

PD-ABM-852

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**EXTERNAL EVALUATION OF THE  
ACSI-CCCD PROJECT  
IN THE CENTRAL AFRICAN REPUBLIC**

Prepared for:  
AFR/TR/HPN  
Agency for International Development  
Washington, D.C. 20523

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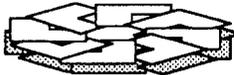
and

Birch & Davis International, Inc.  
Silver Spring, Md.

Under Contract: AFR-0421-C-00-9038-00

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August 14, 1990



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**ATLANTIC RESOURCES CORPORATION**



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## GLOSSARY

ACSI-CCCD:	African Child Survival Initiative-Combatting Childhood Communicable Disease
ADB:	African Development Bank
A.I.D.:	Agency for International Development
ALO:	A.I.D. Liaison Officer
BCG:	Bacillus-Imette-Guerin Vaccine
C.A.R.:	Central African Republic
CDC:	Centers for Disease Control
CDD:	Control of Diarrheal Diseases
CNUH:	Central National University Hospital
DG:	Director General
DMCH/FP:	Directorate of Maternal and Child Health and Family Planning (in French: DSMI/PF: Direction de Sante Maternale et Infantile et Planning Familial)
DMPGE:	Directorate of Preventive Medicine and Grandes Endemies
DPT:	Diphtheria-Pertussis-Tetanus Vaccine
DSAF:	Directorate of Administrative and Financial Services
EPI:	Expanded Program of Immunization
FNEC:	Federation Nationale des Eleveurs Centrafricains
GOCAR:	Government of the Central African Republic
HIS:	Health Information System
IM:	Intramuscularly
IMF:	International Monetary Fund
KAP:	Knowledge, Attitudes and Practices
LOP:	Life of Project
MCR:	Medical Chiefs of Region
MOH:	Ministry of Health
OPV:	Oral Poliovirus Vaccine
OR:	Operations Research
ORS:	Oral Rehydration Salts
ORT:	Oral Rehydration Therapy
PASA:	Participating Agency Service Agreement
PROAG:	Project Grant Agreement
S&T/H:	Office of Health, Bureau for Science & Technology, A.I.D.
SOCAGI:	Private commercial enterprise with health-related facilities
TO:	Technical Officer
TT:	Tetanus Toxoid Vaccine
UNICEF:	United Nations Children's Fund
USAID:	United States Agency for International Development
USG:	United States Government
WHO:	World Health Organization

# EXTERNAL EVALUATION OF THE ACSI-CCCD PROJECT THE CENTRAL AFRICAN REPUBLIC

## EXECUTIVE SUMMARY

The Health, Population, and Nutrition Division of the Office of Technical Resources, Bureau for Africa initiated the report entitled External Evaluation of the Africa Child Survival Initiative-Combating Childhood Communicable Disease (ACSI-CCCD) Project in the Central African Republic, August, 1990.

The goal of the ACSI-CCCD project is to improve the health status of children under five years of age in selected African countries. The project in the Central African Republic (C.A.R.) began in 1984 and has as its purpose reducing the morbidity and mortality caused by communicable diseases, the mortality caused by dehydration, and the mortality among children under five caused by malaria. The reduction of infant and child mortality--or, conversely, improvements in child survival--is a worldwide priority of the Agency for International Development (A.I.D.).

The project in C.A.R. includes children under five years old and women of reproductive age, as a sub-group of a total population of almost three million people. It is active in all five Health Regions, including 16 prefectures, and 52 sub-prefectures, at a total of 175 sites, encompassing regional and prefectural hospitals, health centers, and sub-centers. Project activities strengthen and support the Ministry of Public Health and Social Affairs in its efforts to immunize children against the common communicable diseases of childhood, treat dehydrating diarrheas with oral rehydration therapy, treat malaria in children and prevent malaria among pregnant women. The project is implemented through a Participating Agency Service Agreement with the Centers for Disease Control. Technical assistance is provided for support strategies in health education, training, health information systems (HIS) and operations research (OR), as well as health financing and improved management practices. This assistance complements additional assistance in the area of child survival provided by UNICEF, and other donors.

This second external evaluation was undertaken as part of the routine management of the overall project. The methodology employed was to deploy a team of specialists for a period of about three weeks in C.A.R. During this period, team members reviewed documentation, interviewed key informants, observed activities at project sites, and conducted small non-random surveys. Team members were selected because of their expertise in management, medical epidemiology, information systems, health care financing, health education, and training.

The body of the report consists of an introduction, three sections on the interventions, (immunizations, diarrheal disease management, and malaria control), and subsequent sections on the support strategies of training, health education, health information systems, operations research, program management, and health care financing. There is a final section on program sustainability. In each section are subsections which discuss the issues, draw conclusions and make recommendations. At the end of the report are Annexes that provide support to the report.

The team found that considerable progress has been made in the Expanded Program of Immunization (EPI). According to a 1985 survey approximately 20 percent of children in C.A.R. were fully immunized; in 1989 the figure was 47 percent, including 80 percent vaccinated for measles. The 1990 vaccination coverage survey data is due to be issued after

the evaluation team left C.A.R. The cold chain has been implemented in all regions, with 75 percent of health facilities providing vaccinations. Increase in vaccination coverage is already showing an impact on target diseases. Peripheral service delivery has improved tremendously since the 1986 evaluation, most of the requirements are now met, especially those concerning sterilization of needles and syringes. However, a number of shortcomings in cold chain management remain. ✓ ?

The wide use of oral rehydration therapy (ORT) is a testimony to the excellent training provided. Recent OR on cereal based ORT may lead to the promotion of home fluids which seem relevant to the sustainability of the program and the self sufficiency of populations living in remote areas. An appropriate national protocol will be agreed upon as soon as the results of the study have been analyzed.

The malaria control program is in the process of being restructured. A national protocol has been developed on increasing the Chloroquine dosage to 25 mg per kilo of body weight over five days, and some progress has been made in the health workers' awareness of presumptive treatment and prophylaxis. Pending training immediately followed by close supervision, steps should be taken to prevent the rapid increase of Chloroquine resistance which has had, and will continue to have, a dramatic impact on C.A.R.'s public health status and costs. Consideration should be given to include the nurse/birthing attendants in the network of health workers trained in malaria control activities.

There has been little OR since the beginning of the program but several studies were recently performed successfully and others are planned for the coming months.

The greatest area of progress and accomplishment has been in training health personnel and community mobilizers. The training methodology used has balanced and integrated management, medical technical, and supervisory requirements in ways that are mutually reinforcing. In order to maintain training impact in the field, the Directorate of Preventive Medicine should consider decentralizing the training activities down to the regional level, and implementing a coordinated supervision strategy to strengthen service delivery and management.

The health education program, which began with the EPI, has mobilized and reinforced both institutional and public support through the development of a National Social Mobilization plan adopted and implemented in 1989. Since then, consistent improvements have been made in the EPI which are being carried over to the diarrheal disease and malaria control programs.

In order to maintain the benefits from the health education effort, it is recommended that the health education unit be strengthened by two or three additional educators (by reassigning existing ministry staff), and that the head of the unit receive long-term training in health education. The position of the third-year Peace Corps Volunteer should be maintained, as well as short term technical assistance on specific needs. In addition, the impact of the social mobilization effort on EPI coverage should be assessed, as well as its influence on mothers' behavior for treating diarrheal diseases and malaria.

The program management at the national level (after an initial three year period of delays) recently has been outstanding, moving the project along through a strategy of implementing the interventions one at a time so as to concentrate the project's resources, and not to over-tax the absorptive capacity of local institutions. The project is well integrated into the Ministry of Health and Social Affairs' Directorate of Preventive Medicine and Endemic Diseases (DMPGE), and in the field at the level of service delivery in the regions and the periphery. The project's support systems, however, remain largely autonomous and superior to those of

the Ministry, especially in the areas of health information, cold chain and motor pool management, and distribution of supplies and pharmaceuticals.

These support systems are still in a process of evolution, and, while they function at a more efficient and effective level than their equivalents elsewhere in the Ministry's directorates, they remain incomplete and not fully adequate. The good start in developing cold chain support, and monitoring and controlling the use of vehicles, fuels, and repairs needs to be further elaborated upon. Special attention should be paid to overcoming the bottle-necks that seem to occur routinely at the level of the regional base. In this line, consideration should be given, in any additional funding or follow-on project design, to using OR to seek solutions to management problems.

Due to the strong and consistent support of the current A.I.D. Liaison Officer (ALO), and his predecessor, the project made good progress in the area of health care financing, especially during the period mid-1988 to mid-1989. From 1985 to 1987, several non-random surveys and household studies were conducted to determine the population's willingness to pay for health products and services, and the parameters which may affect their attitudes. These studies cultivated an interest in exploring health care financing issues among GOCAR decision makers. In mid-1989, a national policy workshop was held for senior legislative and executive branch decision makers. This resulted in a national law being passed in early 1990, which will allow government facilities to charge for products and services. This has come to be referred to as "popular participation" in health financing.

Since mid-1989, the ALO has continued to work closely with the GOCAR in developing technical assistance and support in this area, outside of the aegis of the ACSI-CCCD project. Therefore, no specific recommendations are proposed because the ALO is planning to fund a three year health care financing and management advisor to the Director General of Public Health through a buy-in to the Office of Health, Bureau for Science & Technology, A.I.D. (S&T/H) Global Health Care Financing project, independent of the ACSI-CCCD project.

Attention should be paid in both the areas of program management and health care financing to the fact that several parallel donor interventions are underway that could impact upon both ACSI-CCCD and long-term health financing and management technical assistance efforts by A.I.D. The ALO should continue efforts to explore opportunities for donor coordination and cooperation, especially with the World Health Organization (WHO) and the African Development Bank (ADB). Attention needs to be paid and efforts made to counter an expected decline in UNICEF funding which will have adverse effects on child survival activities.

WHO is planning assistance in re-structuring and consolidating the planning and budgeting process in the public health sector, as well as strengthening a primary health care system using village level resources. WHO is also considering assistance in improving the management and regulatory functions in the area of pharmaceutical distribution. The ADB is funding assistance in the improvement of management in the Ministry of Health, including computerization of the Division of Administrative and Financial Services, and a study of the pharmaceutical sector.

Overall the Evaluation Team was extraordinarily impressed with the quality of the project management over the past three years, and notes obvious and impressive improvements in the vaccination program, which are gradually extending into diarrheal disease control and malaria control in the field, resulting in increased expectations at all levels. There should be no doubt of the value of extending and expanding the technical assistance and other resources, which have been put to such good use so far.

## I. INTRODUCTION

### A. BACKGROUND OF THE PROJECT

The African Child Survival Initiative--Combatting Childhood Communicable Diseases (ACSI-CCCD) project was initiated in 1981. Its purpose is to strengthen the capability of selected African nations to prevent the major communicable diseases of childhood preventable by immunization, treat dehydrating diarrhea with oral rehydration therapy, treat malaria in children, and prevent malaria in pregnant women. The project itself has as its goal for the region the overall reduction of mortality among children under five years of age by 25 percent by 1991; this is also the specific goal for the Central African Republic (C.A.R.). The three disease interventions are supported by strategies in health education, training, operations research and health information systems. Attention is also placed on health financing and improved management practices.

The project is implemented through a Participating Agency Service Agreement (PASA) with the Centers for Disease Control (CDC) of the U.S. Department of Health and Human Services. CDC provides a resident technical officer and short-term technical assistance to each of the countries of the project.

In the C.A.R., prior to the project, morbidity and mortality among children under five years were very high. Malaria, diarrheal diseases, malnutrition, respiratory diseases and measles were among the major causes.

In 1983, the C.A.R. requested an assessment of the situation by the U.S. Agency for International Development (A.I.D.), as part of a preliminary step toward elaboration of a program for combatting childhood communicable diseases. The Project Grant Agreement (PROAG) was signed May 25, 1984 between the Government of the C.A.R. (GOCAR) and the U.S. Government (USG). A four year project was agreed upon with a budget of US \$691,000 from the USG and \$217,065 from the GOCAR.

