PD-ABA455

COMBATTING CHILDHOOD COMMUNICABLE DISEASES

(CCCD)

COUNTRY ASSESSMENT

PEOPLE'S REPUBLIC OF THE CONGO

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People's Republic of the Congo

UNICEF

WHO Coordinator/Brazzaville

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SUMMARY

Evolving from efforts among member nations of Cooperation for Development in Africa (CDA), a program entitled Combatting Childhood Communicable Diseases (CCCD) was designed to reduce childhood morbidity and mortality through concerted efforts against vaccine-preventable diseases, malaria, and diarrheal diseases.

At the request of the People's Republic of the Congo (PRC), a preliminary study was conducted to explore the feasibility of implementing a CCCD program in the PRC. From April 11 to 29, 1983, an assessment team of two USAID CDC technical consultants, assisted by French Funds for Aid and Cooperation (FAC): met with government officials and representatives of international and scientific organizations; assessed the epidemiology of disease in the PRC and its health information system; reviewed documents describing PRC policies, plans, and strategies for disease control; observed current program activities; identified available resources and projected needs in order to implement a CCCD program; and developed a program proposal and budget.

According to available health information, malaria, measles, and diarrheal diseases are three of the four most frequently reported diseases and account for 50% of pediatric hospital admissions and 40% of hospital deaths. Recognizing their importance, the Ministry of Health and Social Affairs implemented separate programs for vaccination, diarrheal diseases, and malaria under the supervision of the Direction of Preventive Medecine.

The vaccination program, assisted by USAID funding, has made the most progress of the three. After 18 months of operation the program now serves an estimated 60% of the population and has attained excellent coverage in Brazzaville with all antigens except measles: BCG 80%; DPT and Polio 1=80%, 2=80%, 3=75%; Measles 54%.

The diarrheal diseases program has concentrated on training and health education activities in four different cities, but has not begun regular distribution of oral rehydration salts.

The malaria program relies primarily on chemoprophylaxis of children age 0 to 6 years and pregnant women in their fifth month of pregnancy. The program distributed chloroquine to 20,000 persons in these target groups during 1982.

The evaluation team recommends that a CCCD project be funded for the PRC in order to maintain the momentum of the vaccination program and to build on recent efforts by the PRC to control diarrheal diseases and malaria. The success of the vaccination program reflects the level of commitment that the government has given this program. The PRC also expressed strong interest in a CCCD program. Moreover, the PRC's urbanized population, which lives within a circumscribed area, simplifies the delivery of services and facilitates implementation of a coutry-wide program. A CCCD program based in the Direction of Preventive Medecine would integrate all three programs, thereby providing a stronger logistical system of delivering services. A CCCD program can also serve as a catalyst for improvements in the health information system and expansion of the concept of Primary Health Care.

A preliminary budget estimate for a proposed 4-year CCCD project (which does not include personnel) is $1,450,000, which includes $122,000 provided by UNICEF, $499,897 by the RPC and $823,286 bilateral assistance. Excluding the contribution by UNICEF, the People's Republic of the Congo will be responsible for paying fuel costs during the first year; 25% of the second year's operating budget, which includes fuel and per diem costs; 50% during the third year; and 75% during the fourth year of the project.

1. INTRODUCTION

The people's Republic of the Congo (PRC), through the U.S. Embassy/Brazzaville, requested the United States Agency for International Development (USAID) and the Centers for Disease Control (CDC, Atlanta) to assist its Ministry of Health (MOH) in conducting a country assessment (feasibility study) as a preliminary step to developing a program for combatting childhood communicable diseases (CCCD) in the Congo.

CCCD is a cooperative effort among African nations and member nations of CDA (Cooperation for Development in Africa) to reduce childhood morbidity and mortality by improving health services for the prevention and treatment of infectious diseases in children.

CDA, whose member nations are Belgium, Canada, the Federal Republic of Germany, France, Italy, the United Kingdom (UK) and the United States of America, initiated the CCCD concept in December, 1980 as a specific response to the World Health Organization's (WHO) request for increased technical cooperation in support of Primary Health Care (PHC) programs in Africa. The U.S. was designated by CDA as the lead donor in the effort.

2. CCCD

2.1 Goal

The goal of CCCD is to reduce childhood morbidity and mortality in Africa.

2.2 Strategy

In order to achieve its goal, CCCD's strategy is to control:

- measles, diphtheria, tetanus, pertussis, polio and tuberculosis by timely vaccination of infants;
- neonatal tetanus by vaccinating pregnant women;
- diarrheal diseases by oral rehydration and by teaching better feeding practices and hygiene;
- malaria by presumptive treatment (oral drugs) of children with fever and presumptive treatment of pregnant women with fever and/or chemoprophylaxis.

2.3 Role of CCCD

CCCD provides a mechanism for increasing external support to African nations in two separate but interrelated ways: by supporting a regional project; and by supporting country-specific (bilateral) activities. Funds are provided by USAID for the regional support project and some country-specific activities. Other CDA members are to concentrate their resources on country-specific activities.

The following regional activities are available to all sub-saharan African countries requesting participation:

- Training
- Training Development/Adaptation
- Health Education/Promotion
- Operations Research
- CCCD Health Information System

Bilateral technical cooperation agreements, on the other hand, are negotiated on a government-to-government basis. This document is a country assessment of the PRC health activities and may be used as a reference paper to approach CDA member nations or other bilateral or multilateral cooperating countries for technical cooperation in reducing childhood morbidity and mortality in the Congo.

3. ASSESSMENT

3.1 Method

With cooperation from members of the Government of the Congo, French Funds for Aid and Cooperation (FAC), UNICEF and the WHO Coordinator in Brazzaville, two CDC technicians met with officials of the Ministry of Health and Social Affairs, Ministry of Cooperation, Ministry of Plan, Ministry of Finance and with representatives of WHO/AFRO, U.S. Embassy, OCEAC and ORSTROM to discuss present and future policies, plans and strategies to control childhood communicable diseases in the Congo.

The assessment team visited the central, regional and peripheral levels of government in Brazzaville, Pointe Noire, Kinda and Kinkala in order to observe the delivery of health services and review health related documents at all three levels.

The U.S. Charge d'Affaires and a representative of the French Funds for Aid and Cooperation (FAC) and the CDC technicians visited the WHO Regional Office in Brazzaville to keep them informed of the country assessment and welcomed comments and suggestions leading to the fulfillment of the mission.

3.2 Scope

From April 11- 29 the assessment team:

- reviewed and analysed current PRC policies, plans and strategies for control of childhood communicable diseases;
- estimated current morbidity and mortality of priority diseases;
- observed ongoing activities in childhood disease control programs;

- assessed the effectiveness of current activities in controlling childhood communicable diseases;

- identified resources presently available in the Congo to start a CCCD program;

- determined additional resources needed to develope a national CCCD program;

- proposed a work plan to integrate CCCD activities into existing health services;

- prepared a four-year budget with phase out of bilateral participation.

4 BACKGROUND INFORMATION - PEOPLE'S REPUBLIC OF THE CONGO

4.1 Geography - Situated in Central Africa, the People's Republic of the Congo (PRC) extends from 4 degrees latitude north of the equator to five degrees latitude south and covers an area of 342,000 KM^2 or 132,000 square miles, (slightly larger than New Mexico). The PRC was bordered by the Central African Republic, Zaire, Cabinda (part of Angola), Gabon, and Cameroun. The country has four topographical regions: a coastal plain extending inland for 64 km; the fertile Niari Valley in the Southcentral area; the Central Bateke Plateau separating the basins of the Ogooue and Congo Rivers; and the Congo River Basin in the north characterized by flood plains in the lower portion and savanna in the north. Much of the PRC is densely forested. The temperature averages 24 degrees centigrade (75° Fahrenheit) and annual rainfall varies from 114 to 203 cm. (45 to 80 inches). The rainy season extends from May through September. (See Annex 1).

4.2 Economy - Oil production is the key economic determinant in the PRC. It provides 70% of all exports and supplies 65% of the revenues for the national budget. The gross national product in 1982 was 1.8 billion dollars. Exports of tropical hardwoods are currently the Congo's second most important export. Although the national debt was 1.5 billion dollars in 1982, the economy is growing briskly with a trade surplus of 342 million CFA (1 million dollars) in 1981. The PRC has no heavy industry; its light industry includes soap, beer, soft drinks, cigarettes, textiles, cement, wood products, petroleum refining, and boats. However, most of the population is engaged in subsistence farming. The annual per capita income is 960 dollars. Cash crops are not grown in great quantity. The sudden economic growth in the PRC has resulted in a construction boom and increased demand for goods resulting in retail price increases of 17% in 1981 and 20% in 1982.

4.3 Population - The population in the most recent census in 1974 was 1,319,790, representing a density of four inhabitants per km^2. Forty-eight per cent of the people live in urban areas (5,000 or more inhabitants). Although this appears to be a high percentage, 40% still live in villages of less than 500 inhabitants.

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Table 1. Population distribution according to size of locality, PRC, 1974

Size of locality, pop.	Number of localities	Resident population	Per cent of total population
- 100	2,413	114,901	9
100 - 499	1,662	413,555	31
500 - 999	141	90,513	7
1,000 - 4,999	66	140,703	11
5,000 - 9,999	11	80,691	6
10,000 +	7	546,955	41
TOTAL	4,360	1,319,790	100
Rural Zones	4,342	692,144	52
Urban Zones	18	627,646	48

At least two-thirds of the population live in Brazzaville, Pointe-Noire, and along the Congo-Ocean railroad. The projected population figures for the PRC were 1,550,882 for 1980 and are 1,764,359 for 1985. PRC is divided into nine administrative regions and the commune of Brazzaville, which are further subdivided into 48 districts. The distribution of population and population density is given by region in Table 2.

