ASSAHARA (GE)		
		TIEKOU (GE)		1	TIEKOU (GE)		
	KOTOBI	KOTOBI		1	KOTOBI		
		N'ZANFOUENOU		1	N'ZANFOUENOU		
		AGBOSSO		1	AGBOSSO		
		ANDE		1	ANDE		
		BROU AKPAOUSSOU AFFERE 2 (GE)		1 1	BROU AKPAOUSSOU AFFERE 1 (GE) AFFERE 2 (GE)		
		ELLINZUE		1	ELLINZUE		
		KREGBE		1	KREGBE		
		N'GUESSANKRO		1	N'GUESSANKRO		
		N'ZANFOUENOU		1	N'ZANFOUENOU		
		ABONGOUA		1	ABONGOUA		
		N'ZUEKOKORE		1	N'ZUEKOKORE		
		BANABO		1	BANABO		
		ASSIE KOUMASSI (GE)		1	ASSIE KOUMASSI (GE)		
		ASSAOUFOUE(GE°		1	ASSAOUFOUE(GE°		
		N'GUINOU (GE)		1	N'GUINOU (GE)		
	TAABO	TAABO CITE	1		TAABO CITE		
		TAABO VILLAGE (GE)		1	TAABO VILLAGE (GE)		
		AHONDO (GE)		1	AHONDO (GE)		
		KOUASSI-KOUASSIKRO		1	KOUASSI-KOUASSIKRO BELAKRO		
	BOCANDA	BOCANDA		2	BOCANDA		
		OUELLE		2	OUELLE		
		ARRAH		2	ARRAH		
		DIDIEVI		2	DIDIEVI		
		KPOUEBO		1	KPOUEBO		
		TAKI-SALEKRO		1	TAKI-SALEKRO		
TOTAL			10	68			

LOCALITES DESSERVIES PAR AEP
DR MAN

DIRECTION REGIONALE	CENTRE SODECI (Adm)	LOCALITES A ADDUCTION ANTONOME	UNITES D'EXPLOITATION		LOCALITES DESSERVIES	POPULATION 2000/facultatif	ABONNES 31/12/99
			Usine de traitement	Forages			
MAN	MAN	MAN	1	2	MAN		
	GUIGLO	GUIGLO	1	2	GUIGLO		
	DANANE	DANANE	1		DANANE		
	TOUBA	TOUBA	1		TOUBA		
	BIANKOUMA	BIANKOUMA		3	BIANKOUMA		
		GOUESSESSO	1	1	GOUESSESSO		
	TOULEPLEU	TOULEPLEU		2	TOULEPLEU		
	BOROTOU	BOROTOU		1	BOROTOU		
		KORO		1	KORO		
	KOUIBLI	KOUIBLI		2	KOUIBLI		
	FACOBLI	FACOBLI		2	FACOBLI		
	DUEKOUE	DUEKOUE	1		DUEKOUE		
	BANGOLO+LOGOUALE	BANGOLO		1	BANGOLO		
		LOGOUALE		1	LOGOUALE		
		BIN-HOUYE		2	BIN-HOUYE		
		ZOUAN HOUIEN		2	ZOUAN HOUIEN		
	BLOLEQUIN	BLOLEQUIN		2	BLOLEQUIN		
		GOYA		1	GOYA		
		YOYA		1	YOYA		
		BEOUE		1	BEOUE		
	TIENY-SEABLY	TIENY-SEABLY		1	TIENY-SEABLY		
	WANINOU	WANINOU		1	WANINOU GANHOUE FERENTELLA		
	SIPILOU	SIPILOU		1	SIPILOU		
	ZEO	ZEO		1	ZEO GOENIE-ZIABLI DOUANDROU 2		
TOTAL			6	31			

Table 3.8-5 Number of Connected Units of Urban Water Supply Services (3 pages)

DR : 02 SITUATION DES ABONNES PAR DIAMETRE DE COMPTEUR AU 31/05/2000

Tirage Du : 17/06/2000 A 20:29:41

CENTRE	TOTAUX
007 San-Pedro	7619
010 OUME	1907
017 GAGNOA	5856
021 SASSANDRA	1254
036 LAKOTA	1518
046 DIVO	3558
052 SOUBRE	2541
078 FRESCO	626
096 GUITRY	286
097 GUIBEROUA	627
145 OURAGAHIO	342
148 TABOU	673
149 BUYO	183
150 GRAND ZATRY	73
151 DIEGONEFLA	51
TOTAL DR	27114
122 KOMBORO	230
123 KASSERE	204
124 NIOFOIN	120
125 KANIASSO	45
186 TIENKRO	146
190 SEGUELON	98
191 BAKO	87
194 SEYDOUGOU	47
195 GUIEMBE	117
196 GOULIA	73
TOTAL DR	20666

CENTRE	TOTAUX
014 DALOA	8591
033 BOUAFLE	3472
038 SINFRA	1098
039 SEGUELA	2200
041 MANKONO	883
053 ZUENOULA	1138
059 ISSIA	1772
066 VAVAOUA	1366
098 GOHITAFLA	331
101 TIENINGBOUE	372
144 KANI	393
TOTAL DR	21616
003 BOUAKE	28316
016 DABAKALA	835
027 N'GUESSAN POK.	1268
040 KATIOLA	2926
048 BEOUMI	1344
049 NIAKARAMANDOUG.	480
057 M'BAHIAKRO	733
062 TORTIYA	503
069 PRIKRO	380
070 SAKASSOU	1596
080 BOTRO	513
102 DIABO	333
103 BROBO	363
126 FRONAN	459
127 BONIERE	123
128 TAFIRE	395
157 SATAMA-SOKOURA	217
TOTAL DR	40784