The health ministry in C.A.R. is decentralized to the regional level (five regions in all) which are headed by MCRs - Medical Chiefs of Region. Ideally, the central level would establish policy, monitor progress and oversee quality, leaving routine implementation to the region. In actuality, though the MCRs operate under the authority of a Director General (DG) at the center, they in effect have considerable autonomy generally because the DG lacks the staff and resources to closely monitor and supervise operations at the region. The absence of close control and direction from the center is evident not just at the region but at lower levels in the system as well, and it contributes to some of the health system problems observed during the evaluation.

Several levels exist below the region: the prefecture, the health center, the sub-center and the health post; these are known as the periphery. At the region and prefectural level are hospitals with a variety of trained medical and health personnel including different types of doctors. At the prefecture level, in addition to physicians, are found three levels of nurses, those senior and licensed as well as those whose training is more limited. These nurses are also found at the health center level which are poly-clinic, multi-building operations. Lower level nurses are found at the sub-centers with the lowest level technicians at the health posts.

## **1. Summary of the Project's Objectives**

The project's objective is to reduce morbidity and mortality among children under five years of age, caused by the target diseases of the Expanded Program of Immunization (EPI), malaria, and diarrheal diseases, through the extension and improvement of the immunization and oral rehydration therapy (ORT) programs of the GOCAR, in addition to the treatment of malarial fever where possible. Specific mortality objectives assigned to the project are:

- to reduce by 40 percent the mortality caused by measles,
- to reduce by 35 percent the mortality caused by neonatal tetanus,
- to reduce by 25 percent the mortality caused by whooping cough,
- to reduce by 30 percent the mortality caused by diarrheal diseases,
- to reduce by 20 percent the mortality caused by malaria.

The original EPI objectives were to increase the vaccination coverage throughout the country:

- by 55 percent for BCG,
- by 45 percent for measles,
- by 40 percent for DPT and poliomyelitis,
- by 45 percent for anti-tetanus vaccinations of pregnant women.

For diarrheal diseases, the objective was to increase by at least 70 percent the number of established health facilities providing oral rehydration.

For malaria control, the objective was to increase by at least 55 percent the proportion of people with access to Chloroquine.

## **2. Project Evolution**

The following are some of the major events marking the project implementation:

1. May 1985: Informal internal evaluation after one year of activity. The recommendations from this evaluation led to: (a) the appointment of a full time Technical Officer (TO) in 1986, based in Bangui (at the Ministry of Health), and (b) the extension of the project for one year without additional financing, owing to the delay in start-up.
2. October 19 to November 7, 1986: First external evaluation, resulting in: the second project extension (to 1990), with a budget adjustment detailing contributions from both the USG and the GOCAR.

3. October 19-24, 1987: Review of ACSI-CCCD Project in C.A.R. which helped assess the project's progress toward implementing the recommendations of the 1986 External Evaluation, and reviewed the project's plans for its fourth year. It was the overall conclusion that little to no progress was made in implementing the recommendations, and that the newly appointed TO and National Coordinator had programmed a heavy catch up schedule for the following year.<sup>1</sup>
4. August 5, 1988: Amendment No. 1, setting project end date in September, 1991. Additional financing of US \$ 359,000 is provided to support a malaria program, and to develop a computerized health information unit.<sup>2</sup>
5. July 1989: Amendment No. 2: Using baseline data more realistic estimates were used to re-establish the project's objectives as follows:

Total immunization coverage:	75 percent
DPT & Polio:	75 percent
Tetanus:	60 percent
Measles:	75 percent
BCG:	80 percent

6. Taken from documents supplied to the team, the project's budget has evolved as follows:

**Table 1: Evolution of the project's total budget (USD)<sup>3</sup>**

Origin & Year	USAID	C.A.R.
1984	691,000	217,065
1986	691,000	217,065
1988	1,050,000	217,065
1990	1,609,100	286,813

- 1 At this time the decision was also taken to concentrate on one intervention at a time; earlier efforts to move forward with all interventions had yielded little progress. EPI was selected as the first intervention to pursue because it was believed to effect child mortality most directly.
- 2 It was also in 1988 the UNICEF and USAID began to adopt a joint strategy on child survival inputs including seeking to integrate their initiatives with the work of the MOH. As a result, the efforts of the two agencies have become important complements to each other.
- 3 These figures represent LOP totals at the time.

As a result of this evolution, all components (local expenditures or equipment expenditures) have cumulatively increased. In connection with the PROAG, the financing plan contained in the second amendment indicates that two new categories appeared: radios and administration. These were counter balanced by reallocations away from oral rehydration salts (ORS) (from \$155,000 to \$126,000) and cold chain equipment (from \$86,000 to \$53,000) reflecting additional provision of both of these items from UNICEF. Funds for Health Education increased slightly (\$500).

The most notable results of the first six project years have been the rapid design and implementation over the past two and a half years of both EPI service delivery and effective logistical support services, the achievement of a national vaccine coverage rate of 47 percent (1989), the installation of a computerized health information unit, and the development and passage of new GOCAR legislation authorizing participative cost recovery activities in public sector health care. The remainder of the project focuses on extending the nearly completed implementation of the ORT and malaria control interventions nation wide.

## **B. PURPOSE AND METHODOLOGY OF THE EVALUATION**

The external evaluation of the ACSI-CCCD project in the C.A.R. was carried out during the period 1-23 June, 1990. The objective as stated in the scope of work for the evaluation (see Annex I) was: to gauge the progress made toward the objectives of the original 1984 PROAG and as amended in 1988 and 1989; estimate the impact of the ACSI-CCCD interventions and their support strategies; highlight specific successes, weaknesses and remaining constraints; make recommendations for improvements; and estimate the potential for continuing the interventions by C.A.R. institutions, absent significant U.S. technical support. The evaluation was undertaken by a team consisting of:

- John Raleigh, Management Specialist and Team Leader,
- Aissatou Lo, Health Education/Training Specialist,
- Carole Peignot, M.D., Medical Epidemiologist,
- Eloi Andara, Economist and Project Analyst.

The first three team members named above participated in a three day team planning meeting at A.I.D./Washington, where they received background information and reviewed project documents. They then went to the C.A.R., where Mr. Andara joined the team. In C.A.R., the team was assisted in the evaluation effort by Dr. Jean-Baptiste ROUNGOU, Coordinator of the ACSI-CCCD Project and Director of Preventive Medicine, and by Mr. Joseph NAIMOLI, resident CDC /TO for the project. Mr. Stephen BRUNDAGE, A.I.D. Liaison Officer (ALO) at the U.S. Embassy/Bangui provided valuable support during the evaluation. Mr. Philippe MAKENDEBOU, A.I.D. Program Manager Assistant at the U.S. Embassy accompanied the team on field visits outside Bangui.

In C.A.R., the team reviewed additional project documents and interviewed project and other key personnel of the Ministry of Public Health and Social Affairs (hereafter referred to as MOH). Two separate one-day field trips, one three-day field trip, and one four-day field trip, were made outside of the city of Bangui during the first and second weeks of the team's in-country stay in order to: 1) observe the ACSI-CCCD-related work and interview personnel at health facilities; 2) observe the management of pharmaceutical distribution, the support systems for the cold chain, motor vehicles, and health information; and 3) observe the effect of project activities at the regional and peripheral levels.

A list of relevant documents reviewed is presented in Annex II. The principal contacts made by the team are listed in Annex III.

## **C. ORGANIZATION OF THE REPORT**

The remainder of this report is organized into eleven sections. The first three sections address the status of the three ACSI-CCCD interventions: EPI, Combatting Diarrheal Diseases, and Malaria Control. The next five sections address the support strategies: Training, Health Education, Operations Research, Program Management, and Health Care Financing and Pharmaceutical Distribution. A final section addresses issues of Sustainability. Within each section are subsections divided by (A) Discussion, (B) Conclusions and (C) Recommendations. In some sub-sections there are further sub-categories as and where appropriate.

The annexes contain supplementary materials to support the text of the report.

## II. EXPANDED PROGRAM OF IMMUNIZATION (EPI)

### A. DISCUSSION:

In the C.A.R. the ACSI-CCCD project has adopted a long-term strategy of phasing in technical interventions. EPI was chosen as the first intervention to implement so it was the one farthest along in meeting project goals. This section will discuss EPI efforts and activities with respect to the following:

- National EPI policy,
- Program strategies and objectives,
- Staffing,
- Logistics (including cold chain, vaccines etc.).

#### 1. National EPI Policy

This policy is comprised of three elements: injection materials use, vaccination schedule and the target population. A national policy on sterilization of injection material was adopted in 1988 which established "one sterile syringe and needle per child" in the C.A.R.

Also in 1988, the national vaccination schedule was modified along the following lines:

at birth	BCG/OPV 0	at 9 months	measles
at 6 weeks	DPT 1 /OPV 1	at 12 months	yellow fever
at 10 weeks	DPT 2 /OPV 2	at 18 months	DPT booster
at 14 weeks	DPT 3 /OPV 3		
TT1	earliest contact in pregnancy		
TT2	4 weeks later		

The target population was identified as (1) children under three years with special emphasis on infants and (2) women of child bearing age (15-44). About 140,000 children are in this target population and 600,000 women.

## 2. Strategy and Objectives

The overall strategy adopted for the EPI has been to provide as much coverage geographically as possible. Thus EPI coverage, previously limited to the eight most populated prefectures was extended to all 16 prefectures in 1989. Currently 175 health facilities, including all 16 in-patient facilities, are immunizing according to the 1989 DMPGE listing; and a further 57 new health facilities (mostly health posts) should be operational within the year.<sup>4</sup>

Beginning in 1988 with 15 mobile teams, there are currently 21 teams covering the eight most densely populated prefectures. Staff, paid by UNICEF, visit each prefecture bi-monthly using Toyota 4WD vehicles.<sup>5</sup> In addition, EPI outreach services have been carried to 123 remote locations through the use of 43 motorcycles which operate in a five to 20 kilometer radius of a health facility and eighty bicycles provide transportation within five to seven kilometers of a health facility. UNICEF has also paid for these motorcycles and bicycles.

A final component of the national strategy is the holding of national immunization weeks; three were held in 1988.<sup>6</sup> Also, to promote community interest and participation in EPI activities, a program of training social mobilizers from the community has been established (see Training below).

One of the key objectives of the EPI program is the carrying out of coverage surveys to measure program impact, among other issues. The 1990 nationwide coverage survey shows an impressive increase over earlier surveys in 1989 and 1985 (see table and charts below). Even so, the drop out rate remains important in rural areas, for instance, 39 percent in the case of DPT3. The OPV birth dose remains very low and much lower than BCG in rural areas (15 percent compared to 90.1 percent for BCG.) Even in Bangui, OPV coverage is relatively low (51.4 percent), indicating that this recent policy has not yet become routinely followed.

Further results of the 1990 survey<sup>7</sup> show vaccine shortages reflected in the slight differences between DPT and OPV. Also, nationwide measles coverage is increasing except for Bangui. If this trend is not reversed, outbreaks may appear again. Finally, TT coverage (2 injections) is estimated nationwide at 40 percent if documented vaccinations only are counted, and at 60 percent if mothers' declarations are included. However, the estimate for rural areas is still thought to be too low, between 25 and 46 percent, and a drop out rate between 20 and 30 percent.

- 
- 4 Immunizations were to begin at all 175 health facilities in 1989, but at some in Region 3, immunizations have not yet started for different reasons (lack of personnel or supplies).
  - 5 Shortages of gas and/or oil have hindered the work of mobile teams in some regions. These shortages stem from management constraints in the motor pool rather than lack of funds.
  - 6 None were held in 1989 because funds budgeted by UNICEF for this purpose were exhausted.
  - 7 Another survey is planned at the end of the year.