Table 2. Population and density by region, PRC, 1974

Region	Population	Density (persons per KM^2)	Main Town	Population
Kouilou	213,663	15.6	Pointe Noire	140,367
Niari	128,327	4.9	Loubomo	28,577
Bouenza	146,716	11.9	Madingou	8,194
Lekoumou	60,110	2.8	Sibiti	8,203
Pool	188,637	5.5	Kinkala	4,840
Plateaux	96,148	2.5	Djambala	4,668
Cuvette	114,535	1.5	Owando	9,626
Sangha	39,185	0.7	Ouesso	7,465
Likouala	30,010	0.4	Impfondo	5,133
Commune of Brazzaville	302,459	55.2	--	--
TOTAL	1,319,790	3.8		

The age distribution of the population is given in Table 3. Of the total population 18.5% are below 5 years of age and 20% are women aged 15-44 years (266,263).

Table 3. Age distribution of the population, PRC, 1974

Age	Population	Percentage of total	Cumulative percentage of total
0 - 4	244,721	18.5	18.5
5 - 9	202,465	15.3	33.8
10 - 14	155,275	11.8	45.6
15 - 19	120,752	9.1	54.7
20 - 29	171,895	13.0	67.7
30 - 39	140,764	10.7	78.4
40 - 59	213,006	16.1	94.5
60 and above	64,592	4.9	99.4
Unknown	6,320	0.0	99.4
TOTAL	1,319,790	99.4	

By the age of 15, 64% of men and 85% of women are married. Twenty-one percent of men are polygamous, having an average of 2.25 wives. The literacy rate in the PRC is estimated at 60%; school attendance is estimated to be 85%. French is the official language. Forty-seven percent of the people are Christians; 48 percent are Animists; and 5% are Moslems. Although vital events--births and deaths--are not routinely registered, other health indicators from the 1974 census include:

Crude birth rate	47.3 per 1,000 population
Crude death rate	17.9 per 1,000 population
Natural rate of growth	2.9%
Infant mortality rate	124.9 per 1,000 live births
Life expectancy at birth	46.8 years

5. RESOURCES

5.1 Ministry of Health and Social Affairs

The Ministry of Health and Social Affairs combines the health and welfare activities in the PRC and is headed by a minister, his cabinet and five major Directions. Health activities are directed by the Director General of Public Health with the assistance of seven Directions: Planning, Curative Medicine, Hygiene and Sanitation, Maternal and Child Health, Administration and Finance, Pharmacy and Laboratory, and Preventive Medicine. The vaccination, malaria and diarrheal disease programs are all located administratively in the Direction of Preventive Medicine although their activities also require cooperation with the Directions of Curative Medicine and Maternal and Child Health. (See Annex 2).

5.2 Five Year Plan

The five year plan, 1982 - 1986 is a special impact, budget plan to improve the transport system (roads, airports, etc) urban centers, utilities, hospitals and special projects in agriculture, education and health/social affairs. A large percentage of the health portion of the special five-year-plan budget is for repairing, remodeling and constructing hospitals and health centers. The total five year budget is 1.130 trillion franc CFA (3.2 billion dollars). The 1983 budget is nearly 148 billion franc CFA ($423 million) of which 3.026 billion F CFA ($8,645,700) is earmarked for health and social affairs.

5.3 Budget

Over 11 billion F CFA ($31,428,571) of the national budget was allocated to health and social affaires. Seventy-four million F CFA ($211,000) of the health + social affairs budget was earmarked for preventive medicine - salaries excluded. Around 18 million F CFA ($50,000) or 25% of the preventive medicine budget was spent for vaccination, diarrheal disease and malaria control - excluding salaries.

Table 4. Health Budget in FCFA, 1982

Health and Social Affairs	Preventive Medicine	E P I	Malaria	Diarrhea
11.004 billion (Salaries of 6,180 billion included)	74 million (excludes salaries)	8 million (11%)	5 million (7%)	5 million (7%0
		(E S T I M A T E S)		

5.4 Facilities

There are approximately 500 health facilities throughout the Congo including a "Grandes Endemies" health secteur in each of the nine administrative regions of the country and in the city of Brazzaville. Few private or missionary health facilities are found in the Congo. (See Annexes 3 & 4).

ORSTOM, a French scientific research organization located in Brazzaville engages in epidemiologic and entomologic research of malaria and other diseases

LAPCO is a pharmaceutical production laboratory in Brazzaville with 36 employees producing 100 mg chloroquine tablets (at less than 5 F CFA or 1,4 cents each), aspirins and sulfaguanadine. LAPCO has the capability of producing the quantity of chloroquine tablets needed for a CCCD program plus the potential for producing ORS packets.

PHARMAPRO, the national pharmacy, is located in the port city of Pointe-Noire and distributes drugs to all regions. PHARMAPRO's 1983 budget is approximately one billion F CFA ($2,857,000) of which 130 million F CFA ($371,500) is spent for anti-malarial drugs.

Table 5. National Pharmacy Budget in F CFA, 1983

Total Budget	Malaria drugs (injectable)	Malaria drugs (oral)
1 billion	85 million (8.5%)	45 million (4.5%)

5.5 Personnel

There are approximately 2,000 medical and paramedical personnel in the Ministry of Health and Social Affairs. (See Annexes 3 & 4).

5.6 Equipment

5.6.1 Cold Chain

EPI - Congo has an excellent Cold Chain system.

Central headquarters in Brazzaville has the following cold chain equipment with temperature recording thermometers:

- a 300 cubic foot cold room
- a 20 cubic foot chest type refrigerator
- a 16 cubic foot upright refrigerator
- two 20 cubic foot freezers

An 18 KVA diesel generator supplies sufficient power to operate the refrigeration equipment in case of power failure. There is refrigeration equipment at the Grandes Endemies Health Secteurs in all 9 regions. (See Annex 4).

5.6.2 Vehicles

There are 4 vehicles in EPI. Grandes Endemies headquarters has 11 vehicles and 17 more are distributed throughout the 10 Grandes Endemies Secteurs. All are in running order. (See Annex 4).

5.7 Transportation

- About 500 miles of railroad connects Brazzaville with Pointe-Noire.
- The Congo River, navigable above Brazzaville, forms an extensive inland water route with the Oubangiu and Sangha Rivers.
- A major seaport is located at Pointe-Noire.
- Brazzaville is served daily by several international airline carriers in addition to the Congolese National Airlines which provides domestic services to the interior of the country.
- Four wheel drive vehicles are necessary for travel within most of the interior.

6. EPIDEMIOLOGY OF DISEASES AND HEALTH INFORMATION SYSTEMS

There are three systems that collect routine surveillance data: Direction of planning and Statistics within the Ministry of Health and Social Affairs; the Grandes Endemies; and the Vaccination Program. The latter two are in the Direction of Preventive Medicine.

The Direction of Planning and Statistics requires all medical facilities to report manpower data, utilization data, and morbidity and mortality. The system is passive and depends on each facility to send its report to the regional level where it is summarized, added to the data collected by the Grandes Endemies, and then forwarded to the national level.

The system has not worked well. Reporting is delayed and incomplete - estimated to represent fewer than 20% of the medical facilities. The data collected by the Grandes Endemies represents the bulk of this national system. Because the system does not use a standardized reporting form, information that it receives may not be comparable for tabulation. Furthermore, health facilities are not motivated to report, and the Direction of Planning and Statistics has had difficulty receiving monthly reports. The most recent data available was 1979.

Table 6. The ten most frequently reported causes of morbidity and their corresponding numbers of deaths, PRC, 1979.

Disease	Cases	Deaths
Malaria	145,781	62
Upper respiratory infection	40,302	1
Measles	27,048	438
Diarrheal disease	20,877	206
Gonorrhea	15,042	0
Pneumonia	4,525	81
Whooping cough	4,345	12
Varicella	3,831	2
Schistosomiasis, urinary	3,762	0
Amebiasis	2,061	5

Table 7. Ten leading causes of reported deaths, PRC, 1979

Causes of death	Number of deaths
Measles	438
Leprosy[1]	289
Diarrheal disease	206
Pneumonia	81
Pulmonary tuberculosis	65
Malaria	62
Meningococcal infections	59
Tetanus	55
Trypanosomiasis	23
Poliomyelitis	19

The data is analyzed by region and by year, but age-specific morbidity and mortality is not regularly collected.

By using the number of reported cases of the CCCD target diseases in each region and the regional population estimates, one can calculate disease rates as in Table 8.

[1] A Leprosy program administered by the Grandes Endemies has an active Surveillance System.

Table 8. Rates of reported cases of malaria, measles, diarrheal disease, PRC, 1975 - 1979.

Region	Population	Reported malaria per 1,000 Population	Reported measles per 1,000 Population	Reported diarrhea per 1,000 Population
Brazzaville	428,700	830	101	181
Kouilou	261,600	920	77	103
Niari	145,000	237	22	7
Lekoumou	66,200	226	10	4
Bouenza	131,300	666	33	4
Pool	140,800	546	40	19
Plateaux	104,000	224	18	26
Cuvette	123,900	93	7	12
Likouala	34,700	451	17	17
Sangha	44,100	45	12	7
TOTAL	1,480,300	600	64	79

The rate of reported malaria varies by region from 45 per 1,000 to 920 per 1,000 over a five-year interval. The highest rates occur in the southern regions - Kouilou, Brazzaville, Bouenza, and Pool. Reported cases of measles vary from 7 per 1,000 to 101 per 1,000 with the highest rates occurring in the most densely populated regiona - Brazzaville, Kouilou, Pool, and Bouenza. For diarrheal diseases an extreme variation of rates (from 4 to 181 per 1,000) and their low absolute value implies this is the least accurately reported of the three, which makes interpretation difficult.