Table 3.8-5 Number of Connected Units of Urban Water Supply Services (3 pages)

CENTRE	TOTAUX
002 BINGERVILLE	3893
004 Gd BASSAM	3203
005 BONOUA	4772
006 ADIAKE	1516
008 ANYAMA	6219
009 JACQUEVILLE	668
011 AGBOVILLE	3358
015 LOPOU-YOHOULI	2403
018 montezo	1233
026 TIASSALE NDOUCI	2585
030 DABOU	4843
031 ABOISSO	2856
032 AYAME	395
074 RUBINO	327
075 SIKENSI	2110
076 MAFERE	692
077 GRAND-LAHOU	1476
081 AGHIEN	66
084 ALEPE	560
156 ATTINGUIE	913
164 AKOURE-DABLE	747
179 KETESSO	370
181 AZAGUIE	785
182 SONGON	1240
199 ADJOUAN	515
TOTAL DR	47745

CENTRE	TOTAUX
020 ADZOPE	3683
028 BONDOUKOU	4416
029 ABENGOUROU	6850
054 BOUNA	1195
055 AGNIBILEKROU	3065
079 TANDA	926
089 GRAND AFFERY	683
090 AKOUPE	2189
099 KOUN-FAO	824
100 YAKASSE-ATTOBRO	365
105 KOUASSI DATEKRO	247
106 betie	297
152 ASSIKOUA	7
153 ANDE	1
154 TEHINI	132
159 AGOU	2558
163 ANANGUIE-AHOUABO	1
168 ASSUEFRI	575
169 TANKESSE	3
170 DAME	1
174 NIABLEY	630
175 ZARANOU	571
176 MOAPE	2
133 MARCORY	19297
134 VRIDI	11025
135 Zone 4 c	16233
136 KOUMASSI	18026
TOTAL DR	64581

Table 3.8-5 Number of Connected Units of Urban Water Supply Services (3 pages)

CENTRE	TOTAUX
130 YOPOUGON	36909
131 Abobo	27452
132 PLATEAU	18029
138 NIANGON	37355
139 Cocody	36953
140 ABOBO 2	23576
TOTAL DR	180274
022 KORHOGO	6377
023 FERKESSEDOUGOU	476
035 BOUNDIALI	1606
042 TENGRELA	746
043 MANINIAN	169
044 OUANGOLODOUGOU	927
045 ODIENE	2725
082 TIEME	158
095 KONAKONO	86
107 MADINAMI	191
108 SIRASSO	204
109 GBON	469
110 KOLIA	230
111 KOUTO	362
112 DIKODOUGOU	244
113 NAPIOLEDOUGOU	398
114 MBENGUE	430
115 NIELLE	391
116 SINEMATIALI	651
117 KONG	143
119 SAMATIGUILA	222
120 DIAWALA	181
121 TIORONIARADOUG.	113
TOTAL DR	29221
TOTAL GEN	484492

CENTRE	TOTAUX
012 DIMBOKRO	4208
013 YAMOUSSOKRO	14517
019 TOUMODI	4086
025 DAOUKRO	2518
034 BONGOUANOU	1352
037 TIEBISSOU	1452
051 KOUASSI-KOUASSI	605
056 BOCA... A	851
063 M'BATTO	1591
064 KOSSOU	376
067 OUELLE	521
068 ARRAH	600
071 DIDIEVI	552
087 KOTOBI	2109
118 TAABO	716
TOTAL DR	36054
024 MAN	5805
047 GUIGLO	1524
058 DANANE	2105
060 TOUBA	1092
061 BIANKOUMA GOUES	697
072 TOULEPLEU	371
073 BOROTOU	93
085 KOUIBLY	272
086 FACOBLY	444
088 DUEKOUE	1473
091 BANGOLO	453
092 LOGOUALLE	272
093 BIN HOUYE	185
094 ZOUAN-HOUNIEN	494
129 KORO	124
178 TAI	112
193 SIPILOU	346
197 WANINOU	307
198 BLOLEQUIN	268
TOTAL DR	16437

Table 3.8-6 Tariff of Electricity (2 pages)

TARIFICATION BASSE TENSION

(Prix applicables à partir du 18 Juin 1996)

TARIF MODERE DOMESTIQUE		
Prime fixe (1)		540
Prix proportionnel à l'énergie	Tranche unique	(F/kWh)
Prix du kWh (2)		34,83
Redevance (3)		1,00
Prix du kWh hors Communes		**35,83**
Taxe municipale Abidjan		2,50
Prix du kWh Abidjan		**38,33**
Taxe municipale dans les Communes (4)		1,00
Prix du kWh dans les Communes		**36,83**

TARIF GENERAL BASSE TENSION		
Prime fixe (1)		1188 x kVA
Prix proportionnel à l'énergie	1ère tranche 180 kWh X kVA souscrit	Surplus
	(F/kWh)	(F/kWh)
Prix du kWh (2)	58,01	46,33
Redevance (3)	1,00	1,00
Prix du kWh hors Communes	**59,014**	**47,332**
Taxe municipale Abidjan	2,50	2,50
Prix du kWh Abidjan	**61,51**	**49,83**
Taxe municipale dans les Communes (4)	1,00	1,00
Prix du kWh dans les Communes	**60,01**	**48,33**