# VACCINATION COVERAGE

Table 2

	1985		1989		1990	
	BGUI	RURAL	BGUI	RURAL	BGUI	RURAL
BCG	92	45.3	84		98.1	90.1
OPV 0	/	/	/		51.4	15
DPT 1	64	29.2	68		96.2	80.3
DPT 3	56	16.5	42		(-17%) 86.2	(-39%) 48.4
Measles	60 *	23.6	55		79.5	57.7
Yellow Fever	/	/	/		54.3	42.7
Fully Immunised (-YF-OPV 0)	37	14.2			71.4	38.5
2TT					62.4/83.1	25/45.8

\* After measles campaign

Figure 1

### VACCINATION COVERAGE BY LOCALITY CENTRAL AFRICAN REPUBLIC, 1990

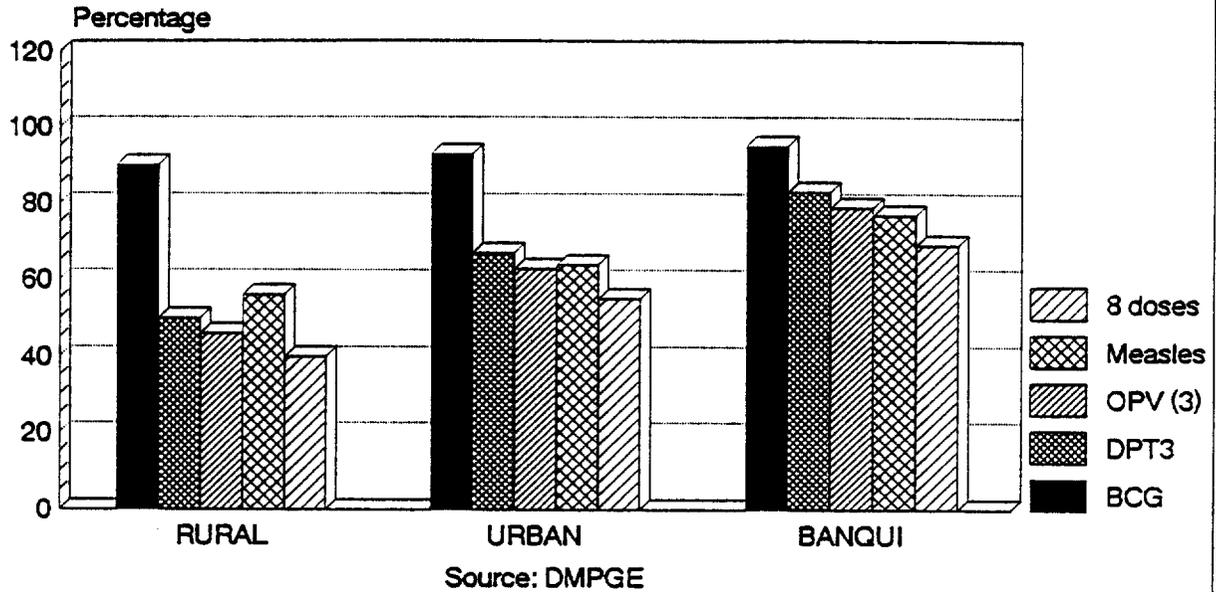
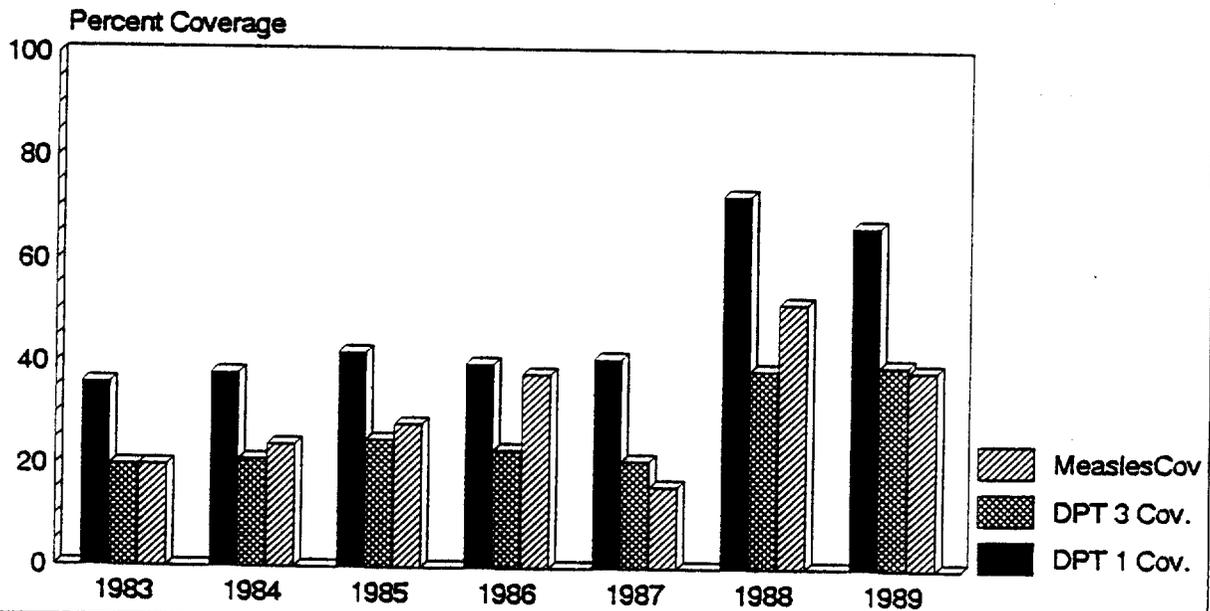


Figure 2

### DPT1, DPT3, and Measles Vaccine Coverage Central African Republic, 1983-1989



### 3. Staffing

A significant reason for the recent success of EPI is the program's key personnel. In 1988, the program gained needed leadership with the nomination of a national EPI director. Other important staff include two technicians, working with the UNICEF advisor, who are in charge of cold chain related activities and the central vaccine bank. The program also has seven cold chain specialists (two at central level plus one per region) and 15 drivers/mechanics for the mobile teams. These latter staff were trained in 1988. In addition, two supervisory teams were created at the central level to train regional and peripheral personnel.

### 4. Logistics

#### a. Cold chain:

A nationwide inventory of the cold chain was conducted in 1988 followed by replenishing equipment where needed. As a result, most of the health facilities are now equipped with Sibir refrigerators. Those in Bangui are either electric or kerosene while those in rural areas are just kerosene. Each has an outside thermometer and some spare parts (wick, glass cover, burner). Also, 10 solar refrigerators (BP VR 50) were installed in the northeastern areas but these will be of little use during the rainy season.

The regional and intermediate vaccine banks are equipped with kerosene freezers (Electrolux) and refrigerators.

At the central level, the cold chain facility has two cold rooms, one freezer and a technician's desk all housed in a single room building. To provide security a technician is present during daytime hours and a surveillance guard is posted at night and weekends. Given the limitations of this facility, an agreement has been reached with the national laboratory, the Pasteur Institute and SOCAGI<sup>8</sup> (only facility to have a negative cold room) that they will make available their facilities when and if they are needed.

A second cold room is currently being built with UNICEF and GOCAR funds in order to increase storage capacity and allow less frequent orders.

Among the observations of the evaluation team:

- One month was needed to get a new compressor after recent failure of the former one; as a result all the central vaccine stock had to be moved to SOCAGI.
- There is no alarm system in the central vaccine bank.
- The backup generator has been out of use for one year; fortunately, no persistent electricity failures have occurred to date.

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8 This is a private, commercial enterprise in Bangui which supplies health products, among other commodities.

**b. Injection and sterilization material:**

In 1988, UNICEF provided supplies of reusable syringes and needles and steam sterilizers to every health facility, including mobile teams and private facilities, to comply with the national policy directive of "one sterile syringe and needle per child." The evaluation team found, however, that for reasons that are not known, some private facilities had not been supplied with these materials.

**c. Vaccines:**

UNICEF has been the main vaccine donor. A.I.D. has supplied measles vaccine but this was scheduled to stop in June, 1990. Rotary International will provide OPV until 1994.

Vaccine distribution is done on a quarterly basis from the central storage to the five regional banks and the four intermediate banks. Distribution to each health facility is done every two months by the regional cold chain technician along with other supplies; additional vaccine is delivered on an as-required basis by the supervision team.

**d. Peripheral service delivery:<sup>9</sup>**

There is a general trend towards daily vaccination with some persistence of former habits (i.e. a different antigen/day) and a lot of "missed" days due to the absence of personnel or shortages of necessary supplies. Some of the private (religious) facilities claim not to have enough personnel available to immunize more than once a week or once a month.

Although time constraints did not allow in-depth investigations, missed opportunities seem to remain frequent, especially in the biggest clinics where pediatric curative care and well child care are under the responsibility of two different persons, often in a different location.

At peripheral facilities, despite a good overall knowledge of cold chain requirements, usual cleanliness among staff and adequate storage of refrigerators, a number of different shortcomings were observed in most of the visited facilities: refrigerator temperature above 8 degrees C (20 percent), incomplete daily recording, poorly regulated flame (40 percent), and inappropriate use of 3M monitors--four out of ten were found with space A or A + B blue, without any action taken. It was not possible for anyone to explain when and why this had happened and whether some vaccines should be used quickly or destroyed. During immunization sessions, vaccines were kept in vaccine carriers and secondly transferred into thermos, one by one.

Sterility requirements appear to be met - one or two steam sterilizers are available and used in all the facilities visited except some of the private ones; most of the Portuguese gas

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<sup>9</sup> Most of the observations were made in Region 3 which was visited by the epidemiologist; according to the findings of the rest of the team, the overall situation seems slightly better in Region 4.

stoves purchased by UNICEF are currently out of use and will be replaced by Chinese ones in the coming weeks.

Shortages were observed.<sup>10</sup> Forty percent of facilities had run out of one or several vaccines at the time of the visit. Either no action was taken, the time of next delivery being close, or the order and subsequent delivery was delayed for unknown reasons despite the national directive to order new vaccines as soon as the stock had declined to 30 percent of the total.

Vaccine waste, associated with delayed orders and wrong needs assessments, is obviously an important source of shortages. In several health posts which follow the daily vaccination policy, the waste could be as high as 75 to 90 percent. This waste could likely be reduced by better planning and improved logistics.

## **B. CONCLUSIONS:**

Measuring the impact of EPI accurately is difficult because of the absence of good baseline data; the only data available have been unreliable routine reporting information collected since the program's beginning. However, some impact of vaccine coverage is already obvious. No epidemic of measles has occurred since 1984, the measles room in the pediatric ward of Bangui was closed and no poliomyelitis has been reported for several years.

The countrywide data collected since 1981 clearly shows a decreasing trend of measles and polio, especially for 1988 and 1989 (see charts below). Assuming that the completeness of reporting is more likely to have improved than decreased, these results suggest that EPI has had a positive impact in limiting the incidence of respective diseases.

## **C. RECOMMENDATIONS:**

1. With respect to policy, the recommendation made by UNICEF in 1989 to combine measles and yellow fever at 9 months should be followed. This would ensure better coverage, reduce vaccine wastage, and ease the workload of health workers. Also at the policy level:
  - With respect to the cold chain, a spare compressor should be provided at least for the central vaccine facility to avoid critical delays that could jeopardize the entire immunization program.
  - With respect to vaccines, the donor to provide future measles vaccine needs to be identified.
  - The DG and DMPGE should explore opportunities of sharing/coordinating personnel between public and private health facilities to ensure that private facilities fully participate in EPI.

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<sup>10</sup> In private missionary facilities only.