The Bureau of Statistics of the Epidemiological Service of the Grandes Endemies is responsible for collecting data from each of its 10 sectors. The system collects data on the number of cases and deaths of 36 communicable diseases and more specific data from epidemiologic investigations on trypanosomiasis, leprosy, tuberculosis, and onchocerciasis. The system uses a standardized report form that was

developed by OCEAC. The sources of reporting include the fixed headquarters of each sector and the mobile teams that make annual visits to all villages within their sectors. Patient visits and hospitalizations to other medical facilities are not reported to the Grandes Endemies.

Recently, the Grandes Endemies made a proposal to the Ministry of Health and Social Affairs to expand its current system by collecting data from the medical facilities within the sectors.

Table 9. Number of cases and deaths of certain diseases reported to the Grandes Endemies, PRC, 1981.

	1981	
	Cases	Deaths
Malaria	71,152	7
Diarrheal diseases	29,800	51
Measles	8,622	147
Whooping cough	1,388	5
Tuberculosis	1,214	24
Polio	16	1
Tetanus neonatal	0	0
Tetanus non-neonatal	132	38
Diphtheria	1	1

In anticipation of the need to evaluate the effectiveness of its program, the Vaccination Program established a sentinel surveillance system in Brazzaville (5 posts) and in Pointe-Noire (3 posts) to acquire more detailed information regarding vaccine-preventable diseases. The posts are visited weekly and the data collected include the number of cases and deaths due to measles, whooping cough, poliomyelitis, neonatal tetanus, and diphtheria in children under five years of age.

In 1982 the sentinel posts in Brazzaville reported 4,166 cases of measles with 135 deaths compared to 4,370 cases and 122 deaths in 1981 (Table 10).

Table 10. Number of reported cases and deaths of vaccine-preventable diseases from five sentinel posts, Brazzaville, 1980 - 1982.

	1980		1981		1982	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Measles	3,953	130	4,370	122	4,166	135
Whooping cough	265	11	126	0	161	0
Poliomyelitis	35	0	16	1	5	1
Diphtheria	1	1	0	0	0	0
Neonatal tetanus	12	10	9	6	--	--

From the age-specific data available from this surveillance system, the age distribution of measles cases is as follows:

0 - 8 Months	9 - 23 Months	24 Months and Older
13%	43%	44%

From the data reported from the three hospitals the case-fatality rate for measles ranged from 2.5% to 4.4%.

Conclusions: The two national surveillance systems provide information regarding the relative importance of the CCCD target diseases and their distribution by regions. Malaria is clearly the most frequently reported disease while measles is the most frequently reported cause of death.

Because the reporting in these systems is so incomplete, the data is not reliable enough to allow interpretations of fluctuations and does not allow breakdowns by age groups. The sentinel surveillance system provides more detailed epidemiologic information pertaining to PEV target diseases, but has not been operating long enough to measure program impact.

For more reliable health planning data, an effort should be made to improve the health information system. One national surveillance system would yield more comprehensive information. Furthermore, the personnel of the Grandes Endemies based in the field could monitor reporting from health facilities in order to improve completeness and reduce delays. For more precise information, specific surveys can be conducted.

7. EPIDEMIOLOGY OF CCCD TARGET DISEASES

In order to gather data on the target diseases as they affect children, records were reviewed at the General Hospital in Brazzaville and Sice Hospital in Pointe-Noire.

Table 11. Hospitalized pediatric cases and deaths at Sice Hospital, Pointe-Noire, July 1982 - January 1983.

Diagnosis	Cases	Deaths	Case fatality rate, percentage
Measles	1,522	98	6.4
Malaria	281	11	3.9
Diarrheal disease	660	58	8.8
Whooping cough	42	3	7.1
Tetanus	8	3	37.5
Kwashiorkor	326	88	27.0
Other	1,589	175	11.0
TOTAL	4.428	436	9.8

Measles, malaria, and diarrheal disease together account for 56% of all pediatric admissions and 38% of all deaths. Also, these three diseases can act alone or synergistically to precipitate kwashiorkor, which is a cause of 7% of hospitalizations and has a case-fatality rate of 27%.

Table 12. Hospitalized pediatric cases and deaths at the General Hospital, Brazzaville, 1981 - 1982[1].

Diagnosis	1981 Cases	1981 Deaths	1982 Cases	1982 Deaths	Case fatality rate during 1981 and 1982, percent
Measles	1,975	86	1,889	73	4.1
Diarrheal Diseases	987	69	1,134	65	6.3
Malaria	730	13	913	11	1.5
Whooping cough	126	4	47	0	2.3
Tetanus	123	52	83	22	40.0
Poliomyelitis	21	2	11	2	12.5
Other	1,443	152	4,661	170	5.3
TOTAL	5,404	378	8,738	343	5.1

Measles, malaria, and diarrheal diseases accounted for 49% of all pediatric admissions and 44% of all deaths during this two-year period.

Measles is the primary cause of hospital admission in both hospitals and the leading cause of death. Although less common, diarrheal disease has a higher case-fatality rate. Malaria, a common cause of admission, results in death less often than the other two diseases. Although tetanus is not defined as neonatal and non-neonatal, it was reported 5-10 times more frequently in Brazzaville than in Pointe-Noire. Both these record reviews establish the CCCD target diseases as major causes of childhood death and hospitalization in the PRC.

ORSTOM of Brazzaville, the French Office of Scientific and Technical Research Overseas, has conducted epidemiological studies on malaria. Malaria transmission is intense in the Congo and occurs throughout the year. Only in the plateau regions where a distinct dry season exists is transmission interrupted briefly. An estimated 3% of Anopheles mosquitoes are infected with Plasmodium. From entomologic studies, it can be estimated that one-half of the Congolese population are exposed to a bite by an infected mosquito once per day, while the rest of the population is exposed at a lesser frequency--between once per day and once per week. Anopheles gambiae is the vector which causes 96% of cases of malaria. From point prevalence studies 80% of children age 2-15 years and 40% of adults are infected.

[1] Records were missing for two months in 1981 and for two months in 1982.

Of those infected, 15% had gametocytes present and therefore were capable of infecting mosquitoes. From longitudinal studies, children are probably infected as much as 280 days during the year. While the prevalence is high, the number of parasites decreases with increasing age. Approximately 30% to 40% of fevers in children are caused by malaria, and a child may have as many as 7 or 8 malarial attacks per year. In spite of this high prevalence, mortality due to malaria seems to be quite low. Surveillance in Brazzaville for cases of cerebral malaria identified only 30 cases per year, and a retrospective study of cause-specific mortality that followed a birth cohort of 555 children identified no deaths that could be specifically attributed to malaria during their first five years of life.

8. CURRENT PROGRAM ACTIVITIES

8.1 Primary Health Care

The responsibility for primary health care in the PRC resides in the Direction of WHO Programs to the Congo, and an informal relationship is maintained among this Direction and the Directions of Preventive Medicine, Curative Medicine, and Maternal and Child Health. Pilot health zones have been established in Kinkala in the region of Pool in 1968 and in Owando in the Region of Cuvette in 1976. Currently, no detailed plan exists regarding the extension of the program.

In these pilot zones in addition to curative and preventive care delivered through the health facilities and Centers for Maternal and Child Health, activities include:

- nutritional surveillance of children 0-3 years;
- detecting and treating malnourished children;
- distribution of chloroquine as chemoprophylaxis for children under 5 years;
- vaccinations provided at fixed centers;
- training courses for village health workers, trainers of village health workers and nutritional educators;
- orientation of medical personnel to the activities of primary health care.

The health zone in Kinkala is composed of the city of Kinkala (7,000 persons) and two villages (300 persons each). Village health committees exist in each of the 8 city quarters and the two villages but do not really articulate their community's perceived health needs. The primary responsibility of the village health worker, who receives no compensation, is to distribute chloroquine each week to children under 5 years old. This weekly gathering provides a focus for health and nutritional education sessions given by the PHC team.

The conceived structure for PHC in a region is a chief of PHC assigned to the regional medical office, a supervisor of PHC at the district level, and a supervisor at the health facility level who is responsible for the village health workers in those villages served by his facility. Although the PHC team in the pilot zone of Kinkala has

trained personnel from the levels of supervisor to village health workers, installation of this framework has been delayed by an inadequate organizational focus for PHC, no budget for PHC at the regional level, and no transport for supervision.

8.2 Vaccination Program

Objectives from June 1981 to May 1982 were as follows:

- begin vaccination activities in 17 fixed centers in Brazzaville and 3 in Point-Noire;
- begin a sentinel surveillance system for vaccine-preventable diseases;
- train 40 persons (mid-level) for vaccination;
- provide vaccines and materiel;
- integrate vaccination activities into fixed centers;
- direct health education toward mothers by using different means of communication;
- evaluate vaccination coverage in Brazzaville annually;
- progressively integrate vaccination activities and the system of surveillance into medical facilities in the interior of the country;
- attain a vaccination coverage of 80% in Brazzaville and Pointe-Noire by June 1982, 70% in the interior by June 1985, and 80% in the entire country by 1986.