TARIF PROFESSIONNEL BASSE TENSION		
Prime fixe (1)		1425 x kVA
Prix proportionnel à l'énergie	1ère tranche 180 kWh X kVA souscrit	Surplus
	(F/kWh)	(F/kWh)
Prix du kWh (2)	69,59	55,58
Redevance (3)	1,00	1,00
Prix du kWh hors Communes	**70,59**	**56,58**
Taxe municipale Abidjan	2,50	2,50
Prix du kWh Abidjan	**73,09**	**59,08**
Taxe municipale dans les Communes (4)	1,00	1,00
Prix du kWh dans les Communes	**71,59**	**57,58**

TARIF CONVENTIONNEL DOMESTIQUE		
Prix proportionnel à l'énergie	Tranche unique	(F/kWh)
Prix du kWh (2)		12,00
Redevance (3)		1,00
Prix du kWh hors Communes		**13,00**
Taxe municipale Abidjan		2,50
Prix du kWh Abidjan		**15,50**
Taxe municipale dans les Communes (4)		1,00
Prix du kWh dans les Communes		**14,00**

TARIF ECLAIRAGE PUBLIC		
Prix proportionnel à l'énergie	Tranche unique	(F/kWh)
Prix du kWh		41,20
Redevance (3)		1,00
Prix du kWh		**42,20**

TARIFICATION MOYENNE TENSION

(Prix applicables à partir du 18 Juin 1996)

Table 3.8-6 Tariff of Electricity (2 pages)

	PRIME FIXE ANN. (F CFA par kW)	PRIX D'ENERGIE (en f CFA par kWh) Dont 11.11% de TVA			Redevance électrification par mois et par kVA souscrit
		Heures pleines (7 h 30 à 19 h 30) 23 h 00 à 24 h 00	Heures pointe (19 h 30 à 23 h00)	Heures creuses 0h00 à 7 h 30	
MOYENNE TENSION					
Tarif courte utilisation (* U inferieur à 1000 h)	15 708,00	46,07	71,29	33,10	1 700,00
Tarif général (* U compris entre 1000 h et 5000 h)	21 612,50	40,02	54,57	33,10	1 700,00
Tarif longue utilisation (* U supérieur à 5000 h)	31 403,75	38,08	48,37	33,10	1 700,00
HAUTE TENSION					
Tarif courte utilisation (* U inferieur à 1000 h)	38 880,00	40,95	75,00	23,10	1 700,00
Tarif général (* U compris entre 1000 h et 5000 h)	52 598,00	27,15	30,75	23,10	1 700,00
Tarif longue utilisation (* U supérieur à 5000 h)	66 300,00	24,30	27,15	23,10	1 700,00
TARIF SPECIAL SIR	30 848,00	45,00	75,00	27,00	1 700,00
TARIF SPECIAL COMPLEXES TEXTILES	70 650,00	16,50	25,50	15,90	1 700,00

(*) U = duréé d'utilisation annuelle de la puissance souscrite

Table 3.8-7 Examples of Operation Records by Dispatching Center of CIE (11 pages)

Compagnie Ivoirienne d'électricité		EXPEDITEUR: N° (225) 23 39 69	DESTINATAIRES: UMIC (225) 22 62 29 APACHE (225) 41 51 63
			LION GPL (225) 27 00 49 CINERGY (225) 44 54 47 PETROCI (225) 27 56 99
REFERENCE	Noms:	BELEMSOBGO ATHANASE / CIE/DME	AZITO (225) 46 49 42 VRIDI 1 (27 33 62) VRIDI 2 (27 21 83)
	Objet:	Programme de marche des turbines à combustion	
	Date:	24/09/99	Nb. Page: 1
Copie à:	KONAN JUSTIN	NANDJUI, AGOH, MESSOU (VRIDI 1), PI N'GUESSAN (VRIDI 2)	

Veuillez trouver ci-joint, les programmes prévisionnels de marche des turbines à combustion pour la période du Samedi 25 au Lundi 27 Septembre 1999.
Ce programme tient compte des arrêts programmés de groupes. Les modifications qui pourraient intervenir, suite à incident sur le réseau électrique devront être traitées en temps réel.
Bonne réception.