Figure 3

### Measles Incidence and Vaccine Coverage Central African Republic 1981-1989

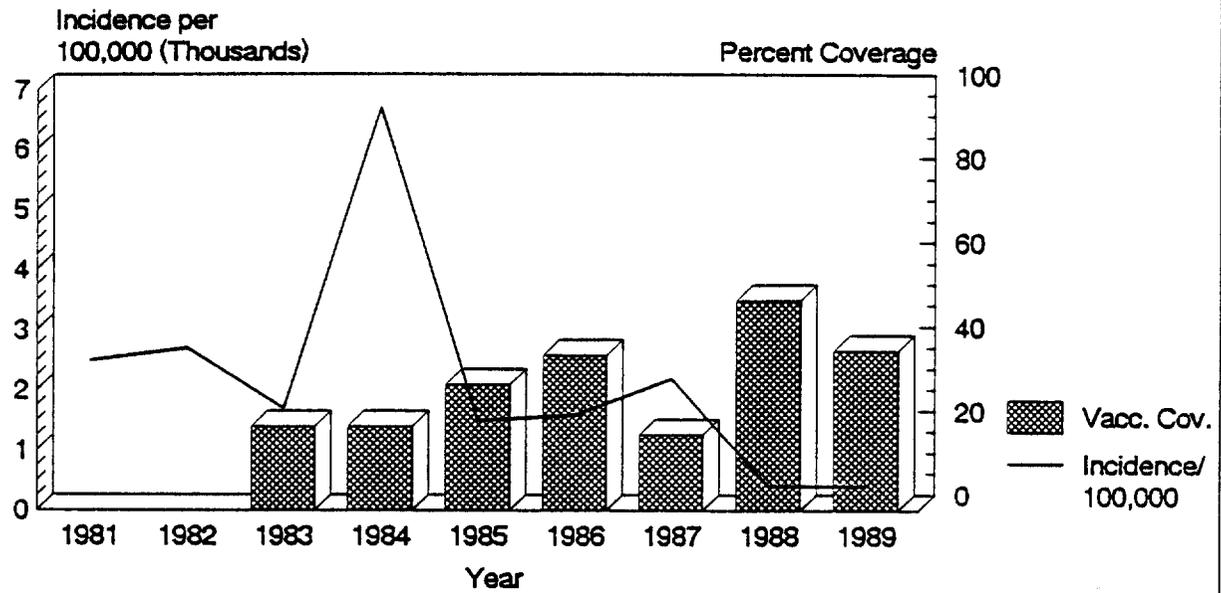
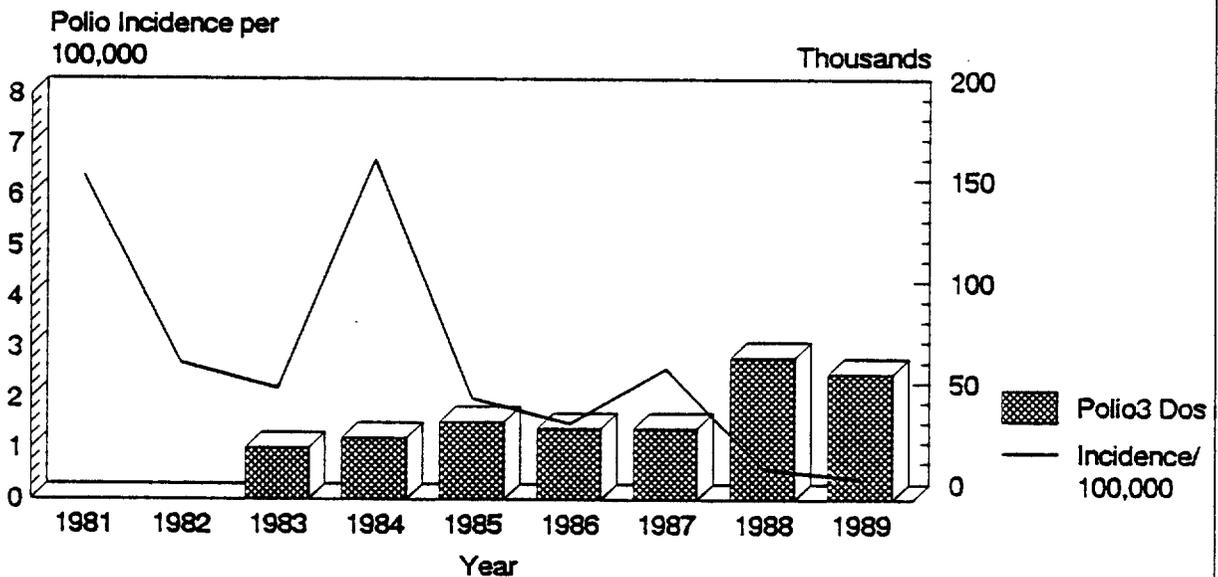


Figure 4

### Poliomyelitis Incidence in C.A.R. Reported Cases per 100,000 Reported Polio 3 Doses All Ages



2. With respect to strategy, given the limitations of mobile teams (vehicle breakdowns, maintenance etc.), it is urgent to look beyond to the next phase of fixed health facilities, planned to replace mobile teams in a few years, to ensure through close supervision that staff are effectively carrying out EPI activities.
3. With respect to peripheral service delivery, there is a need for closer supervision. Supervision is key to ensuring that proper practices acquired through in-service training are routinely followed. Supervision should include on-the-job training so that expertise gained from formal training is maintained and refreshed. This means the medical director of each region must spend as much time as required on supervision and have the necessary supplies, mainly fuel, on time. Also, it is recommended that:
  - Different means of avoiding shortages should be considered: action should be taken as soon as the stock is low, whatever the expected date of delivery; needs assessment should be reviewed; if the "target population" calculation seems beyond the understanding of low level health workers, the previous order plus a safety margin is a correct estimate;
  - Vaccine waste can be lowered by providing 10 (instead of 20) doses vials of BCG, measles and OPV vaccines to the smallest facilities; and
  - Systematic screening of sick children is a way to better use opened vials.

### **III. CONTROL OF DIARRHEAL DISEASE (CDD)**

#### **A. DISCUSSION:**

##### **1. Background**

Diarrheal diseases remain one of the four leading causes of death in children in C.A.R. along with malaria, malnutrition and respiratory infections. A prevalence study conducted in 1987 estimated that every child under five experienced about six episodes a year yet only 42,000 cases are reported each year.

The case fatality rate is around five percent in the reporting hospitals, slightly higher in the Central National University Hospital (CNUH) in Bangui where severe malnutrition is frequently the underlying cause of death. The baseline data to assess progress is the first inpatient mortality study in 1987 (see chart below).

Little research has been done on pathogen agents but the vast majority of diarrhea in children is due to rotavirus or bacterial pathogens that do not require specific antibiotic therapy. No incidences of cholera were observed during the team's visit and apparently, shigellosis and severe salmonellosis appear only infrequently in the C.A.R. Parasites are endemic but their role in diarrhea incidence is not prominent.

##### **2. Policy, Objectives and Staffing**

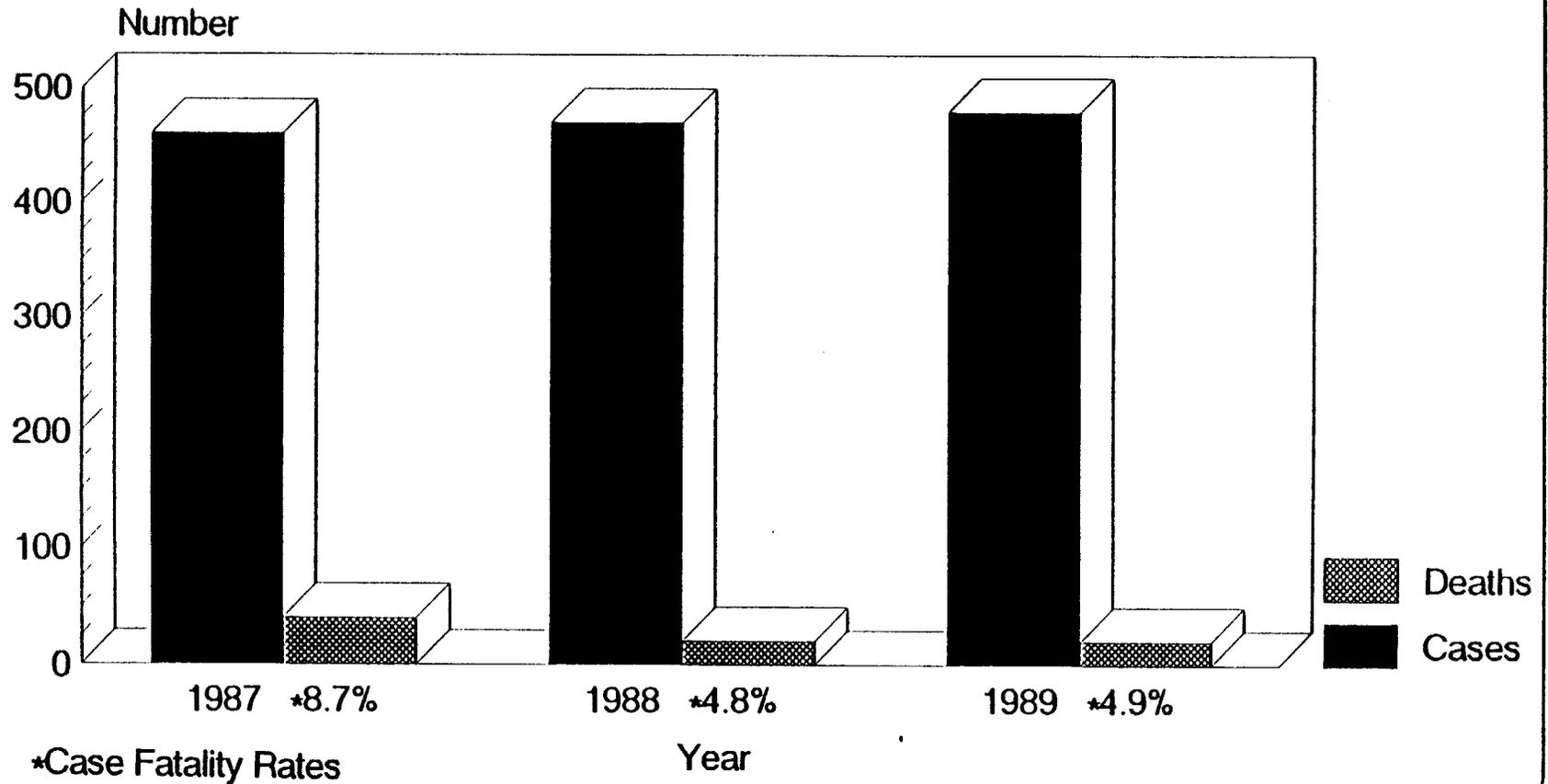
A national CDD program was established in 1986 to disseminate ORT as widely as possible throughout the country, from central hospitals in the capital to distant rural health facilities. According to the average needs estimate, a total of 2.5 million ORS packets are required annually for the C.A.R. Of this total, two million (80 percent) are to be provided yearly by A.I.D. and UNICEF is to provide the balance. The actual number of ORS packets provided presently exceeds demand as the CDD program is not yet operating at levels that are eventually anticipated. An OR study on feasibility of a cereal (maize) based, home solution was conducted in 1988 and a clinical trial in June, 1990. Preliminary indications from this study are hopeful which, if borne out, may possibly lead to the C.A.R. producing its own ORS-substitute more cheaply and efficiently.

With respect to facilities, by now ORT units are installed in most hospitals. For all health facilities, survey checklists have been developed which include items related to CDD. Also, excellent case management forms have been developed and distributed to the operational ORT units and to trained health workers. These will be distributed widely during the next training sessions. Health workers will also be trained in screening of vaccination cards as recommended by the 1986 evaluation team.

With respect to staffing, the CDD program has been under the responsibility of the malaria control program director since February, 1990. This is a stop-gap measure owing to staff constraints that is expected to be only temporary and, therefore, should have no long-term negative effect on the program.

# Diarrhea: Cases, Deaths, and Fatality Rates, Hospitalized Children < 5 Years Central African Republic, 1987-1989

Figure 5



## **B. CONCLUSIONS:**

The team was impressed by the wide use (close to 100 percent) of ORS in the facilities where a health worker had been trained. Despite the lack of furniture and ORT material at certain locations, encouraging initiatives were observed during field visits. For instance, one ORT "corner" was found operating in the shade of a tree with bottles and glasses provided by mothers and the same case management forms used and reused. This success is certainly due to the early implementation of ORT units immediately after CDD training which gave both mothers and health workers first hand experiences of working with ORS.

At health centers the stock of ORS was usually sufficient even though in some places supplies were not limited to the target group; it was observed, for instance, that ORS was occasionally given to adults and more often to older children. The search for parasites was regularly done in facilities equipped with a microscope.

One private clinic supplied electrolyte/glucose tablets but at half of the required concentration; these were sold for 10 CFA each. (1 US \$ = 224 CFA)

The team observed little use of alternate therapies in the field; the use of nasogastric tubes was mentioned once and intravenous therapy was observed in one private clinic though there was no obvious need to do so in the latter case. None of the health workers interviewed was prescribing sugar/salt solutions, most recommended increased amount of liquids leaving the choice to the mother.

One hundred case management forms were reviewed in an ORT unit in Bangui: all the children were classified "plan A" (it was not possible to assess the accuracy of this categorization). Cases observed included rehydration on site, even where clinical dehydration was absent, after which mothers were given two more packages for home treatment.