Activities: Until 1977 vaccinations were given by mobile teams of the Grandes Endemies using antigens that required only one dose (smallpox, yellow fever, BCG, measles). From 1977 to 1981 the mobile team in Brazzaville began vaccinating once per month in each of 18 fixed centers giving BCG, DPT, polio, measles. In March 1980 six nationals participated in a senior level EPI management course. A director of the immunization program was named in March 1981 followed by the assignment of a USAID/CDC technical consultant in June 1981. A mid-level training course with 45 participants was held in September, 1981. The cold chain was established, and three vaccination centers and five sentinel posts were opened in October 1981. After a second training course with 20 participants, the program expanded to Pointe-Noire and two pilot zones at Kinkala and Owando. By October 1982 the program operated in 19 centers in Brazzaville, 5 centers in Pointe-Noire, one center each in Kinkala and Owando, and in 3 centers in Loubombo. In regions not served by the vaccination program, the Grandes Endemies continues to vaccinate at their sector base using the six EPI antigens and throughout their sector using measles and BCG vaccines given by a mobile team.

The target groups include children 0-35 and pregnant women with a vaccination schedule as follows:

- BCG--as soon as possible after birth
- DPT and Polio--first dose beginning 3 months of age, second dose one month later, third dose one month later

- Measles--one dose beginning at 9 months of age
- Tetanus toxoid--two doses four weeks apart between the sixth and eighth month of pregnancy.

In 1982 the number of vaccinations in the PRC increased five fold over 1981.

Table 13. Number of vaccinations given by antigen and by year, PRC, 1981 - 1982.

Antigens	Number Administered 1981	Number Administered 1982
BCG	14,381	65,339
DTP 1 + Polio 1	)	14,510
DTP 2 + Polio 2	) 12,421	31,498
DTP 3 + Polio 3	)	27,421
Measles	7,834	42,124
Tetanus 1	)	53,645
Tetanus 2	) 17,135	31,641
Total	51,771	266,178

For the year 1982, 49% of the immunizations were given at fixed centers, 24% by Grandes Endemies mobile teams, 6% by private clinics, and 21% in the Pilot Rural Zones using fixed centers.

Vaccination coverage surveys were conducted in Brazzaville in January 1982 and 1983 (Table 14). The evaluation in January 1983 demonstrated an increase in coverage, especially in the third dose of DPT and Polio.

Table 14. Results of vaccination coverage survey of children 12-23 months of age in Brazaville, January 1982, January 1983.

Vaccine	N = 215 January, 1982 (215 children surveyed)	N = 213 January, 1983 (213 children surveyed)
BCG	92%	89%
DTP 1 + Polio 1	74%	80%
DTP 2 + Polio 2	69%	80%
DPT 3 + Polio 3	42%	75%
Measles	49%	54%
Percentage with vaccination card	84%	84%
Percentage completely vaccinated	32%	47%

In October 1982 an evaluation team summarized the progress and problems of the program as follows:

- the program has surpassed its goals and now provides access to vaccinations to an estimated 60% of the population;
- vaccination activities have been well integrated into the fixed centers which provide preventive care to mothers and children;
- the program has well-qualified staff and has established a reliable cold chain;
- training has been particularly effective.

Problems underlined by the evaluation team include:

- financial constraints in the planned expansion;
- insufficient epidemiological data and need for an improved surveillance system;
- vaccination cards are not uniform.

Work plan for 1983: Vaccination coverage evaluations are scheduled for Brazzaville and Pointe-Noire and Owanda. The program will be extended to fixed centers in the Cuvette Region and a feasibility study of future expansion into Niari Region is planned. A mid-level course will be conducted in Owanda and practical training sessions will be given to personnel at the fixed centers. Vaccination program personnel will participate in the Primary Health Care Seminars at Loubomo, Kinkala, and Ouesso. Prevalence surveys on the incidence of neonatal tetanus in a rural and an urban zone are planned.

8.3 Diarrheal Diseases Program

Objectives as listed in the Diarrheal Diseases Activity Report - 1982 are as follows:

- collect epidemiologic data regarding diarrheal diseases;
- supply oral rehydration salts to medical facilities;
- provide materiel and reagents for reference laboratories to determine the distribution of etiologic agents;
- identify a person responsible for diarrheal disease control at each medical facility in Brazzaville, Pointe-Noire, Owando and Loubomo, and train them in the strategy of oral rehydration;
- organize health education sessions for school students including medical school students;
- organize a national mid-level course;
- control and monitor the water source in Brazzaville.

Activities: Four sentinel posts were identified in Brazzaville and the cases of diarrhea in children less than 5 years of age were recorded by age group.

Table 15. Age distribution of 1,495 cases of diarrheal disease reported by four sentinel sites, Brazzaville, January - June 1982.

Age	Percentage of diarrhea cases
0 - 5 months	19%
6 - 11 months	25%
12 - 17 months	28%
18 - 23 months	18%
24 - 59 months	10%

WHO donated 3,600 packets of oral rehydration salts to the program, which were distributed to the four sentinel sites in Brazzaville and other target regions. A two-week course in diarrheal disease control was given to 30 persons from the 4 sentinel posts in Brazzaville in December 1981. A 4-day course was given to 30 medical personnel in Owando, 25 in Pointe-Noire, and 25 in Loubomo.

A one-hour health education lecture on oral rehydration was given to 5,400 sixth-grade students at 15 schools in Brazzaville. The program has monitored the quality of water from a spring in Brazzaville which they protected from contamination by constructing a cement enclosure and found it to be potable. However, it is estimated that less than 20% of the population in Brazzaville has access to potable water.

The program was not able to accomplish its other goals due to funding constraints. No evaluation of the program has been conducted.

Plan for 1983:

- evaluate diarrheal diseases in Brazzaville using cluster sampling with the participation of WHO;
- do epidemiologic investigations in Pointe-Noire, Loubomo, Owando, and Brazzaville with collaboration of WHO;
- treat diarrheal disease using ORS supplied by UNICEF;
- popularize the method of oral rehydration using radio and television messages, posters and visual aids;
- sensitize the medical personnel in regional medical facilities to the use of oral rehydration;
- organize conferences and debates on ORT for high school students and technical students in public health;
- control the quality of water in one section of Brazzaville with cooperation of the Service of Hygiene and Sanitation;
- conduct a national planning course and a mid-level course on diarrheal diseases with the cooperation of WHO;
- participate in the senior level course on diarrheal diseases;
- continue epidemiologic surveillance.

8.4 Malaria Program

The malaria program has not enumerated any specific objectives but lists the broad strategies that it will employ in its "Reactualisation du Programme National de Lutte contre le Paludisme, Mars 1983":

- chemoprophylaxis of children 0-3 years of age who attend the Centers for Maternal and Child Health, children 3-5 years old in schools and who present for consultation, and pregnant women beginning in their fifth month of pregnancy;
- treatment of all cases of fever to reduce mortality due to malaria;

- control of vector population;
- administrative measures to coordinate resources from multiple government sources and to increase local production of chloroquine by the National Pharmaceutical Laboratory.

Activities: Through the Centers for Maternal and Child Health (SMI) chloroquine was distributed as chemoprophylaxis to the following in 1982:

Year	Regions reporting	Children 0-3 yr.	Children 3-6 yr	Pregnant women from 5th month of pregnancy
1981	9	6,961	8,834	10,283
1982	5	13,463	4,648	1,822

Systematic detection of cases of malaria using thick smears as the means of diagnosis was conducted in the SMI's in 1981 and 1982. In 1981, 1,340 positive smears were found when 16,000 persons were examined; in 1982 1,087 of 9,000 persons examined were positive. No activities were directed against the vector due to lack of materiel and to budget constraints.

No evaluation of activities has been conducted, and no plan of activities exist for 1983.

8.5 Discussion

Among the four programs - Primary Health Care, Vaccination, Diarrheal Diseases and Malaria - the concept of primary health care is the key toward integrating the other activities. In order for the strategies to be successful in reducing mortality caused by diarrheal diseases and malaria, they will have to be implemented at the village level with community participation. The Primary Health Care Program in the PRC is in its infancy. Within the Ministry of Health and Social Affairs it is not clearly identified and is separated from the Directions that are most directly involved in its implementation - Centers for Maternal and Child Health and Preventive Medicine. Despite the priority given to primary health care, the program has not effectively enumerated its goals and short-term objectives, and has not extended its zones of coverage.

The vaccination program is the most developed program. In its 1.5 years of operation it has demonstrated an ability to establish objectives, to carry out its activities in order to reach those objectives, to evaluate the program's effectiveness, and to expand into new areas.

Progress of the Diarrheal Disease Program and Malaria Program has been retarded by a limited budget, failure to set specific program objectives, and adoption of too many strategies of intervention rather than employing the most cost-effective.

A CCCD program could integrate all three programs so that the strengths of the vaccination program could also be applied to the others. The CCCD program would reduce duplication of effort by using the infrastructure developed by the vaccination program to deliver oral rehydration salts and chloroquine to target groups. The time is propitious for a CCCD program in the PRC in order to maintain the momentum of the vaccination program and to build on recent efforts to control diarrheal disease and malaria. These health priorities are already recognized by the Ministry of Health and Social Affairs.

To make CCCD a successful program requires more emphasis on Primary Health Care with a coordinator who would work closely with CCCD, Curative Medicine, and Centers for Maternal and Child Health. The administrative division between curative and preventive health services needs to be bridged by primary health care.

9. PROPOSAL FOR CCCD PROGRAM

9.1 Administration

At the national level, EPI, malaria and diarrheal disease control functions are essentially the same. They consist of training, guidance, supervision, coordination and logistics. These functions, therefore, would be best combined under one CCCD direction, which in turn would be best administered under the Direction of Preventive Medecine.