	SAMEDI 25 SEPTEMBRE 1999									DIMANCHE 26 SEPTEMBRE 1999									LUNDI 27 SEPTEMBRE 1999									
	VRIDI 1 CIE				VRIDI 2 CIPREL				AZITO	VRIDI 1CIE				VRIDI 2 CIPREL				AZITO	VRIDI 1 CIE				VRIDI 2 CIPREL				AZITO	
	TAG1	TAG2	TAG3	TAG4	TAG5	TAG6	TAG7	TAG8	TR 1	TAG1	TAG2	TAG3	TAG4	TAG5	TAG6	TAG7	TAG8	TR 1	TAG1	TAG2	TAG3	TAG4	TAG5	TAG6	TAG7	TAG8	TR 1	
07H	15		15	15	25	25	25	60	148	15		15	15	33	33	33		148	15		15	15	25	20	20	60	148	7H
08H	15		15	15	33	33	33	60	100	15		15	15	25	25	25			15		15	15	33	33	33	60	148	8H
09H	15		15	15	33	33	33	60	100	15		15	15	25	25	25			15		15	15	33	33	33	60	148	9H
10H	15		15	15	33	33	33	60	100	15		15	15	25	25	25			15		15	15	33	33	33	60	148	10H
11H	15		15	15	33	33	33	60	100	15		15	15	25	25	25			15		15	15	33	33	33	60	148	11H
12H	15		15	15	33	33	33	60	100	15		15	15	25	25	25			15		15	15	33	33	33	60	148	12H
13H	15		15	15	33	33	33	60	100	15		15	15	25	25	25			15		15	15	33	33	33	60	148	13H
14H	15		15	15	33	33	33	60	100	15		15	15	25	25	25			15		15	15	33	33	33	60	148	14H
15H	15		15	15	33	33	33	60	100	15		15	15	25	25	25			15		15	15	33	33	33	60	148	15H
16H	15		15	15	33	33	33	60	100	15		15	15	25	25	25			15		15	15	33	33	33	60	148	16H
17H	15		15	15	33	33	33	60	100	15		15	15	25	25	25			15		15	15	33	33	33	60	148	17H
18H	15		15	15	33	33	33	60	148	15		15	15	33	33	25	60	100	15		15	15	33	33	33	60	148	18H
19H	15		15	15	33	33	33	60	148	21		21	21	33	33	33	60	148	21		21	21	33	33	33	65	148	19H
20H	15		15	15	33	33	33	80	148	21		21	21	33	33	33	60	148	21		21	21	33	33	33	65	148	20H
21H	15		15	15	33	33	33	80	148	21		21	21	33	33	33	60	148	21		21	21	33	33	33	60	148	21H
22H	15		15	15	33	33	33	65	148	21		21	21	33	33	33	60	148	21		21	21	33	33	33	60	148	22H
23H	15		15	15	33	33	33	65	148	21		21	21	33	33	33	60	148	21		21	21	33	33	33	60	148	23H
00H	15		15	15	33	33	33	60	148	21		21	21	33	33	33	60	148	21		21	21	33	33	33	60	148	00H
01H	15		15	15	33	33	33		148	21		21	21	25	25	25	60	148	21		21	21	33	33	33	60	148	01H
02H	15		15	15	33	33	33		148	21		21	21	25	25	25	60	148	21		21	21	33	33	25	60	148	02H
03H	15		15	15	33	33	33		148	21		21	21	25	25	25	60	148	21		21	21	33	33	25	60	148	03H
04H	15		15	15	33	33	33		148	21		21	21	25	25	25	60	148	21		21	21	33	33	25	60	148	04H
05H	15		15	15	33	33	33		148	21		21	21	25	25	25	60	148	21		21	21	33	33	33	60	148	05H
06H	15		15	15	33	33	33		148	21		21	21	25	20	20	60	148	21		21	21	25	25	25	60	148	06H
07H	15		15	15	33	33	33		148	21		21	21	25	20	20	60	148	21		21	21	25	25	25	60	148	07H

GROUPE INDISPONIBLE GROUPE DISPONIBLE A L'ARRET

NOTA BENE : Le dimanche 26 Septembre 1999, La TAG8 de CIPREL et la TR1 d'AZITO seront arrêtées pour travaux sur la ligne d'interconnexion 225kV ABOBO-PRESTEA au poste d'ABOBO de 07H00à 17HH00. Les groupes seront recouplés dès fin des travaux.

CIE DME

Le Chef de Service Gestion Prévisionnelle et Economique

PROGRWEEKEND 24/09/99 17:24

SERVICE GESTION PREVISIONNELLE ET ECONOMIQUE

BELEMSOBGO Athanase

Table 3.8-7 Examples of Operation Records by Dispatching Center of CIE (11 pages)

PROGRAMME D'ARRET DES GROUPES DE PRODUCTION DU 13 AU 24 SEPTEMBRE 1999

ETABLI LE : 06/09/99		LUNDI 20	MARDI 21	MERCREDI 22	JEUDI 23	VENDREDI 24	SAMEDI 25	DIMANCHE 26	LUNDI 27	MARDI 28	MERCREDI 29	JEUDI 30	VENDREDI 1
GROUPES HYDRAULIQUES													
AYAME	G1			TRAVAUX SUR LE JOINT-PLAN									
	G2												
	G3												
	G4			REPARATION DE LA COMMANDE A DISTANCE									
KOSSOU	G1			ARRET CENTRALE POUR RACCORDEMENT									
	G2					PROTECTION INCENDIE							
	G3												
TAABO	G1												
	G2					REHABILITATION ES TYPE C3							
	G3												
BUYO	G1		RECHERCHE DE DEFAUF BUCCHOLZ										
	G2												
	G3												
FAHE	G1												
	G2												
GROUPES THERMIQUES													
VAPEUR	G2					CREVAISON DE TUBES A LA CHAUDIERE							
	G3												
	G4												
VRIDI 1	TAG1												
	TAG2					DEFAUT MASSE STATOR							
	TAG3												
	TAG4												
VRIDI 2	TAG5												
	TAG6												
	TAG7	AVARIE REFRIGERANT AIR ALT.											
	TAG8						CONSIGNATION ABOBO-PRESTEA						
AZITO	TR1						CONSIGNATION ABOBO-PRESTEA						
	TR2												
TRANSIT SUR L'INTERCO		180	180	180	180	180	180	200	180	180	180	180	180