Although no health workers mentioned the issue, the program director is concerned with diagnosis accuracy. He notes that the method of asking mothers for the three signs (vomiting, stool type, thirst) allows for exaggeration by those who wish to get prompt care and this may lead to misclassification.

## **C. RECOMMENDATIONS:**

1. On-the-job training in operational ORT units is a good way to increase national ORT knowledge and use. The involvement of private health facilities, both in training and supplies delivery, should be emphasized.
2. Further, with respect to ORT, the following points are recommended:
  - Wastage of ORS packets should be avoided from now on,
  - Once the cereal-based OR results are available, it should be clearly stated whether children with mild diarrhea and no clinical dehydration can be treated with home fluids only, and
  - Generally the use of home fluids should be strongly promoted--more than half of mothers start an early treatment at home even before dehydration occurs. However, this needs to be balanced with the caveat that no uniform measures exist in C.A.R. which accounts for the GOCAR's previous reluctance to strongly back home fluids. Thus, there needs also to be further exploration and research

into the use of uniform measures for this purpose. Home treatments make a great deal of sense from the sustainability as well as the accessibility standpoints.

## IV. MALARIA CONTROL PROGRAM

### A. DISCUSSION:

#### 1. Background

The first national malaria control program was developed in 1986 but because of the focus by the ACSI-CCCD project on EPI and later on CDD, progress on the malaria front has been slow. However, nationwide training scheduled to begin soon should give some impetus to the malaria program. As previously noted, the director of the malaria program also has had administrative responsibility for CDD since February, 1990.

At the program's beginning in the absence of baseline data, routine reporting data was used to set objectives. In 1987 inpatient mortality from malaria was assessed through record review at hospitals or other facilities having such records.

In vivo resistance studies have been conducted on a yearly basis in collaboration with the University's Faculty of Health Sciences in Bangui. The most recent study shows about 10 percent of R1 or R2 resistance in 204 schoolchildren given dosages of 25 mg/kg of Chloroquine. (No R3 resistance has been documented so far.)

Malaria-related training has not yet started but technical memos regarding dosage were distributed to the regions and to the health facilities in 1987. Also, supervisory checklists are being developed for use in surveys.

#### 2. Policy

The current national policy on malaria recommends the following presumptive treatment for under fives:

- Chloroquine dosage of 25 mg/kg given over three days (10 mg/kg on first and second days, 5 on third day) as a first line drug,
- IV Quinine dosage of 25 mg/kg/day in case of vomiting or loss of consciousness, followed by Chloroquine as soon as possible,
- In case of Chloroquine resistance documented by thick smear, alternative drugs are:
  - quinine IV\ or PO, 25 mg/kg/d, during five days,
  - sulfadoxine-pyrimethamine 25 mg/kg once,
  - amodiaquine same dose as Chloroquine,
  - halofantrine 25 mg/kg/d, one day.

Only the first prescription is part of national policy.

The recommended prophylaxis for pregnant women (to prevent miscarriage, preterm delivery, and low birth weight) is 300 mg Chloroquine weekly starting with the first contact in pregnancy continuing until two months after delivery.

The Chloroquine supply for the ACSI-CCCD target population, specifically, is also strained by the inadequacy of the PharmaPro<sup>11</sup> budget in relation to the estimated demand for Chloroquine by all age groups. Quite understandably, the local health care workers at the regions and periphery find it impossible to reserve the Chloroquine provided for children under five, and pregnant women. Any patient showing signs of malarial fever is provided Chloroquine on a first-come, first-serve basis. However due to lack of training and a misguided desire to "ration" a scarce commodity, insufficient doses are provided while the supplies last. Even after stock-outs, however, prescriptions for the purchase of Chloroquine at pharmacies and pharmaceutical depots in the private sector also tend to be for too small a dose.

Apparently the majority of the Chloroquine in country is believed to be supplied through licensed and non-licensed retail sales both in Bangui and throughout the rural areas. The price of a 100 mg tablet was usually cited as 10 or 15 CFA. (The PharmaPro annual budget for all pharmaceuticals averages out to about 40 CFA per capita. A typical bout of malaria could require about 20 pills for an adult over a five day period.) ACSI-CCCD currently provides about 10 million Chloroquine tablets per year, while the national demand is estimated to be approximately 14 million tablets. On the basis of limited information, it is estimated that all known sources of Chloroquine in C.A.R. in both the public and private sectors do not equal the estimated demand.

## **B. CONCLUSIONS:**

According to the data collected by the regional hospitals, malaria case fatality in under fives has increased from 3 percent in 1987 to 7 percent in 1989 (see chart below).

Presumptive treatment of fever in under fives was done in all facilities; the health worker was often unable to tell the Chloroquine dose offhand but usually calculated it according to age rather than weight. This seems accurate enough, given that Chloroquine tablets need to be broken into quarters for children.

Chemoprophylaxis during pregnancy was prescribed in all the facilities visited, though in five of ten, the dosage was lower than recommended, either because of ignorance or fear of shortages. In some centers, weekly dosages were correct but no extra doses to be taken at home were given to the women that did not come every week.

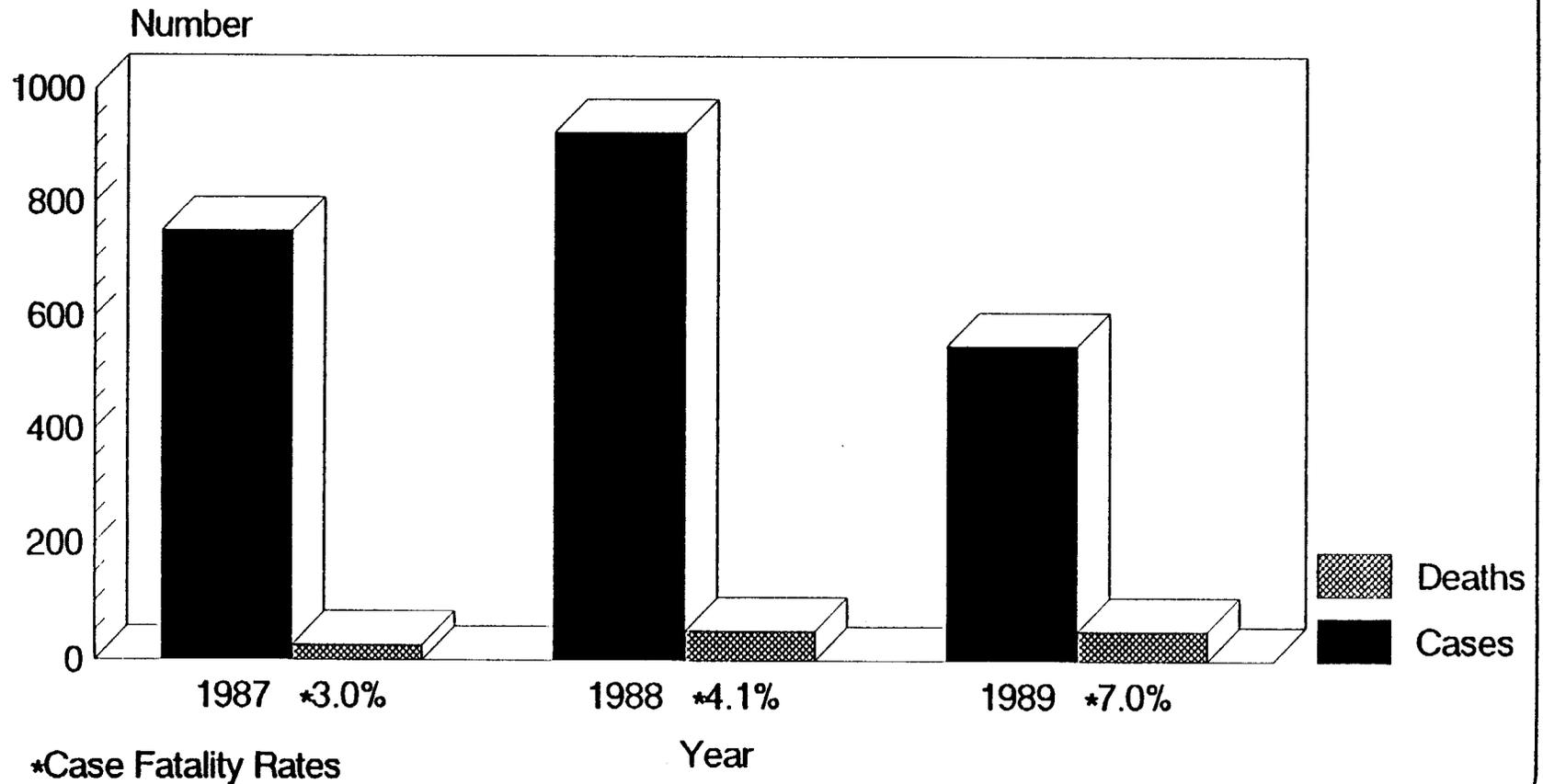
Intravenous quinine was often the first line drug irrespective of vomiting; health workers claimed that many parents seek care after purchasing the drug. Though quinine is supposed to be administered by IV in the C.A.R. it is often given intramuscularly (IM) which can have ill side effects. In fact, cases have occurred where children have suffered lameness from IM quinine. Chloroquine is often given at home by mothers who then seek care when treatment fails. Home dosages do not get recorded.

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11 MOH's distribution unit.

# Malaria: Cases, Deaths, and Fatality Rates, Hospitalized Children < 5 Years Central African Republic, 1987-1989

Figure 6



Routine recording does not allow the distinction between possible Chloroquine resistance or an insufficient dose from non-malarial pathology. No health worker claimed to have faced Chloroquine resistance. However, thick smears are not done systematically but on an ad hoc basis, either before initial treatment or after ill-defined home treatments. Due to insufficient slides and stains, results are often not available until the next day. Treatment, however, is given at the time without waiting for the results as malaria is deemed serious enough to warrant such practice.

At a number of facilities the evaluation team visited, the staff had either not received or had misplaced the 1987 technical memos presenting guidelines on dosages. No important shortage of malaria drug supplies was observed at facilities despite the probable use of ACSI-CCCD procurement for treatment of adults or older children.

### C. RECOMMENDATIONS:

1. Under the rubric of policy there are several points to be recommended:

- The "25 mg/kg over three days" directive is confusing for many health workers. It may be that "10mg/kg/d for three days" would be more appropriate, especially considering the increasing level of resistance and the ease of prescription. Supplying health facilities with tablets of different dosages should be avoided to prevent further confusion (some centers have 150 mg as well as 100 mg tablets on hand).
- The frequent use of IM quinine which is likely to persist in spite of the program directives raises the issue of sterile injections. The only material usually available in facilities is reused "single use" material. The feasibility of using EPI syringes (needles not designed for subcutaneous use) should be addressed.
- An anti-vector strategy should be part of national policy. The 1989 cluster survey found that 90 percent of persons in Bangui already use some protection against mosquitoes. Social mobilizers currently working for the EPI should be trained in malaria prophylaxis and environmental sanitation. Mosquito nets might be purchased in bulk amounts at low cost and made available where appropriate to needy health facilities.
- A.I.D. and ACSI-CCCD should explore the possibility of collaborating with the Inspector of Pharmacies and PharmaPro to study the demand for, and availability of, Chloroquine through public and private channels in the C.A.R. These parties should also explore increasing the amounts of Chloroquine distributed, accepting the fact that health facilities in the regions and peripheries will continue to find it from difficult to impossible to reserve their stocks of Chloroquine for the exclusive use of children under five and pregnant women.

2. Concerning OR issues there are several points to be recommended:

- With respect to the probable future community participation in drug purchasing and the already wide use of home treatment, the importance of current private procurement of Chloroquine should be assessed as well as its quality.
- Sentinel surveillance should be implemented in the pediatric ward of the CNUH in Bangui to follow in-vivo resistance. Resistance studies should be conducted in one or two rural settings on a yearly basis as has been done in the past. A study should be undertaken at CNUH/Bangui to investigate the reasons for the increasing fatality rate in Region 3 such as errors in diagnoses, delayed treatment, Chloroquine resistance, other factors.

- OR should be urgently undertaken to investigate the reasons for the recent increase in case fatality rate; this could be done through a review of clinical records or through a prospective follow up of children admitted for/with malaria.