The present heads of the three programs would continue to assume responsibility for the accomplishments of their specific program objectives, but they would be polyvalent in performing their functions at the regional, district and local levels. The only additional personnel needed to implement CCCD at the national level would be a program director and a national coordinator.

9.2 Training

All CCCD professional personnel (EPI, Malaria and Diarrheal Disease Control Program personnel) should receive classroom and practical training in all 3 components of CCCD. They in turn would be trainers of trainers who would eventually train health providers at all service oriented facilities.

9.3 Logistics

EPI-Congo is already making vaccination services available to approximately 60% of the target population. Anti-malarial drugs and ORS could be made available to the target population by employing the existing EPI logistics system.

9.4 Expansion

A regional CCCD program coordinator should be designated, trained and equipped at each of the 10 sectors of the Grandes Endemies (G.E.). The coordinator, under the direct supervision of the physician in charge of the G.E., would assume responsibility for implementation of CCCD program policies and procedures and for the achievement of CCCD objectives in his region. The coordinator needs a vehicle (supplied by CCCD) for supervision and logistical services. Fuel and other local CCCD costs should be included as a line item in the G.E. sector's annual budget. Per diem costs should be paid during year one through bilateral funds; thereafter, per diem cost should be paid through PRC funds.

9.5 Primary Health Care (PHC)

The regional CCCD program coordinators should serve as catalysts to initiate PHC activities at the village level. With help from the national CCCD and PHC program staffs, they should assist with the development and/or reinforcement and training of village health committees and village health workers.

9.6 Recurrent Costs

In order to offset recurrent costs for the purchase of vaccines, malaria drugs and ORS, a system of nominal fee-for-service should be considered, especially in preparation for purchases in 1986 when PHC is to be accessible nation-wide.

9.7 Objectives, CCCD, PRC

- Training:

  Four key, central-level CCCD program personnel and ten regional CCCD program coordinators to receive a minimum of 2 weeks training in CCCD planning and management during year one of the program (Regional Funding).

  CCCD orientation of physicians, emphasizing advantages of ORT and oral antimalarial drugs, to be given at annual physicians' conferences.

  Approximately 500 clinic nurses and/or midwives to attend 3-day CCCD workshop during four years of the program (100 during year-one).

  Two thousand village chiefs, traditional healers and/or village health workers to attend one day CCCD or PHC workshop during four years of the program (1000 before year-3).

- Health Information Systems:

  Conduct measles, polio and neonatal tetanus surveys during year-one to determine more accurate baseline information.

Develop and utilize a standard nationwide monthly disease report form during year-one.

Develop a comprehensive and timely system of reporting hospitalized cases and deaths of communicable diseases by age, vaccination status and time of onset of disease. Information on hospitalized cases and deaths is to be recorded separately from outpatient morbidity and mortality (before the end of year-two).

Provide feedback to health personnel through a health information bulleting to be circulated at least once every 3 months (before the end of year-two).

- PHC Services:

  Make vaccinations, ORT and antimalarial drugs accessible to 90% of the target population in the PRC by 1987.

  Reduce the use of intravenous solutions for rehydration purposes to less than 10% of the oral rehydration salts used (before year-four of the program).

  Reduce the use of injectable anti-malarial drugs to less than 10% of the oral anti-malarial drugs used (before year-four of the program).

- Morbidity and Mortality:

  Using baseline data from disease surveys done during year-one and retrospective information on hospitalized communicable diseases, the four-year objectives of the CCCD program are to reduce by 60%:

  - measles cases and deaths
  - malaria deaths in children under 5 years old
  - deaths due to diarrhea in children under 5 years old
  - neonatal tetanus cases and deaths
  - hospitalized cases and deaths due to pertussis
  - lameness due to polio in school enterers
  - infant mortality (124.9 per 1,000 live births, 1974)

- Evaluation:

  - Vaccination coverage assessment (to include all areas of operation) to be done annually. (Rural and urban areas can be assessed separately or together).

  - In-depth program evaluations to be conducted during year-2 and year-4 of the program.

9.8 Budget

CCCD program costs for 4 years is nearly 1.5 million dollars, excluding salaries. PRC will assume all local salary costs while technical assistance will be paid by regional or bilateral funds. UNICEF will provide funds toward the purchase of vaccines. PRC will pay fuel costs during year one of CCCD and bilateral funds will cover all other operating costs. During year two PRC will assume 25% of operating costs which will include fuel and per diem. During years 3 and 4 the PRC assumes 50% and 75% of operating costs respectively. A yearly CCCD line item budget should be included in the Division of Preventive Medicine Budget.

Table 16. Budget proposal, CCCD, PRC, 1984 - 1987

	1984	1985	1986	1987	TOTAL
Vaccine	$ 50,000	$ 58,000	$ 67,000	$ 78,000	$ 253,000
ORS packets	40,000	44,000*	48,000*	50,857*	182,857
Chloroquine	50,000	54,857	60,000*	64,857*	229,714
Vaccination cards	14,857	6,000	6,857	16,000*	33,714
Syringes/needles	12,000	14,286*	6,143*	20,571*	63,000
Refrigerators	24,857(50)	28,000(50)	30,857(50)	34,000(50)	117,714
Vaccine carriers	1,714(50)	1,714(50)	2,286(50)	2,286(50)	8,000
Vehicles and parts	60,000(4)	66,000(4)	36,000(2)	--	162,000
Motorbikes and parts	24,857(25)	20,000(20)	--	--	44,857
Fuel and oil	13,143*	20,000*	22,857*	24,857*	80,857
Equipment	10,000	2,000	--	--	12,000
Supplies	2,000	2,000*	2,286*	2,286*	8,572
Consultations	Regional Funding				
Health Ed/Printing	10,000	4,857	10,000	4,857	29,714
Travel	4,857	5,429*	5,714*	6,286*	22,286
Shipping	2,000	2,286*	2,571*	2,857*	9,714
Training	14,286	15,714	17,143	8,572	55,715
Contingencies	32,571	34,571	32,857	31,714	131,428
TOTAL	$356,857	$379,714	$360,571	$348,000	$1,445,142
Bilateral	317,714	262,286	165,286	78,000	823,286
UNICEF	26,000	30,000	30,000	36,000**	122,000
RPC	13,143	87,428	165,286	234,000	499,857

* Suggested items for PRC funding
** Estimation

9.9 Budget Explanation

- Vaccine and other commodity amounts and costs were determined for budget year-one by taking into consideration populations, target coverage, commodity loss and past utilization rates. An annual population increase of 3% and inflation rate of 10% were calculated for budget years 2, 3 and 4:

  - Measles vaccine 10¢ per dose X 75,000 susceptibles (country-wide coverage) = $7,500.

  - DTP vaccine 10¢ per dose X 3 doses X 45,000 children (60% of country during year one, increasing 10% each year thereafter) = $13,500.

  - Polio vaccine calculated the same as DTP = $13,500.

  - BCG vaccine 5¢ per dose X 100,000 doses = $5,000 (60% of country during year-one, increasing 10% each year thereafter). BCG vaccine loss around 50%.

  - Tetanus vaccine 10¢ per dose X 2 doses X 50,000 pregnant women = $10,000. (60% of country during year-one, increasing 10% each year thereafter).

  - (Total vaccine cost for year-one = $50,000.)

  - ORS packets 10¢ each X 100,000 children under age 5 years (30% coverage) X 2 episodes of diarrhea per year X 2 packets per episode = $40,000. (Coverage expected to double in 4 years while cost of ORS expected to decrease by 50%).

  - Chloroquine tablets (100mg) at 2¢ each X 200,000 children under age 5 (60% coverage) X 3 tablets (one treatment) X 3 episodes = $36,000; plus 50,000 pregnant women (60% coverage) X 6 tablets (one treatment) @ 2¢ each X 2 episodes = $12,000.

  - (Total chloroquine cost for year-one is $50,000.)

  - Vaccination cards at 15¢ each for 50% of newborns or 35,000 children = $5,000.

  - Syringes (15,000) at 50¢ and 90,000 needles @ 5¢ = $12,000.

  - Refrigerators (50) at $500 each to equip fifty additional PHC clinics = $25,000.

  - Vaccine carriers (50) and/or ice chests at $34 each for fifty additional PHC clinics = $1,700.

- Consultations for disease surveys, program evaluations and special projects are funded through the Regional Project.

- Vehicles (4) and parts at $15,000 each for supervision and logistics in four regions = $60,000.

- Motorbikes (25) and parts at $1,000 each for 25 clinics doing PHC outreach activities = $25,000.

- Fuel, 40 liters per week X 65¢ per liter X 52 weeks X 6 vehicles = $8,000; 5 liters per week X 65¢ per liter X 52 weeks X 25 motorbikes = $4,000; plus oil, $1,000. Total fuel and oil = $13,000.

- Equipment includes typewriter, $2,000; xerox machine, $3,000; mimeograph machine, $1,000, and small computer, $4,000. Total equipment cost, $10,000.

- Supplies, office and clinic (cotton, alcohol), $2,000.

- Health Education, including printing costs, to inform and motivate the public and health personnel amounts to $10,000.

- Travel for local personnel performing CCCD related activities in the PRC is provided by bilateral funds amounting to $4,857 during year one. PRC is expected to fund travel costs for local personnel during years 2, 3 and 4 of the program.

- Shipping of vaccines, ORS and malaria drugs is calculated at $2,000.