Programme hebdo 24/09/99 15:35

GESTION PREVISIONNELLE ET ECONOMIQUE

Table 3.8-7 Examples of Operation Records by Dispatching Center of CIE (11 pages)

GESTION HEBDOMADAIRE DU PARC DE PRODUCTION
PERIODE DU 25/09/99 AU 01/10/99

1. Disponibilité de production

JOURS	SAMEDI		DIMANCHE		LUNDI		MARDI		MERCREDI		JEUDI		VENDREDI	
DATES	25/09/99		26/09/99		27/09/99		28/09/99		29/09/99		30/09/99		01/10/99	
CENTRALES	pleines	pointe	pleines	pointe	pleines	pointe	pleines	pointe	pleines	pointe	pleines	pointe	pleines	pointe
AYAME	48	48	48	48	48	48	48	48	48	48	48	48	48	48
G1	9	9	9	9	9	9	9	9	9	9	9	9	9	9
G2	9	9	9	9	9	9	9	9	9	9	9	9	9	9
G3	15	15	15	15	15	15	15	15	15	15	15	15	15	15
G4	15	15	15	15	15	15	15	15	15	15	15	15	15	15
KOSSOU	50	50	50	50	50	50	50	50	50	50	50	50	50	50
G1	25	25	25	25	25	25	25	25	25	25	25	25	25	25
G2	25	25	25	25	25	25	25	25	25	25	25	25	25	25
G3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TAABO	140	140	140	140	140	140	140	140	140	140	140	140	140	140
G1	70	70	70	70	70	70	70	70	70	70	70	70	70	70
G2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G3	70	70	70	70	70	70	70	70	70	70	70	70	70	70
BUYO	147	147	147	147	147	147	147	147	147	147	147	147	147	147
G1	49	49	49	49	49	49	49	49	49	49	49	49	49	49
G2	49	49	49	49	49	49	49	49	49	49	49	49	49	49
G3	49	49	49	49	49	49	49	49	49	49	49	49	49	49
FAYE	2		2	2	2	2	2	2	2	2	2	2	2	2
G1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
VRIDI 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TAV2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TAV3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TAV4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VRIDI 1	0	63	63	63	63	63	63	63	63	63	63	63	63	63
TAG1	0	21	21	21	21	21	21	21	21	21	21	21	21	21
TAG2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TAG3	0	21	21	21	21	21	21	21	21	21	21	21	21	21
TAG4	0	21	21	21	21	21	21	21	21	21	21	21	21	21
VRIDI 2	212	212	212	212	212	212	212	212	212	212	212	212	212	212
TAG5	34	34	34	34	34	34	34	34	34	34	34	34	34	34
TAG6	34	34	34	34	34	34	34	34	34	34	34	34	34	34
TAG7	34	34	34	34	34	34	34	34	34	34	34	34	34	34
TAG8	110	110	110	110	110	110	110	110	110	110	110	110	110	110
AZITO	148	148	148	148	148	148	148	148	148	148	148	148	148	148
TG1	148	148	148	148	148	148	148	148	148	148	148	148	148	148
Disponibilité totale (MW)	747	808	810	810	810	810	810	810	810	810	810	810	810	810
Conso brute (MW)	370	465	270	430	395	480	395	480	395	480	395	480	395	480
Marge brute (MW)	377	343	540	380	415	330	415	330	415	330	415	330	415	330
Marge hors 1 KOS/TAABO (	297	263	460	300	335	250	335	250	335	250	335	250	335	250

0 groupe indisponible

2. Politique de gestion du 25 Septembre au 01 Octobre 1999

- AYAME . Les groupes seront disponibles à l'arrêt aux heures pleines et creuses durant la semaine. Une tranche sera sollicitée à la pointe pour l'alimentation d'eau à la ville d'Aboisso.
- BUYO : Les trois(3) groupes disponibles seront sollicités à la pointe et deux groupes aux heures pleines et creuses pour permettre de contenir les apports à TAABO.
- KOSSOU-TAABO: Les deux groupes de Kossou seront couplés exclusivement en marche synchrone et en turbine pour la résolution des incidents. A Taabo, les deux groupes seront couplés en permanence à 100% (70 Mw) pour contenir les apports sur la Marahoué.
- VRIDI 1: La TAG2 étant indisponible, les 3 autres TAG 5000 fonctionneront au maximum en permanence pour rattraper les objectifs de production.
  VRIDI 2: Les 3 TAG 6000 et la TAG9000 disponibles seront sollicitées au maximum à la pointe et subiront des baisses de charge aux heures pleines et creuses du week-end
- VRIDI VAPEUR :La TAV3 sera exploitée à 35 MW dès son retour à l'exploitation.
- AZITO : La TG1 sera en base durant toute la semaine.

NOTA : Exportation vers VRA et CEB : La disponibilité actuelle du plan de production permet d'exporter en moyenne 200 MW les jours ouvrables et 250 MW les week-ends.

Appliquer le barème de placement suivant: BUYO,TAABO, AZITO, TAV 3, TAG5000, TAG9000, TAG6000, AYAME, KOSSOU.