## V. TRAINING

### A. DISCUSSION:

Training has been a major activity during the past three years. The PROAG estimated that about 1000 persons would require training during the life of the project. This figure has been far exceeded. Health ministry personnel, for instance, trained in various aspects of EPI, CDD and malaria control services delivery rose from 195 persons in November, 1986 to 210 in December, 1987. Overall, from July, 1987 to the present, the number of personnel trained totals 3,411, including 2000 community mobilizers.

#### 1. Achievements

Achievements in training were reached through a dynamic in-service training strategy conceptualized by the DMPGE and the ACSI-CCCD TO with little external assistance. The TO supported this effort by providing continuous technical assistance in training strategies, needs assessments, materials development, training of trainers, and workshop design and implementation.

The in-service training strategy, implemented first for EPI, responded in a systematic way to the need for training personnel to execute the program in the field. Training content, materials and methodology were strictly based on needs highlighted by extensive training needs assessment undertaken through health facility surveys.

Through the DMPGE-supported decentralization of training in the five regions of the country, at least two health agents from each fixed vaccination site were trained in EPI. At the 14 facilities visited during the evaluation, all trained health agents had already trained other helping personnel to correct deficiencies in EPI service delivery.

Health facility surveys, conducted in 33 centers in three of the five regions at least six months after the completion of training, showed major improvements in EPI performance. The weakest performance areas, however, included statistics, systematic group health education, and management. Observation and interviews of personnel during the evaluation found that health workers continue to find statistics the most difficult part of program execution. A round of follow-up training scheduled for late August or early September 1990 will address these areas.

The DMPGE developed a community mobilization plan for EPI using the same in-service training strategy and the plan was adopted in 1989 by a national supervisory committee. The DMPGE organized fifteen district-level teams (approximately 96 agents in all) to train and supervise 2000 community mobilizers to in order sustain EPI efforts in the field.

In addition to EPI, agents were trained in diarrheal case management, allowing the opening of 80 ORT unit facilities. Further, materials for assessing training needs for malaria are being developed at the DMPGE. The Directorate will use the same in-service training strategy to address personnel weaknesses in malaria service delivery.

Through training and supervision in HIS, approximately 350 frontline health agents were provided with new skills in maintaining registers, in reporting data and in taking advantage of secondary data sources. Staff of the statistics unit at DMPGE were introduced to a variety of software programs, thus improving their capability in word processing, data entry and storage, tabulation of frequencies and production of tables and graphs. Continuing training is being provided to reinforce the HIS team's analytical skills and planning capacities.

Close collaboration between the university's schools of medicine and public health and the ACSI-CCCD project has not yet been developed. However, considerable interest exists, as demonstrated by the chairman of the faculty of medicine at the national symposium on ORT. Also, keen interest and frequent contacts exist between the faculty of medicine and DMPGE concerning interventions and malaria research.

## **2. Actions Planned**

Current action planned for the period 1990 - 1991 include the following activities:

- In-service training for malaria,
- Refresher training for EPI decentralized to regions,
- Training of community mobilizers for CDD,
- Training for supervision,
- Post-evaluation of EPI social mobilization,
- Internal retraining for CDD decentralized to region,
- Training in management of services for mid-level managers and HIS personnel.

## **B. CONCLUSIONS:**

The effectiveness of the in-service training strategy is impressive. Major advances in skill development and capacity building through training and supervision have been achieved at national, regional and peripheral levels.

Capacity building through training is taking place at various levels, contributing to the development of a lasting and effective training system. This is demonstrated in the following ways:

- A permanent structure within the DMPGE is providing leadership to develop an in-service training program under the direction of a training coordinator. The formation of a central training team composed of all ACSI-CCCD program coordinators and assistants has improved teamwork within the department and assured the transfer of skills to other programs.
- Decentralized training system involving regional teams of trainers.
- A data management system for monitoring all health personnel trained by the central and regional teams.
- A protocol and standard instrument for assessing in-service training needs and for evaluating the impact of training on health worker performance in the field.
- Appropriate training materials and procedures for materials revision determined according to needs.

The success of the training strategy has served to enhance the stature of the DMPGE within the MOH where it is now regarded as the focal point of expertise for the continuing education needs of health personnel.

Training has contributed in a major way to an increase in quality and regularity of services delivered by health agents in EPI and diarrheal case management. Increased management skills for service delivery have also been gained through training. Further, the on-the-job

training of additional assistants by those formally trained in EPI has compensated for the lack of adequate personnel.

Overall, training has raised the health personnel's sense of responsibility to a) deliver adequate quality of care; and b) work as a team to expand and coordinate services. Training has made such an impression that many health personnel identify the real launching of EPI from the October, 1988 in-service training, not the start date in 1985 when they began to provide EPI services.

Despite the successes, however, some difficulties still remain. These include understanding the use of statistics to monitor program activities as well as how best to manage activities based on health facility needs and functioning capacities. Some deficiencies are also evident in cold chain maintenance.

### **C. RECOMMENDATIONS:**

In order to maintain the impact of training in the field while allowing the DMPGE to move towards more effective management of activities in the field as well as improved coordination with other Ministry structures, it is recommended:

1. Training activities should be decentralized to regional teams. Training for the malaria program should be an occasion for testing effectiveness of decentralization. This may require training of trainers to reinforce training skills and organization capacities for regional teams.
2. The DMPGE should shift from an active to a supervisory training role. By adopting a supervision and coordination function, it will be able to strengthen service delivery and management skills, and increase effectiveness through coordination and feed back. Such a role will also reinforce management capabilities at the regional level by insuring systematic supervision, timely distribution of supplies, and collection and analysis of data for management of activities at peripheral levels.
3. More effort should be made to involve the university's schools of medicine and public health in a revision of pre-service training curricula integrating EPI skills, diarrheal disease case management and malaria treatment.

## VI. HEALTH EDUCATION

### A. DISCUSSION:

The ACSI-CCCD project has a number of accomplishments in the area of health education that have contributed to the overall impact and success of the project in the C.A.R.

#### 1. Achievements

Principal health education achievements of the project include:

- The mobilization and reinforcement of both institutional and public support for EPI through the development of a national social mobilization action plan. This was adopted and implemented in 1989 after an extended KAP household survey executed by 15 peripheral teams in charge of training and supervising 2000 social mobilization workers. KAP surveys were also carried out in over 2000 households with 1300 mothers before implementing social mobilization for EPI.
- There has been consistent improvement in patient education practice. This has been achieved by identifying weaknesses through health facility surveys and by integrating health education into the training strategy. The same process has been adopted for CDD but monitoring of patient education in ORT units has been limited to baseline surveys.
- The printing and widespread distribution of educational material for CDD and EPI, supported by several donors through close coordination at the DMPGE.
- The health education unit is well integrated into the DMPGE and benefits from the director's leadership as well as support from ACSI-CCCD coordinators. Integration with technical, managerial, and educational activities at DMPGE has increased the effectiveness of the health education unit. This contrasts with the earlier experience of the Office of Health Education at the Department of Maternal and Child Health which had a more limited, less integrated role. Impressive work developed by the health education unit at DMPGE has convinced the MOH to plan for institutionalizing small health education units in each directorate of the ministry, rather than building up a national health education office. Experience in C.A.R. and mounting evidence in other countries indicates that such national level offices are less effective than more decentralized, integrated units.
- Close collaboration with Peace Corps for health education is achieved through the assignment of a third year Peace Corps Volunteer at the health education unit as well as through a growing number of Peace Corps Volunteers trained to support health education efforts at regional and prefectural levels. The Peace Corps has also provided the DMPGE with short-term assistance for health education training and materials development through a local hire contractor.

One area where shortcomings have occurred are mass education efforts through radio and television. Despite impressions and claims to the contrary, these networks had largely failed to disseminate and produce social mobilization messages over time.

#### 2. Action Planned

The following actions are planned for 1990/1991 in the health education field:

- Completing and evaluating the EPI social mobilization efforts in order to measure impact,

- Conducting KAP surveys for CDD and malaria for base-line data to be used for social mobilization and patient education strategies,
- Designing and implementing social mobilization programs for CDD and malaria through short-term training in Zaire of the CDD and health education coordinators in social mobilization techniques, and
- Strengthening the health education unit by reinforcing existing personnel with one or two health educators from the health education office.

## **B. CONCLUSIONS:**

At this time it is difficult to evaluate the real impact of the health education effort. Yet health personnel are keenly aware of the dynamic relationship between health education and EPI coverage. The repetition of KAP surveys for assessing the impact of social mobilization and patient education has not yet been done, but the signs are good as health personnel report greater numbers of people being served through fixed posts as well as by mobile teams since the reinforcement of these two activities.

Also, sustaining social mobilization activities will be a challenge for the DMPGE because mobilizers are not paid and need to be motivated in order to continue their activities indefinitely.

## **C. RECOMMENDATIONS:**

In order to strengthen benefits from the health education effort and to meet the project goals, the following recommendations are made:

1. The capacity of the health education unit should continue to be enhanced in one or more of the following ways:
  - Reassigning two or three health educators,
  - Providing long-term training in health education for the head of the unit,
  - Making available short-term technical assistance on specific needs, and/or
  - Providing the continued services of the third-year Peace Corps Volunteer.
2. With respect to mobilization/motivational issues:
  - Create a strategy for motivating community mobilizers and health care providers by using all technical and culturally acceptable means. Also, monitor the impact of community mobilizers' activities in order to plan for supervision, feed back and retraining.
  - Evaluate the social mobilization impact on EPI coverage as well as mothers' KAP practices for CDD and malaria. In addition to KAP surveys, technical assistance may be required for the design of the protocol and questionnaire for a process evaluation addressing social mobilization for EPI.

## **VII. HEALTH INFORMATION SYSTEMS (HIS)**

### **A. DISCUSSION:**

In 1986, an in-depth review of the ACSI-CCCD'S HIS was undertaken. This pointed out deficiencies as well as methods to remedy HIS shortcomings, and led to a number of improvements in the operation of the project's HIS.

#### **1. Achievements**

Among the accomplishments or achievements stemming from this review were the following:

- A central-level computer system was set up in 1987,
- A statistics unit was created at DMPGE and the first national HIS plan was prepared,
- Implementation of a sentinel surveillance system including 16 in-patient facilities was begun,
- Distribution of the second issue of an epidemiological bulletin (DMPGE Echo) to the regions in 1990, and
- Entry and analysis of data from health facility surveys for EPI (before and after training) and CDD (before training).

### **B. CONCLUSIONS:**

Despite improvements and efforts made to establish a rational and systematic information system, health workers still have a huge amount of information to report each month; most of this information has no immediate application and could be reported yearly instead of monthly. Also, the problem of duplication of information to the different directorates of departments of the Ministry has not yet been solved.

At the central level, frequent hardware failure and procurement difficulties have hampered the activities of the Statistics Unit but in recent months this situation has somewhat improved.

The hospital sentinel surveillance system has not functioned as expected, although a simple and appropriate form has been developed, personnel trained, and mechanisms put in place to assure the timely reporting of data. For the first seven months, for instance, only 38 percent of expected forms had been received in Bangui. It is not possible yet to discern trends in EPI target diseases on account of the system's newness.

A comparison between the EPI coverage survey and the reporting of administered doses of vaccine shows that the latter (in Bangui, at least) proves to be more reliable than the former, suggesting limitations in the EPI survey.

### **C. RECOMMENDATIONS:**

With respect to HIS, the following recommendations are made:

1. The design of the new MOH organigram is likely to lead to a Ministry-wide review of the current routine reporting system. A further step could be a workshop including all the departments that would have among goals: simplifying health workers' tasks, increasing their motivation and getting more reliable data. Also, the problem of hardware maintenance at central level should be addressed possibly through private maintenance existing in Bangui or any nearby capital.
2. In place of the plethora of forms requested by different ministry offices, health workers should be required to report only that data which contribute to the efficient and effective management and delivery of health services in the C.A.R. What that data specifically are ought to be the result of a careful and comprehensive study of the country's health system. The following data are illustrative and might be included in such a study:
  - Vaccinations given by antigen and age (i.e. < or > 1 yr, pregnant women),
  - Number of EPI target diseases: total, percent of vaccinated, case/fatality rate in vaccinated or not vaccinated children/women,
  - Number of diarrheal episodes, percent of dysentery cases, case/fatality rate in diarrhea and dysentery in under fives,
  - Number of malaria episodes, case/fatality rate, documented resistance to Chloroquine in under fives and pregnant women.
3. The training of health workers in HIS should emphasize the direct use of collected data both at regional and peripheral levels to increase motivation and quality of recording. Supervision should not only verify data recording but also their accuracy and relevance. Also, the standard HIS form should be designed for both DMCH/FP and DMPGE.