- Training, in-country, (local seminars and workshops) is paid through bilateral funds amounting to $14,286. Short-term training (2 weeks) in CCCD planning and management for key personnel is funded through the Regional Project.

- Contingency fees of approximately 10% or $32,286 of the CCCD budget proposal provides for fluctuation of money exchange rates, unforeseen increases in inflation and program needs.

10. CONCLUSION

The assessment team strongly endorses implementation of a CCCD program with bilateral funding in the People's Republic of the Congo for the following reasons:

- the PRC demonstrated their commitment to reducing childhood morbidity and mortality through their successful efforts in EPI;

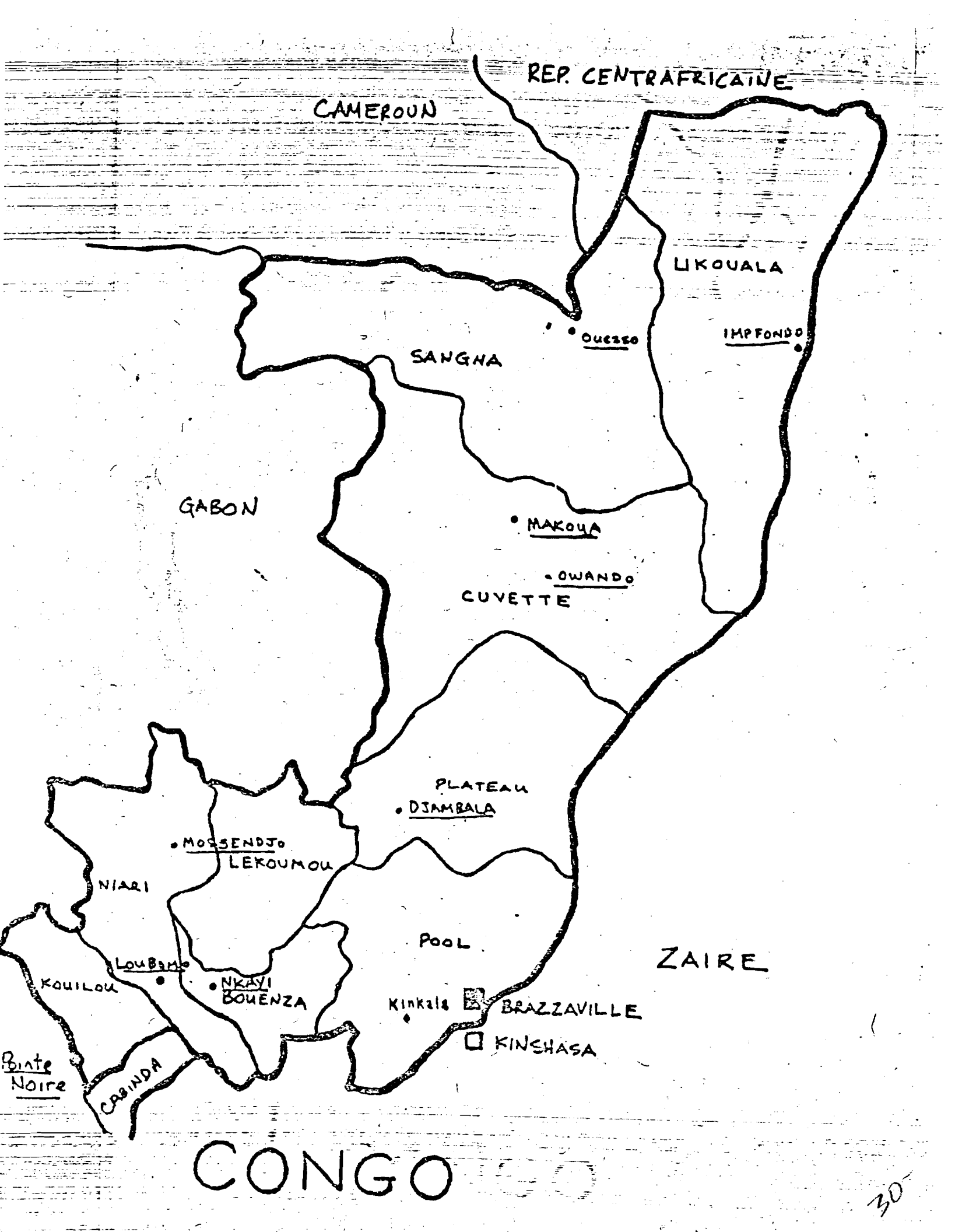
- CCCD would enable the PRC to achieve its goal of making vaccinations available to the target population throughout the nation by 1986;

- an assessment of the malaria and diarrheal disease control activities revealed the need for bilateral cooperation to strengthen these programs as was done in EPI;

- chance of success for a CCCD program is high because of government commitment, easy accessibility of the population, high literacy rate and enthusiasm demonstrated by government and people;

- cost effectiveness of CCCD Program should be noteworthy as 1.5 million dollar budget would be counterbalanced by savings gained from increasing use of oral rehydration solutions and oral malaria drugs and decreasing use of injectables;

- promotion of international relations as evidenced by EPI.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BOUENZA
Kinkala
BRAZZAVILLE
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CONGO

ANNEX 2

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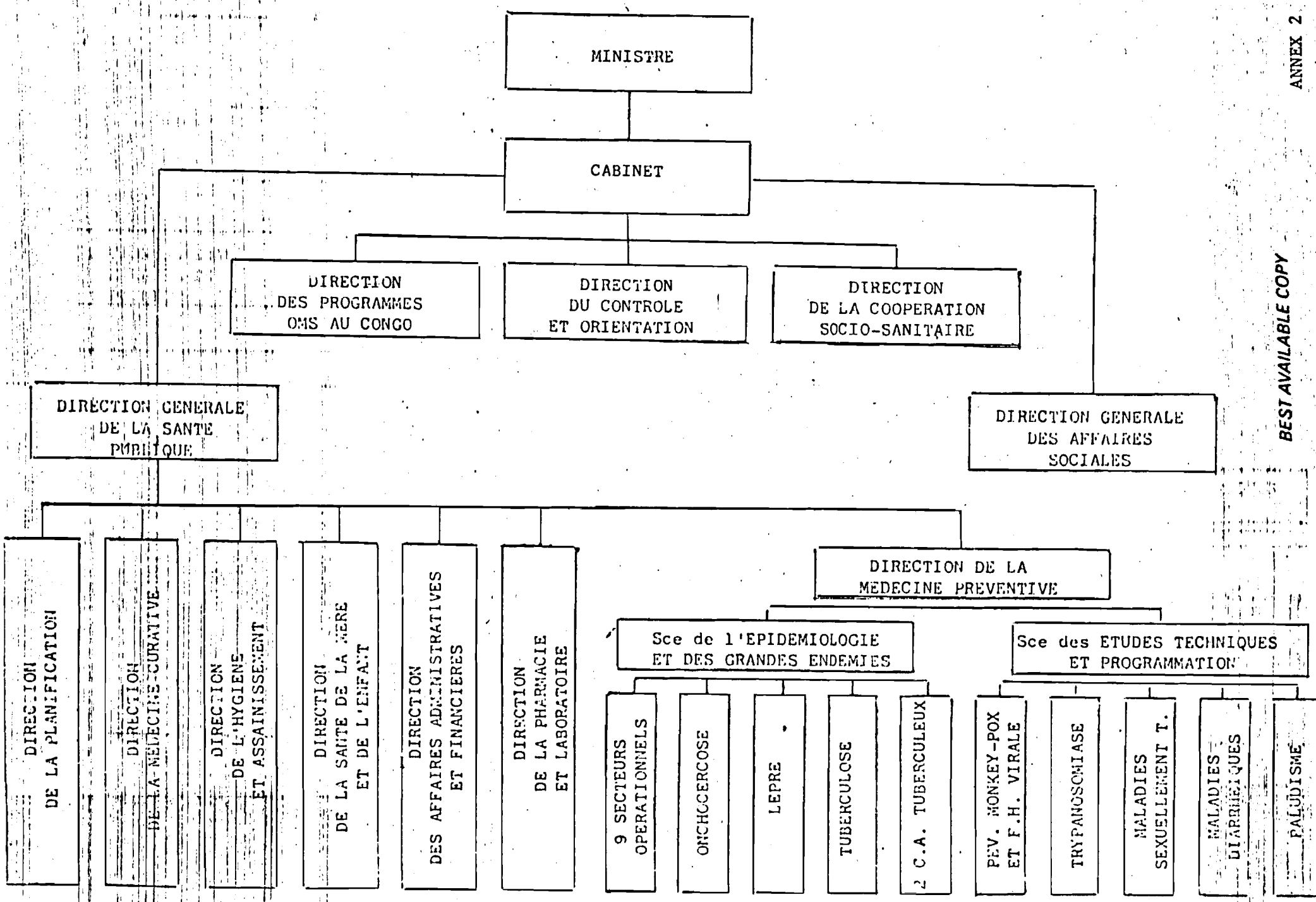
ORGANIGRAMME DU MINISTERE DE LA SANTE ET DES AFFAIRES SOCIALES - PRC