Table 3.8-7 Examples of Operation Records by Dispatching Center of CIE (11 pages)

PROGRAMME PREVISIONNEL DE MARCHE DES GROUPES DU SAMEDI 25 SEPTEMBRE 1999

HEURES	HYDRAULIQUE AYAME 1 G1	G2	AYAME 2 G3	G4	KOSSOU G1	G2	G3	TAABO G1	G2	G3	BUYO G1	G2	G3	GRAH G1	G2	VRIDI VAPEUR TAV2	TAV3	TAV4	VRIDI 1 TAG1	TAG2	TAG3	TAG4	VRIDI 2 TAG5	TAG6	TAG7	TAG8	AZITO TAG1	TAG2	TAG3	ECHAN SIR	VRA	CONSO PREVUE	REALISEE	CONSIGNES ET OBSERVATIONS	HEURES
07 H					SY	SY		70		70		30	30						15		15	15	25	25	25	60	148			0	-180	310		07H A 18H = 180 MW	07H
08 H					SY	SY		70		70		35	35						15		15	15	33	33	33	60	100			0	-180	308		VRA = 180 MW	08H
09 H					SY	SY		70		70		35	35						15		15	15	33	33	33	60	100			0	-180	320		CEB = 00 MW	09H
10 H					SY	SY		70		70		35	35						15		15	15	33	33	33	60	100			0	-180	322			10H
11 H					SY	SY		70		70		35	35						15		15	15	33	33	33	60	100			0	-180	325			11H
12 H					SY	SY		70		70		35	35						15		15	15	33	33	33	60	100			0	-180	320			12H
13 H					SY	SY		70		70		25	25						15		15	15	33	33	33	60	100			0	-180	305			13H
14 H					SY	SY		70		70		25	25						15		15	15	33	33	33	60	100			0	-180	297			14H
15 H					SY	SY		70		70		25	25						15		15	15	33	33	33	60	100			0	-180	294			15H
16 H					SY	SY		70		70		25	25						15		15	15	33	33	33	60	100			0	-180	295			16H
17 H					SY	SY		70		70		25	25						15		15	15	33	33	33	60	100			0	-180	299			17H
18 H					SY	SY		70		70		30	30						15		15	15	33	33	33	60	100			0	-180	309		18H A 22H = 180 MW	18H
19 H		9		15	SY	SY		70		70		49	49						15		15	15	33	33	33	60	100			0	-180	436		VRA = 155 MW	19H
20 H		9		15	SY	SY		70		70		49	49						15		15	15	33	33	33	80	148			0	-180	444		CEB = 25 MW	20H
21 H		9		15	SY	SY		70		70		49	49						15		15	15	33	33	33	80	148			0	-180	435			21H
22 H		5		15	SY	SY		70		70		49	49						15		15	15	33	33	33	65	148			0	-180	422			22H
23 H		5		15	SY	SY		70		70		40	40						15		15	15	33	33	33	65	148			0	-180	398			23H
0 H		5		10	SY	SY		70		70		30	30						15		15	15	33	33	33	65	148			0	-180	371			00H
1 H		5		10	SY	SY		70		70		49	49						15		15	15	33	33	33	60	148			0	-180	348			01H
2 H		5		10	SY	SY		70		70		40	40						15		15	15	33	33	33		148			0	-180	335			02H
3 H		5		10	SY	SY		70		70		35	35						15		15	15	33	33	33		148			0	-180	320		22H A 07H = 180 MW	03H
4 H		5		10	SY	SY		70		70		35	35						15		15	15	33	33	33		148			0	-180	316		VRA = 180 MW	04H
5 H		5		10	SY	SY		70		70		35	35						15		15	15	33	33	33		148			0	-180	318		CEB = 00 MW	05H
6 H		5		10	SY	SY		70		70		35	35						15		15	15	33	33	33		148			0	-180	315			06H
7 H					SY	SY		70		70		25	25						15		15	15	33	33	33		148			0	-180	273			07H

(shaded) : Groupe indisponible
SY : Groupe en marche synchrone

Table 3.8-7 Examples of Operation Records by Dispatching Center of CIE (11 pages)