## VIII. OPERATIONS RESEARCH (OR)

### A. DISCUSSION:

In the C.A.R., the ACSI-CCCD project's overall strategy of phasing in the interventions has resulted in less emphasis on OR, at least in the early phases of project implementation. When OR activities were undertaken in initial project stages, they were carried out more in support of EPI such as by supplementing HIS efforts. In this way OR performed more as a data collecting service rather than in its intended capacity as a mechanism to identify and solve problems. As the project has gone on, however, the focus has shifted to particular project problems and issues--among other technical interventions as well as among other support strategies--which if researched, studied and applied could improve overall project implementation.

#### 1. Achievements

Some success has been achieved in identifying topics and carrying out studies for research which could lead to improved project implementation and more efficient achievement of project goals. Most of these are limited to diarrheal disease (seven) and malaria control (two) interventions. Some of these have been slated to be carried out in 1990 (see Actions Planned below). They include:

- A survey of feasibility of early treatment of diarrhea with cereal based home solution, with promising early results,
- An assessment of diarrheal yearly incidence in Bambari, (1985),
- A KAP study of mothers during diarrheal episodes in children,
- A community survey of nutritional practices during diarrhea episodes,
- A clinical trial of home available solutions in ORT units in Bangui,
- Preparation of a protocol for a natremia study in prefectoral ORT units,
- The effectiveness of health education in ORT units. This last study was planned for 1989, but has been postponed until late 1990.
- A pharmacy-based study on Chloroquine distribution to mothers and health education provided by pharmacists. (The protocol for this study is under review.)
- A study on birth weight in C.A.R. (1986) oriented to malaria incidence, and
- A child mortality survey using the preceding birth method conducted in "maternite des Castors" in 1989; a similar community based study is planned for the end of this year.

#### 2. Actions Planned

The project planned six OR activities for 1990; four of them CDD-related reflecting the shift in emphasis from EPI to CDD. Two (CDD home-available solutions and CDD community dietary practices) were slated to be undertaken in the first and second quarters of 1990, three (EPI missed opportunities, CDD Natremia study, and the child (0-2) mortality survey) all in just the second quarter and one (the health education ORT units study) for the third quarter.

## **B. CONCLUSIONS:**

The evaluation team was able to evaluate little of the results of OR as little has come out in the way of results. However, information received about the survey assessing the feasibility of using cereal-based home solutions indicates some preliminary, positive signs. Any meaningful findings will have to await the release of official results slated for later in the year.

As the list above indicates, a number of the OR projects are, in fact, surveys and data collection efforts intended to provide valuable baseline data for the subsequent measuring of project performance and target achievements. As such, they supplement and reinforce efforts to establish an effective HIS and, in so doing, serve a useful and worthwhile project purpose. Yet the project needs to look beyond to ways in which true OR activities--ones based on identifying and solving project implementation problems--can be undertaken for the benefit of the ACSI-CCCD project.

## **C. RECOMMENDATIONS:**

1. In the time remaining and to the extent resources permit, the project staff should review possible OR topics and select a few from among them that would provide useful, applicable results provided they could be realistically completed in the time available. To the extent possible, they should represent a balance between intervention and support strategy topics with priority given to malaria and program management issues. For illustrative purposes, one that might be done for malaria would be:
  - An assessment of the origin, quantity, quality and price of private market Chloroquine (see also Section X, Pharmaceutical Distribution).

## IX. PROGRAM MANAGEMENT<sup>12</sup>

### A. DISCUSSION:

The ACSI-CCCD Project in the C.A.R. was signed between A.I.D. and the GOCAR on the 25th of May, 1984. The CDC TO in Brazzaville provided the primary technical support until January, 1987. The ALO in the US Embassy in Bangui has provided supervision locally, with oversight provided by the Health Officer in the USAID Mission in Yaounde, Cameroon. In January, 1986, the original ALO, Katherine Montgomery, left the State Department and joined CDC to become the first locally-present TO. She was replaced as ALO by Hugh Smith who served until August, 1989. Ms. Montgomery was replaced by Joseph Naimoli in July, 1987, who remains the TO. Mr. Naimoli is due to be replaced in July, 1990.

The GOCAR National Coordinator for the ACSI-CCCD Project was Dr. Jean Limbassa, Director of DMPGE from May, 1984 to May, 1987. Subsequently, Dr. Limbassa was promoted to Minister of Health and replaced by Dr. Jean-Baptiste Rongou as National ACSI-CCCD Coordinator and Director of DMPGE. Originally, the Director of the Maternal and Child Health Directorate, which is at the same level in the Ministry as the DMPGE, was named the Deputy National Coordinator of ACSI-CCCD. In 1986 the management of ACSI-CCCD activities were united and integrated into one directorate, the DMPGE. During the team's stay in the C.A.R. there was a complete overhaul of the cabinet and Dr. Limbassa was replaced as Minister of Health and Social Affairs by Mme. Genevieve Lambilo, formerly Secretary of State for Social Affairs.

#### 1. Achievements

During the first three years, from 1984 to 1987, the project experienced start-up difficulties related to donor coordination issues, and required two years to reach agreement on national plans and budgets for EPI, CDD, and malaria control. These issues were successfully addressed by (1) A.I.D. and CDC naming a full-time TO for Bangui, not in the original accord, (2) the Ministry unifying and integrating all project components into the DMPGE, also not in the original project design, and finally (3) DMPGE's leadership in clarifying certain policies and coordination issues among donors especially as regarding EPI strategies.

These decisions proved to be judicious, clearing the way for restructuring, restaffing, and revised strategies in 1987 and 1988. It appears that most of the recommendations made in the project's earlier, and only other, external evaluation conducted in late 1986 have been successfully implemented, especially those having to do with improving support systems, and training.

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12 It should be noted that the term Program Management has been used in two ways throughout the various interviews and documents reviewed. First, the term has been used to refer to the management of donor inputs by A.I.D., the US Embassy, and CDC in Atlanta, and the TO in Bangui; this is more properly Project Management. Second, the term is used to refer to the Central African MOH's role in managing the inputs and activities focused on combatting childhood communicable diseases. This second level, as discussed in this section, refers to life of project activities integrated as much as possible into the DMPGE's normal Ministry program. Long term issues of program management and integration are addressed in Section XI, Program Sustainability.

The implementation status of the 1986 recommendations relating to achievements in project management is as follows:

- CDD and malaria control budgets have been completed to support the National Plans already developed,
- The TO was extended an additional year (as recommended, then extended again),
- A detailed budget was developed for the extended project,
- Informal working relationships have been established to improve donor relations,
- Standardized reporting forms have been developed and implemented for EPI activities; have been developed and begun to be implemented for CDD; and are being developed for malaria control to be implemented before the end of 1990,
- The first issue of the epidemiological bulletin "DMPGE Echo" was issued in November, 1989, and the second is due shortly (it is expected to be issued quarterly, when fully operational),
- International Monetary Fund (IMF) constraints have made it impossible to restore the number of professional personnel in DMCH/FP, as recommended, and the unification of ACSI-CCCD activities under the DMPGE may have made it unnecessary,
- Wider use has been made of OR funds as recommended in 1986 though, as noted above, topics chosen have been limited to medical, technical areas though other areas, including program management, could benefit from OR as well.

## 2. Actions Planned

Since the project managers have so successfully fused the roles of manager/technician/trainer it is difficult to separate out management activities from all activities planned. The needs assessments, materials developed, and the training conducted have carefully and thoroughly addressed managerial, logistical, and administrative issues necessary for successful execution of the EPI interventions, and it is expected that by the beginning of 1991 CDD and malaria control will be as thoroughly addressed.

The malaria control program training in all regions, and the ORT training in Region 1 are the most notable remaining activities yet to be implemented in the long-term strategy of phased-in interventions.

With the completion of the training cycles<sup>13</sup> for all three interventions, at the end of July or later, a national workshop on supervision will be held to establish and practice the use of supervisory instruments for all three interventions at the same time. The workshop will be followed by on-site refresher training for the three interventions across the regions.

The epidemiological bulletin is expected to be issued as a quarterly, and the DMPGE information unit is gearing up to achieve that goal by 1991.

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13 These cover the following: needs assessment, materials development and testing/training/mobilization activities/service delivery/training impact evaluation.

## B. CONCLUSIONS:

The current management team has shown significant strategic wisdom and management acumen in turning around a program with difficulties and making rapid progress in needs assessment, training, logistical and information support systems, management and supervision. A key part of the strategy used was to attack the three major technical interventions (EPI, CDD, and malaria control) one at a time. EPI was selected to begin with and so for nearly two years the key CDD and malaria control staff at the DMPGE Directorate in Bangui were absorbed into launching the EPI program.

The Evaluation Team has been impressed by the effectiveness of the strategy which resulted in a complete integration of the roles of manager, technician, and trainer in the case of each lead DMPGE managers.

One of the best management tools the DMPGE team has developed is a set of standards for evaluating health workers performance. It serves as a tool for: (1) training needs assessment; (2) management and performance assessment; and (3) is being transformed into a supervisory checklist. As a result, the EPI management and logistical support systems are the best of the project. The cold chain works well, with all refrigerators operational (some needing minor flame and temperature adjustments, especially at non-ministry missionary facilities), and the vaccines in good supply (again with some exceptions at missionary facilities).

The motor pool has within the last few months begun to develop a vehicle, fuel, and repair management system that should be a model for other programs. Currently the system is incomplete, and weakest at the regional base level, which DMPGE can advise but not direct. There is little to no reporting back from the regional base level on the fuel coupons distributed, and frank admissions from a few of the field managers that they are often turned into cash and spent on items that may locally be considered a higher programmatic priority. The extent to which this may be wide-spread could not be determined. The field staff at peripheral facilities below the regional base (centers, sub-centers, and posts) which were trained by DMPGE keep fairly good records on the coupons they receive, keeping the fuel and vehicle notebooks from the workshops up to date.

The recently improved record of activities of the mobile and advance strategy teams suggest that reprogramming of coupons is not dysfunctional, but there are spotty cases of stock shortages of Chloroquine, and lack of supervisory visits blamed on lack of fuel by teams that otherwise, in theory, should have had coupons available. At any given time, one third of the vehicles (currently 11 out of 35) seem to be out of service--reportedly due to inadequate management of repair facilities at regional bases. The management of the motor pool at the base level is complicated by the variety of vehicle brands imposed by the donors, making training mechanics, stocking tools, and keeping spare parts more complicated than it needs to be. Again, this is outside of DMPGE's direct control, but the situation could be improved by closer surveillance, better tracking systems, and continued motor pool management systems design and training provided by DMPGE, and implemented by the regional base.

The Evaluation Team is concerned about the absence of a functionally adequate short-term strategy to deter the inappropriate dispensing of Chloroquine, contributing to chemical resistance, while malaria control waited two and a half years for attention. DMPGE had thought that the matter could be dealt with in the short-term by distributing brief protocols to the MCRs and asking them to have their staffs include the dosage advice in their routine supervision. Management and supervision appears weakest at the regional base level, which is outside the jurisdiction of DMPGE as delegated by the Minister and DG (see Section XI, Sustainability). The incorrect dosage of Chloroquine, often motivated by well-intentioned

economies (equitable rationing), is chronic at some health centers, and nearly all sub-centers and health posts visited.

The epidemiological bulletin "DMPGE Echo" is expected to be a useful managerial, as well as medical technical tool, providing a feedback and motivational purpose to field staff, who up to now see data collection as a bureaucratic requirement that for them serves no useful purpose. With the installation in 1990 of the Health Information Unit this should change; also special reports, summaries, and oral reports provide feedback in addition to the Bulletin. However, none of the field staff interviewed appear to know yet of any of these feedback mechanisms except for the first Bulletin issued in November, 1989. They are apparently unaware that the recent EPI and ORT workshops featured prominently (including inserts in the training manuals used) data and analysis of their own incidence and coverage data. Staff of the Information Unit have successfully worked their way through a great number of hardware installation difficulties and are now completing the data entry and analysis of their first computerized national survey, the results of which will be disseminated to the field, and to policy makers in Bangui.