NUMBER OF HEALTH FACILITIES, BEDS AND PERSONNEL
BY REGION AND POPULATION - RPC

Régions	Population (1985)	Hôpitaux	Centres Hospi-liers	Centres Médi-caux	Infir-meries	Dispensai-re ( )=SMI	Lits d'hospi-talisation	Médecins et assimilés	Infir d'Etat	Infir. Bre-vetés et Agents Techniques	Sages mes.	Fem-mes	Mat-rones
1 Brazza (commune)	480	1	4	1	7	63 (10)	1875	109	185	458	96		82
2 Pool	230	-	1	3	34	24 (1)	911	4	19	48	5		8
3 Kouilou	320	1	1	4	4	44 (5)	1043	52	45	201	23		26
4 Niari	155	1	1	1	7	37 (1)	643	4	31	103	4		15
5 Lekoumou	70	-	-	2	6	18 (1)	285	2	21	25	2		17
6 Bouenza	170	-	1	3	6	32 (2)	547	4	18	45	6		18
7 Plateau	120	-	-	4	9	59 (1)	388	1	23	42	3		12
8 Cuvette	130	1	-	5	6	43 (1)	728	4	40	78	4		13
9 Sangha	45	-	-	2	7	14 (1)	170	1	13	24	1		6
10 Likouala	40	-	-	2	2	19 (0)	138	2	20	24	2		11
T O T A L	1760	4	8	27	88	353 (23)	6728	183	415	1048	146		208

Population/physician ratio 8,197 (1983)

Population/bed ratio =223 (1983)

ANNEX 3

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RESOURCES

SERVICE E'EPIDEMIOLOGIE ET GRANDES ENDEMIES RPC

	Physicians	Para Medical	Other Personnel	Vehicles	Boats	Refrige-rators	Ice Chests	Vaccine carriers
Headquarters Brazzaville	2	7	10	11	1	2	2	4
Secteur I Brazzaville	0	59	65	2	0	1	2	2
Secteur 2 Loubomo	1	30	28	2	0	1	1	2
Secteur 3 Makoua	1	14	16	1	1	1	1	2
Secteur 4 Impfondo	1	5	8	1	3	2	1	2
Secteur 5 Sibiti	1	16	22	1	0	1	1	2
Secteur 6 Ouesso	1	15	9	2	0	1	1	4
Secteur 7 Djambala	1	9	8	1	0	1	2	2
Secteur 8 Pointe-Noire	2	27	23	3	0	6	1	4
Secteur 9 Madingou	1	5	9	2	0	2	2	4
Secteur 10 Kinkala	0	1	2	2	0	2	1	2
	11	188	202	28	5	20	15	30

N.B. All secteurs received from 3 to 5 motorbikes, and bicycles each; but none are in working order.

ANNEX 4

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Persons contacted by the Assessment Team:

French Funds for Aid and Cooperation (FAC)

Mr. Langellier, Director, FAC
Dr. Chamorin, Chief of the French Medical Mission
Dr. Mannoni, Chief of the Epidemiologic Service and Grandes Endemies

Ministry of Health and Social Affairs (MOHSA)

Mr. Boussoukou-Boumba, Minister, MOHSA
Bzengi-Gayonne, Cabinet Director
Dr. Loembe, Director General of Public Health
Dr. Ondaye, Director of WHO Programs to Congo
Mr. Mondjo, Director of the Cooperation
Mr. Bicilla, Director of Curative Medicine
Dr. Makita, Director of Maternal and Child Health
Mr. Mbaloula, Director of Planning and Statistics
Dr. Niaty-Benze, Director of Preventive Medicine
Dr. Ngouomba, Chief of Malaria Program
Dr. Kouala, Chief of Diarrheal Disease Program
Dr. Talani, Chief of Vaccination Program
Dr. Philip Graitcer, Coordinator of Vaccination Program

American Embassy

Mr. Kenneth L. Brown, Ambassador
Ms. Arlene Render, Deputy Chief of Mission
Mr. David Burnett, Economics Officer

National Laboratory

Mr. Opa, Director of the National Public Health Laboratory

UNICEF

Mr. W. Standaert, Administrator for UNICEF Programs

WHO

Dr. Siwale, Associate Director, AFRO
Dr. Franklin, Director of Programs and Training, AFRO

Pharmaceutical Laboratory of the Congo (LAPCO)

Mr. P. Banzouzi, Director

French Office for Scientific and Technical Research Overseas (ORSTOM)

Dr. Frezil
Dr. J. F. Trappe

Ministry of Finance

Mr. Okouele, Assistant to the Director General

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Mr. A. Ollessongo, Director of Finance and Development

Ministry of Cooperation

Mr. Ombaka-Ekori, Secretary General

Pointe-Noire

Dr. Balongana, Regional Medical Officer
Dr. Joseph Sengha, Chief of Sector 8 of Grandes Endemies

Kinkala

Dr. Batanga, Regional Medical Director for Pool
Mr. Mouyokana, Chief of the Pilot Health Zone of Kinkala

Documents Reviewed by the Assessment Team

Five Year Plan, RPC, 1982 - 1985

National Budget - 1983

Evaluation of the Vaccination Program, November 1982

Annual Activities Report of the Vaccination Program 1982

Vaccination Program, February 1983

Report of Activities of the Vaccination Program, First Trimester 1983

Annual Synopsis of Activities in Preventive Medicine 1981 and 1982, Ministry of Health and Social Affairs

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Foreign Economic Trends and their Implications for the United States, Congo, January 1983

Epidemiologic Surveillance of Target Diseases of the Vaccination Program, December 1981

Situation of Diarrheal Disease Control, PRC

Report of the 1982 Annual Evaluation of the Coordination of WHO Programs to the Congo

Malaria Investigation by ORSTROM, 1981 - 1982, Direction of Preventive Medicine

Report of Activities of the Pilot Zone in Kinkala, Second Semester, 1982

Health Facilities Visited by Assessment Team

Pointe-Noire

- Hopital General
- Hopital Sice
- Hopital Tie-Tie
- Maternal and Child Health Center - Jane Vialle
- Sector Headquarters of the Grandes Endemies
- Village Dispensary in Kinda
- PHARMAPRO, National Pharmacy

Brazzaville

- Hopital General
- Hopital Makelekele
- Maternal and Child Health Center
  - Poto-Poto
  - Plateau de 15 ans

Kinkala

- Medical Center of Kinkala
- PHC Village

PROGRAMME DE LUTTE CONTRE LES MALADIES INFANTILES CONTAGIEUSES EN REPUBLIQUE POPULAIRE DU CONGO
RESUME DE L'ETUDE DE FAISABILITE
APRIL 1983

1. INTRODUCTION

La République Populaire du Congo (RPC), par l'intermédiaire de l'Ambassade Américaine à Brazzaville, a demandé à l'Agence Américaine pour le Développement (USAID) et aux Centres de Contrôle des Maladies (CDC Atlanta) d'aider son Ministère de la Santé et des Affaires Sociales à procéder à une évaluation préliminaire dans le pays (étude de faisabilité) avant de développer un programme de Lutte contre les Maladies Infantiles Contagieuses au Congo (CCCD-Combatting Childhood Communicable Diseases).

2. BUT DU CCCD

Le CCCD est un effort coopératif entre les pays Africains et les pays membres du CDA (Coopération pour le Développement en Afrique) en vue de réduire la mortalité et la morbidité infantiles en contrôlant:

- la rougeole, la diphtérie, le tétanos, la coqueluche, la poliomyélite et la tuberculose grâce à une vaccination des nourrissons effectuée à temps;

- le tétanos néo-natal par la vaccination des femmes enceintes;

- les maladies diarrhéiques par la réhydratation orale et par une hygiène et une pratique nutritionnelle meilleures;

- le paludisme par un traitement préventif (voie orale) des enfants ayant de la fièvre et par traitement préventif des femmes enceintes ayant de la fièvre et/ou la chimioprophylaxie.

3. METHODE D'EVALUATION

Avec la coopération des membres du Gouvernement de la République Populaire du Congo, du Fonds Français d'Aide et de Coopération (FAC), de l'UNICEF et du Coordinateur de l'OMS à Brazzaville, deux techniciens du CDC ont rencontré les autorités du Ministère de la Santé et des Affaires Sociales, du Ministère de la Coopération, du Ministère du Plan, du Ministère des Finances et les Representants de l'OMS, de l'Ambassade des Etats-Unis, de l'OCEAC et de l'ORSTOM, pour discuter de la politique, de l'ensemble des projets et des stratégies actuelles et futures en vue de contrôler les maladies infantiles contagieuses au Congo.

L'équipe d'évaluation a pris contact avec les niveaux centraux, régionaux et péripheriques du gouvernement à Brazzaville, Pointe-Noire, Hinda et Kinkala, dans le but d'étudier les services de santé et les documents de santé connexes à ces trois niveaux.

4. PORTEE DE L'EVALUATION

Du 11 au 29 avril 1983, l'équipe d'évalution a:

- examiné et analysé la politique, l'ensemble des projects et des stratégies de la République Populaire du Congo pour contrôler les maladies infantiles contagieuses;
- évalué la morbidité et la mortalité des maladies prioritaires;
- observé les activités en cours dans les programmes de contrôle des maladies infantiles;
- évalué l'efficacité des activités courantes dans le contrôle des maladies contagieuses de l'enfance;
- identifié les ressources actuellement disponibles au Congo pour démarrer un programme CCCD;
- déterminé les ressources supplémentaires nécessaires au développement d'un programme national CCCD;
- tracé un plan de travail pour intégrer les activités CCCD dans les services de santé existants;
- proposé un plan quadriennal pour une participation bilatérale par phases successives et degressives (coopération bilatérale prévue pour 4 ans).

5. RESULTATS DE L'EVALUATION

5.1 Morbidité et Mortalité

Les quatre causes de morbidité les plus signalées au Congo sont le paludisme, les infections des voies respiratoires supérieures, la rougeole et les maladies diarrhéiques. La rougeole est signalée comme étant la principale cause des décès. 50% des admissions en pédiatrie et 40% des décès dans les hôpitaux sont dûs à la rougeole, au paludisme et aux maladies diarrhéiques.