PROGRAMME PREVISIONNEL DE MARCHE DES GROUPES DU DIMANCHE 26 SEPTEMBRE 1999

HEURES	HYDRAULIQUE																															ECHAN		CONSO		CONSIGNES ET OBSERVATIONS	HEURES
	AYAME 1		AYAME 2		KOSSOU			TAABO			BUYO			GRAH		VRIDI VAPEUR			VRIDI 1				VRIDI 2				AZITO											
	G1	G2	G3	G4	G1	G2	G3	G1	G2	G3	G1	G2	G3	G1	G2	TAV2	TAV3	TAV4	TAG1	TAG2	TAG3	TAG4	TAG5	TAG6	TAG7	TAG8	TAG1	TAG2	TAG3			S I R	V R A	PREVUE	REALISEE		
07 H					SY	SY		70		70		45	45						15		15	15	33	33	33		100					0	-180	273			07H
08 H					SY	SY		65		65		20	20						15		15	15	25	25	25							0	0	270		VRA = 0 MW	08H
09 H					SY	SY		65		65		20	20						15		15	15	25	25	25							0	0	266		CEB = 00 MW	09H
10 H					SY	SY		65		65		20	20						15		15	15	25	25	25							0	0	268			10H
11 H					SY	SY		65		65		20	20						15		15	15	25	25	25							0	0	264			11H
12 H					SY	SY		65		65		20	20						15		15	15	25	25	25							0	0	258			12H
13 H					SY	SY		65		65		20	20						15		15	15	25	25	25							0	0	260			13H
14 H					SY	SY		65		65		20	20						15		15	15	25	25	25							0	0	262			14H
15 H					SY	SY		65		65		20	20						15		15	15	25	25	25							0	0	264			15H
16 H					SY	SY		65		65		20	20						15		15	15	25	25	25							0	0	268			16H
17 H					SY	SY		65		65		20	20						15		15	15	25	25	25							0	0	269			17H
18 H					SY	SY		65		65		20	20						15		15	15	33	33	25	60	100					0	-180	270		18H A 24H = 180 MW	18H
19 H	9		15		SY	SY		70		70		45	45						15		15	15	33	33	25	60	148					0	-180	407		VRA = 155 MW	19H
20 H	9		15		SY	SY		70		70		45	45						15		15	15	33	33	33	60	148					0	-180	416		CEB = 25 MW	20H
21 H	9		15		SY	SY		70		70		45	45						15		15	15	33	33	33	60	148					0	-180	415			21H
22 H	9		15		SY	SY		70		70		40	40						15		15	15	33	33	33	60	148					0	-180	402			22H
23 H					SY	SY		70		70		40	40						15		15	15	33	33	33	60	148					0	-180	373			23H
0 H					SY	SY		70		70		35	35						15		15	15	33	33	33	60	148					0	-200	351			00H
1 H					SY	SY		70		70		35	35						15		15	15	25	25	25	60	148					0	-200	328			01H
2 H					SY	SY		70		70		35	35						15		15	15	25	25	25	60	148					0	-200	326			02H
3 H					SY	SY		70		70		30	30						15		15	15	25	25	25	60	148					0	-200	313		24H A 07H = 200 MW	03H
4 H					SY	SY		70		70		30	30						15		15	15	25	25	25	60	148					0	-200	311		VRA = 200 MW	04H
5 H					SY	SY		70		70		35	35						15		15	15	25	25	25	60	148					0	-200	321		CEB = 00 MW	05H
6 H					SY	SY		70		70		35	35						15		15	15	25	25	25	60	148					0	-200	324			06H
7 H					SY	SY		70		70		30	30						15		15	15	25	20	20	60	148					0	-200	308			07H

: Groupe indisponible
SY : Groupe en marche synchrone

Table 3.8-7 Examples of Operation Records by Dispatching Center of CIE (11 pages)

PROGRAMME PREVISIONNEL DE MARCHE DES GROUPES DU LUNDI 27 SEPTEMBRE 1999

	HYDRAULIQUE																																		
	AYAME 1		AYAME 2		KOSSOU			TAABO			BUYO			GRAH		VRIDI VAPEUR			VRIDI 1				VRIDI 2				AZITO			ECHAN		CONSO			
HEURES	G1	G2	G3	G4	G1	G2	G3	G1	G2	G3	G1	G2	G3	G1	G2	TAV2	TAV3	TAV4	TAG1	TAG2	TAG3	TAG4	TAG5	TAG6	TAG7	TAG8	TAG1	TAG2	TAG3	SIR	VRA	PREVUE	REALISEE	CONSIGNES ET OBSERVATIONS	
07 H					SY	SY		70		70		30	30						15		15	15	25	20	20	60	148			0	-180	308		07H A 18H = 180 MW	07H
08 H					SY	SY		70		70		30	30						15		15	15	33	33	33	60	148			0	-180	359		VRA = 180 MW	08H
09 H					SY	SY		70		70		35	35						15		15	15	33	33	33	60	148			0	-180	381		CEB = 00 MW	09H
10 H					SY	SY		70		70		35	35						15		15	15	33	33	33	60	148			0	-180	384			10H
11 H					SY	SY		70		70		35	35						15		15	15	33	33	33	60	148			0	-180	383			11H
12 H					SY	SY		70		70		35	35						15		15	15	33	33	33	60	148			0	-180	382			12H
13 H					SY	SY		70		70		30	30						15		15	15	33	33	33	60	148			0	-180	360			13H
14 H					SY	SY		70		70		30	30						15		15	15	33	33	33	60	148			0	-180	361			14H
15 H					SY	SY		70		70		35	35						15		15	15	33	33	33	60	148			0	-180	375			15H
16 H					SY	SY		70		70		40	40						15		15	15	33	33	33	60	148			0	-180	392			16H
17 H					SY	SY		70		70		40	40						15		15	15	33	33	33	60	148			0	-180	389			17H
18 H					SY	SY		65		65		25	25						15		15	15	33	33	33	60	148			0	-150	378			18H
19 H	9		15		SY	SY		70		70		49	49						21		21	21	33	33	33	65	148			0	-150	488		18H A 22H = 150 MW	19H
20 H	9		15		SY	SY		70		70		49	49						21		21	21	33	33	33	65	148			0	-150	486		VRA = 125 MW	20H
21 H	9		15		SY	SY		70		70		49	49						21		21	21	33	33	33	60	148			0	-150	476		CEB = 25 MW	21H
22 H					SY	SY		70		70		49	49						21		21	21	33	33	33	60	148			0	-150	450			22H
23 H					SY	SY		70		70		49	49						21		21	21	33	33	33	60	148			0	-180	423			23H
0 H					SY	SY		70		70		40	40						15		15	15	33	33	33	60	148			0	-180	392			00H
1 H					SY	SY		70		70		35	35						15		15	15	33	33	33	60	148			0	-180	375			01H
2 H					SY	SY		70		70		35	35						15		15	15	33	33	33	60	148			0	-180	368			02H
3 H					SY	SY		70		70		35	35						15		15	15	33	33	33	60	148			0	-180	364		22H A 07H = 180 MW	03H
4 H					SY	SY		70		70		35	35						15		15	15	33	33	33	60	148			0	-180	362		VRA = 180 MW	04H
5 H					SY	SY		70		70		35	35						15		15	15	33	33	33	60	148			0	-180	365		CEB = 00 MW	05H
6 H					SY	SY		70		70		35	35						15		15	15	33	33	33	60	148			0	-180	368			06H
7 H					SY	SY		70		70		30	30						15		15	15	25	20	20	60	148			0	-180	333			07H