5.2 Stratégie, Politique et Plans Courants

La stratégie, la politique et les projets existants du Congo pour contrôler les maladies infantiles contagieuses sont mieux évalués en examinant les efforts qui ont été fournis par la République Populaire du Congo dans la vaccination et le contrôle des maladies diarrhéiques et le paludisme.

5.2.1 Le Programme Elargie de Vaccination (PEV)

PEV-CONGO a suivi un plan d'action, avec des objectifs spécifiques, au cours des 18 derniers mois. Un matériel et des fournitures suffisants, ainsi qu'un personnel bien formé, ont permis au programme de répondre à la plupart de ses objectifs et même de les surpasser. Selon un équipe internationale qui a fait une évaluation du PEV-CONGO, en noverbre 1982, plus de 60% de la population bénéficient des services du PEV. Les résultats d'une enquête sur la vaccination, menée en janvier 1983, ont été excellents à l'exception de la couverture vaccinale contre la rougeole, encore insuffisante.

BCG	DTCOQ-POLIO			ROUGELOE
	1ère	2ère	3ère	
89%	80%	80%	75%	54%

L'impact de ce programme sur les maladies concernées n'a pas encore été démontré, en raison du système national de surveillance des maladies qui n'est pas assez sensible pour détecter, en 18 mois, si des changements ont pu survenir dans la morbidité ou la mortalité.

Les activitiés de vaccination ont été integrées dans les services de Santé Maternelle et Infantile dans les secteurs opérationnels des Grandes Endémies et certaines formations sanitaires fixes. Il reste cependant l'intégration du PEV dans les Services des Soins de Santé Primaires (SSP) qui sont encore limités au Congo.

La coopération technique de l'USAID et de la République Populaire du Congo ayant permis au PEV d'atteindre et même de surpasser la plupart de ses objectifs, un programme CCCD permettrait à ce pays d'atteindre son dernier objectif: celui de vacciner tous les enfants au BCG, DTCOQ, contre la rougeole et la polio et toutes les femmes enceintes contre le tétanos. Et cela dans tout le pays.

5.2.2 Le Contrôle des Maladies Diarrhéiques (CMD)

Ce programme se trouve au stade du développement. Sept objectifs à court terme (1 an) figuraient dans le Rapport 1982 sur les Activités des Maladies Diarrhéiques. Cinq de ces objectifs ont été entièrement ou partiellement atteints:

- quatre postes sentinelles ont été identifiés à Brazzaville;
- 1495 cas de diarrhée ont été signalés à Brazzaville, chez les enfants de moins de cinq ans, avec le plus grand pourcentage de cas (53%) se produisant chez les nourrissons de 6 à 18 mois;
- un stage de 2 jours a été organisé pour 110 employés responsable du contrôle des maladies diarrhéiques à Brazzaville, Pointe-Noire, Owando et Loubomo;
- une session d'une heure d'éducation sanitaire a eu lieu dans 15 etablissements scolaires pour des élèves de Première.

Le programme des maladies diarrhéiques a planifié des activités pour 1983, mais le manque de fonds suffisants n'a pas permis à ce programme d'exécuter l'un de ses objectifs les plus importants: la thérapeutique par réhydratation orale. Environ 324.000.000 CFA ($925,714) sont depénsés chaque année pour les perfusions et, à l'exception de deux hôpitaux qui préparent leurs sels pour réhydratation orale (SRO), on dépense peu ou rien pour la réhydratation orale. La plupart des cas de deshydratation peuvent être rehydratés avec du SRO et les quelques cas qui exigent des perfusions peuvent être traités avec les SRO, une fois leur état stabilisé.

Un litre de SRO coûte 35 francs CFA (10 cents), alors qu'un litre de solution intraveineuse coûte 800 francs CFA ($2.29), et le matériel nécessaire à l'administration des solutions IV coûte 400 francs CFA.

Un programme CCCD permettrait une exécution à l'échelle nationale du programme de lutte contre les maladies diarrhéiques et de focaliser la stratégie effective des coûts.

5.2.3 Les Stratégies du Contrôle du Paludisme

Les stratéqies figurent dans la "Réactualisation du Programme de Lutte contre le Paludisme - Mars 1983". Les objectifs spécifiques ne sont pas donnés. L'une des quatre stratégies - traitement préventif des cas de fièvre - est prioritaire et consiste en une méthode destinée à réduire la mortalité dûe au paludisme, à un coût relativement bas. L'accent doit être mis toutefois sur la prise des médicaments contre le paludisme par voie orale.

Il s'avère que les médicaments contre le paludisme sont trop souvent administrés par injection; et ceci à tous les niveaux, du dispensaire à l'hôpital. En 1983, le coût des médicaments antipaludéens injectables s'est élevé à 84.840.000 frances CFA, soit $242,000 alors que celui des médicaments pris par voie orale s'est élevé à 43,305,000 francs CFA ($122.729). Le traitement moyen d'un cas de paludisme chez un sujet adulte coûte:

- 159 francs CFA (45 cents) avec les produits injectables;
- 70 francs CFA (20 cents) avec les comprimés.

Le CCCD supporterait le programme de lutte contre le paludisme en utilisant la stratégie du traitement des fièvres présumées être la malaria en rendant disponibles les médicaments antipaludéens dans les centres médicaux déjà approvisionnés par le PEV.

5.2.4 Soins de Santé Primaires (SSP)

Ce programme qui dispense des soins de santé élémentaires dans les villages, avec le concours des agents sanitaires formés dans les villages sous la supervision d'infirmiers/ières formés/ées, n'a pas été largement exécuté au Congo. Il y a deux zones pilotes SSP, Kinkala et Owando sous la direction des programmes de l'OMS au Congo. Deux autres zones pilotes sont encore dans la région du Niari, l'une avec l'assistance du CARE, l'autre avec l'assistance du GTZ (Allemagne).

Un programme CCCD devra compter sur un système SSP développé, car le succès de plusieurs de ces stratégies - traitement précoce des fièvres par la choloroquine et réhydratation orale pour les cas de diarrhée - exige un système de soins et d'éducation sanitaire bien établis dans les villages, avec la participation des villageois eux-mêmes, des comités villageois et comité de santé.

5.2.5 Systèmes d'Information Sanitaire

Deux systèmes d'information sanitaire nationaux existent au Congo. L'un fournit des rapports par le canal du Bureau Régional de la Santé à la Section des Statistiques et de la Planification du Ministère de la Santé. Le pourcentage des centres médicaux qui founisssent des rapports mensuels au bureau régional est inconnu au niveau central, il est estimé à moins de 20%. Le pourcentage des rapports régionaux reçus à la Section des Statistiques et de la Planification du Ministère de la Santé est de moins de 30%.

L'autre système rédige des rapports plus fréquents mais ne représente que la tranche de population desservie par le Service d'Epidémiologie et des Grandes Endémies.

Les deux systèmes d'information ont besoin d'être intégrés, placés sous une direction unique et ont également besoin d'utiliser un modèle de déclaration simple et uniforme, chaque mois.

6. PROPOSITION POUR UN PROGRAMME CCCD

Etant donné la priorité que le Ministère de la Santé et des Affaires Sociales accorde au paludisme, aux maladies diarrhéiques et aux vaccinations, comme l'ont prouvé les activités des programmes dans chacun de ces domaines, l'équipe d'évaluation recommande qu'un programme CCCD soit établi pour la République Populaire du Congo afin de maintenir l'élan donné à ces programmes et réduire la multiplicité en coordonnant ces services sous un programme unique.

It est recommandé que ce programme soit placé sous l'autorité de la Direction de la Médecine Préventive, Ministère de la Santé et des Affaires Sociales, puisque elle est responsable de toutes les Médecines Préventives.

Comme chaque région est concernée par le programme CCCD, il est recommandé qu'un technicien supérieur de santé publique soit désigné pour servir de coordonnateur CCCD dans chaque secteur des Grandes Endemies et que l'on mette à sa disposition un véhicule pour les besoins de logistique et de supervision. Mais it faut préciser à l'avance que le programme CCCD doit être étroitement lié aux Soins de Santé Primaires et aux Centres de Santé Maternelle et Infantile, puisque c'est essentiellement par leurs services que ce programme sera exécuté.

Concuremment avec le programme CCCD, nous recommandons que l'accent soit mis beaucoup sur les Soins de Santé Primaires en désignant un coordonnateur central pour tous les programmes SSP et en prévoyant un plan et un budget spécifique pour une population qui sera de plus en plus nombreuse à bénéficier du projet SSP.

Dans le but de maintenir le programme CCCD, une fois le financement terminé, le Gouvernement de la République Populaire du Congo doit prévoir un budget permettant la poursuite du programme à l'issue de 4 ans de coopération bilatérale. Ces dépenses pourraient être convertes par une participation, même forfaitaire, des populations.

Une estimation préliminaire du budget quadriennal s'élève à 505.800.000 francs CFA ($1.450,000). Au cours de la première année, la RPC doit prévoir la prise en charge de la rémunération des personnels congolais et la fourniture du carburant; au cours de la deuxième année 25% du budget de l'opération y compris le frais de déplacement qui devront faire l'objet d'une ligne budgétaire spéciale; au cours de la troisième année 50%; au cours de la quatrième année 75% et 100% à partir de la cinquième année.

Il serait souhaitable que le budget du programme CCCD correspondant à la contribution congolaise soit geré au niveau de la Direction de la Médecine Préventive.