(shaded) : Groupe indisponible
SY : Groupe en marche synchrone

PROGMARCH

Table 3.8-7 Examples of Operation Records by Dispatching Center of CIE (11 pages)

PROGRAMME PREVISIONNEL DE MARCHE DES GROUPES DU MERCREDI 29 SEPTEMBRE 1999

	HYDRAULIQUE																																		
	AYAME 1		AYAME 2		KOSSOU			TAABO			BUYO			GRAH		VRIDI VAPEUR			VRIDI 1				VRIDI 2				AZITO			ECHAN		CONSO			
HEURES	G1	G2	G3	G4	G1	G2	G3	G1	G2	G3	G1	G2	G3	G1	G2	TAV2	TAV3	TAV4	TAG1	TAG2	TAG3	TAG4	TAG5	TAG6	TAG7	TAG8	TAG1	TAG2	TAG3	SIR	VRA	PREVUE	REALISEE	CONSIGNES ET OBSERVATIONS	HEURES
07 H					SY	SY		65		65		30	30						15		15	15	25	25	25	60	148			0	-180	335		07H A 18H = 180 MW	07H
08 H	9		15		SY	SY		65		65		30	30						21		21	21	33	33	33	60	148			0	-180	370		VRA = 180 MW	08H
09 H	9		15		SY	SY		65		65		35	35						21		21	21	33	33	33	60	148			0	-180	386		CEB = 00 MW	09H
10 H	9		15		SY	SY		65		65		40	40						21		21	21	33	33	33	60	148			0	-180	388			10H
11 H	9		15		SY	SY		65		65		40	40						21		21	21	33	33	33	60	148			0	-180	387			11H
12 H	9		15		SY	SY		65		65		35	35						21		21	21	33	33	33	60	148			0	-180	384			12H
13 H	5		12		SY	SY		65		65		30	30						21		21	21	33	33	33	60	148			0	-180	350			13H
14 H	5		12		SY	SY		65		65		30	30						21		21	21	33	33	33	60	148			0	-180	351			14H
15 H	9		15		SY	SY		65		65		35	35						21		21	21	33	33	33	60	148			0	-180	385			15H
16 H	9		15		SY	SY		65		65		35	35						21		21	21	33	33	33	60	148			0	-180	389			16H
17 H	9		15		SY	SY		65		65		35	35						21		21	21	33	33	33	60	148			0	-180	387			17H
18 H	9		15		SY	SY		55		55		30	30						21		21	21	33	33	33	60	148			0	-180	380		18H A 24H = 180 MW	18H
19 H	9	9	15	15	SY	SY		65		65	30	49	49						21		21	21	33	33	33	60	148			0	-180	486		VRA = 155 MW	19H
20 H	9	9	15	15	SY	SY		65		65	30	49	49						21		21	21	33	33	33	60	148			0	-180	481		CEB = 25 MW	20H
21 H	9	9	15	15	SY	SY		65		65	30	45	45						21		21	21	33	33	33	60	148			0	-180	469			21H
22 H	9	5	15	12	SY	SY		65		65	30	45	45						21		21	21	33	33	33	60	148			0	-180	448			22H
23 H	9		15		SY	SY		65		65	30	45	45						21		21	21	33	33	33	60	148			0	-180	415			23H
0 H	9		15		SY	SY		65		65		35	35						21		21	21	33	33	33	60	148			0	-180	390			00H
1 H	9		15		SY	SY		65		65		30	30						21		21	21	33	33	33	60	148			0	-200	362			01H
2 H	9		15		SY	SY		65		65		30	30						21		21	21	33	33	33	60	148			0	-200	360			02H
3 H	9		15		SY	SY		65		65		30	30						21		21	21	33	33	33	60	148			0	-200	352		24H A 07H = 200 MW	03H
4 H	9		15		SY	SY		65		65		30	30						21		21	21	33	33	33	60	148			0	-200	350		VRA = 200 MW	04H
5 H	9		15		SY	SY		65		65		30	30						21		21	21	33	33	33	60	148			0	-200	357		CEB = 00 MW	05H
6 H	9		15		SY	SY		65		65		30	30						21		21	21	33	33	33	60	148			0	-200	361			06H
7 H	9		15		SY	SY		60		60		25	25						21		21	21	25	25	25	60	148			0	-200	328			07H

■ : Groupe indisponible

SY : Groupe en marche synchrone