The ability of the regional and peripheral health personnel to implement ACSI-CCCD designed information, supervision, and monitoring procedures is hampered by a system of records and reports that is overly complex and inefficient. This system has developed as a result of each Directorate and each donor layering its reporting and information requirements one on the other. As a consequence, one office alone at the regional base level estimates it needs five reams of paper per month to complete all its reports. In the same region, a typical health sub-center maintains 17 different journals to track activities and inputs, many of them unnecessarily complex and duplicative. (See Annex VII).

The fusing of the manager/technician/trainer roles of the key project staff has strong synergistic benefits in improving the credibility and understanding of the program managers. It also places severe demands on their time and attention. The matter is complicated by what the ACSI-CCCD/C.A.R. 1989 Report called "the most serious threat to continued sustainability of the Project": an overextended Project Director. As the report noted, "Toward the end of 1989, the Director's ability to effectively manage preventive medicine activities was continuously being compromised by his appointment to numerous committees within and outside the health sector." These assignments are clearly not sought by the Director and he and his staff are trying to manage the burden the best they can. This situation may improve with the recent change in Ministers.

The Project has also operated for the last year in the absence of a USAID Health Officer in Cameroon, and no replacement is expected. It is understood that a decision has yet to be made as to whether this function will be moved to REDSO/WCA in Abidjan or to A.I.D./Washington. Filling this function as soon as possible will facilitate project administration.

### **C. RECOMMENDATIONS:**

Cognizant of the tremendous progress made so far, most of it in the last two years, the team makes the following recommendations to be carried out within the time and resources available.

1. There are several points of recommendation addressed to the DMPGE:

- DMPGE should provide additional technical assistance to the regional base, and extend its surveillance more routinely below the regional base level to

follow up on training, and assure that medicines, vaccines, spare parts and other essential inputs do not get stuck in the weaker management systems at the regional base level.

- DMPGE should consider greater use of the OR line item to explore management issues and to seek solutions to management problems, including the heavy workload of the Project Director (See VIII, Operations Research).
  - DMPGE should also seek to collaborate with the DG and other donors in reconciling and reducing the varied, voluminous and inefficient reporting systems required of field personnel down to the sub-center level.
  - DMPGE should assure the completion of its motor pool and logistics management system, and provide design and training assistance to the regional bases, followed by closer monitoring to assure that vehicles are used for distribution of inputs, mobile services, and supervision as intended.
2. In its planned technical assistance to the MOH in health care financing and management, the ALO should emphasize the strengthening of the management capacities of the Office of the Director General of Public Health (staff strength, training, systems, and computers).
  3. The Office of the DG should seek to strengthen its coordination role across the different Directorates while maintaining its current policy of decentralizing management, where appropriate.

## **X. HEALTH CARE FINANCING AND PHARMACEUTICAL DISTRIBUTION**

### **A. DISCUSSION:**

The 1986 Evaluation Report made certain recommendations with respect to health care financing. The implementation status of those recommendations is as follows:

- ACSI-CCCD, in collaboration with the REACH Project, has initiated several studies and conducted a national Roundtable on Health Care Financing. These efforts are expected to result shortly in additional A.I.D.-provided long-term technical assistance to the Ministry--in the form of a Health Care Financing Advisor--to be funded outside the ACSI-CCCD project.
- The information required of health facilities has been modified in the technical areas of the three principal ACSI-CCCD interventions but not in the area of costing the provision of products or services as suggested by the 1986 recommendation. This is expected to be covered by the additional A.I.D. support noted above.

#### **1. Achievements**

The REACH Project activities began two preliminary surveys on Cost Recovery; in September, 1986 and September/October, 1987. The surveys, which the authors characterized as small sample and non-random, were nonetheless useful in indicating a willingness to pay for health care products and services on the part of the Central Africans questioned. This was of particular interest to the MOH policy makers, because there was presumed to be a strong popular aversion to paying for health services. This followed an experience where the previous regime had sold Health Cards, and then absconded with the funds without providing the promised services. The REACH surveys indicated public willingness to pay for health services provided they could be assured that services would be received and that these services would be of good quality.

REACH followed these initial visits with a process-oriented consultancy to clarify the Ministry's interests, concerns, goals and objectives in the area of financing and cost recovery. The result was an agreement on the part of the MOH to host an A.I.D.-funded workshop, the end product of which was to be a plan of action to be submitted for the Minister's consideration. The participants were to represent the C.A.R.'s Ministries of Health, Finance, and Interior, the National Assembly, as well as private federations and councils.

A series of technical consultancy visits and Ministerial discussions occurred through late 1988 and early 1989 leading up to, and preparatory to, the workshop. The most important action taken was passage of legislation authorizing the collection of fees for government health services, called "popular participation." The workshop, a national multi-sectoral seminar aimed at consensus building, followed soon thereafter. A health care financing unit was established in the MOH and requests for long-term training for the units' staff were made by the ministry.

The timing was too late to find appropriate funding and to enroll participants in institutions for the 1989-90 academic year. The unit was subsequently abandoned, and the MOH and the ALO shifted their focus to sustaining the interest in local health management improvements, including exploring health care financing options in the public and private sectors.

Both the current ALO and his predecessor have provided strong and consistent support for health care financing under the aegis of the ACSI-CCCD project, and since 1989, have

pursued additional funding to provide greater assistance outside of the scope, capacities, and time limitations of ACSI-CCCD. Currently, A.I.D. is putting in place long-term technical assistance in the form of a three-year advisor to the Director General of Public Health to be funded through a buy-in the Global Health Care Financing Project. The sale of pharmaceuticals is frequently proposed as a part of a cost recovery scheme.

In the area of pharmaceutical distribution, the logistical improvements initiated under the EPI training, have carried over to yield a demonstrable improvement in the distribution of all project inputs from the directorates to the regions, and down to the health centers. The sub-centers, and health posts are still experiencing difficulties including frequent shortages of Chloroquine, and occasional shortages of ORS packets. While the logistics of pharmaceutical distribution have improved in support of ACSI-CCCD objectives, current management systems would need to be significantly revised (procurement accounting, distribution, pricing control, reprogramming of receipts) in order to support the sale instead of the free provision of pharmaceuticals.

The WHO is considering ways to strengthen the pharmaceutical distribution systems of both public and private sectors. The WHO Representative provided a draft of an executive summary of a consultant report (Annex VI) that provides interesting data regarding the current state of pharmaceutical distribution in C.A.R. The recommendations lean toward establishing a government committee consisting of several ministers, and the only two private pharmaceutical wholesalers in the country, to establish lists of allowable products and the prices at which they would be sold, and otherwise regulate pharmaceutical distribution. The WHO consultant estimates 84 percent of pharmaceuticals are bought by individuals retail from the private sector. The amount of pharmaceutical entering the country legally from other wholesalers in neighboring countries is not monitored.

The 1986 Evaluation cited 8 million Chloroquine pills received and only one million distributed under the project due to distribution bottlenecks. In 1988 the project received 2.4 million Chloroquine tablets and distributed 2.4 million. In 1989, they report receiving 10 million pills, and distributing 6 million. The project has greatly improved its ability to move pharmaceutical such as Chloroquine out of Bangui to the regional level, but remains somewhat hampered by lack of direct managerial control over the weaker systems at the regional base. What improvements there have been at the regional base level are generally attributed by the staff at the base to the training and technical assistance provided by DMPGE.

## **2. Actions Planned**

The new A.I.D.-funded Global Health Care Financing Project (the successor to the financing component of REACH) is now in a position to provide continuity. As noted above, discussions are underway with the ALO/ Bangui to provide, long-term technical assistance (a Health Care Financing/Health Management Advisor) to the MOH to be located in the office of the Director General of Public Health, separate from ACSI-CCCD.

Also as previously mentioned above, there is currently a draft OR protocol under discussion to conduct a study of the local retail sales of pharmaceutical products (especially Chloroquine).

## C. CONCLUSIONS:

### 1. Financing

The health care financing work accomplished under ACSI-CCCD/C.A.R. lay mostly outside the technical and experience range of the key project personnel involved, and so they wisely chose to pass this work to another A.I.D. project. For reasons outside the control of ACSI-CCCD/C.A.R., the REACH project had some difficulty getting started, but eventually provided some excellent assistance, especially from late 1988 to mid-1989.

### 2. Pharmaceutical Distribution

The ACSI-CCCD project has established in conjunction with UNICEF a distribution network for the DMPGE, independent of the Ministry's own distribution unit (PharmaPro). The DMPGE network provides the five regional bases with vaccines, Chloroquine, ORS packets, and miscellaneous materials and supplies necessary for the maintenance of the cold chain, and the mobile vaccination teams. The DMPGE must rely on the regional bases to distribute pharmaceuticals and medicaments to the periphery (hospitals, health centers, sub-centers, and posts.)

The DMPGE (ACSI-CCCD) pharmaceutical distribution network is complicated by the inefficiencies of the regional base, which is not under the direct supervision of the DMPGE and, which appears to need more systems design and staff training assistance than the project has been able to provide.

No accurate information is available about the variety, quality, quantity, or value of any pharmaceutical available on the market (pharmacies, depots, market stalls, and street vendors). The Inspector of Pharmacies is charged with monitoring pharmaceutical sales, but has not the resources to do so. There is no laboratory in C.A.R. capable of examining products on the market for contents and quality.

The Federation Nationale des Eleveurs Centrafricains (FNEC), the national livestock owners association, has with the assistance of the World Bank and under the supervision of the Ministry of Rural Development established a network of 28 Pharmaceutical depots across the country for veterinary medicines and supplies. The team had the opportunity to visit the depot in Ippy in Health Region No. 4, and was impressed by the efficient and flexible management, as well as the level of revenues generated, from the local unsubsidized sales of veterinary medicine.

The FNEC's net revenues, after local administrative costs but before subtracting the wholesale costs of imported medicines, is estimated to be two to three times the annual national budget of PharmaPro. This, and the WHO estimates of the volume of pharmaceutical products in C.A.R. sold retail, should enter into a more detailed future study of the potential for improved public- and private-distribution systems.

The proposed OR protocol to study Chloroquine sales should provide a useful snapshot with implications for programmatic decision making, which may be the most the DMPGE can undertake. The overall function of routine and continuous monitoring of the private pharmaceutical market still would need to be addressed. A clear distinction should be made, however, between monitoring and setting ethical and quality guidelines, and damaging the market with over-regulation.

### **C. RECOMMENDATIONS:**

Since health care financing will be dealt with in the future through another project, there are no recommendations on health care financing for this section, though there are some related recommendations in the following section on Sustainability. The following recommendation pertains to health care products and services including pharmaceutical distribution.

1. The new Health Care Financing/Health Management Advisor should explore with the GOCAR the benefits and opportunities of a competitive, private sector pharmaceutical distribution system, regulated as to ethics and quality, to supplement public sector partially- and fully-subsidized supply channels. This should be explored as well for the delivery of health care products and services, in general.

## **XI. PROGRAM SUSTAINABILITY**

### **A. DISCUSSION:**

#### **1. Achievements**

The ACSI-CCCD project staff and activities are fully integrated into the DMPGE at the national level. The ACSI-CCCD component activities are integrated into the DMCH/FP staff functions at the level of the health centers and sub-centers at the periphery.

The Government has institutionalized its policy of support for the ACSI-CCCD interventions, including the recent (1989) legislation backing participative cost recovery schemes for the MOH.

The fact that demand for ACSI-CCCD interventions (products and services) consistently outstrips the supply, clearly demonstrates the appreciation on the part of the general public in C.A.R. of the need for the ACSI-CCCD activities being implemented by DMPGE.

The technical capacity of the DMPGE and the MOH in general, to continue to provide ACSI-CCCD type services has been greatly enhanced by the extension of a properly functioning cold chain, and the high quality training of over 2,000 medical staff and community mobilizers in all regions.

#### **2. Actions Planned**

The project plans to continue to provide technical assistance in improving and extending its cold chain, motor pool, and health information support systems throughout the regions and periphery during 1990 and 1991.

A.I.D./W and UNICEF both have reductions in funding planned that have not been adequately discussed, nor has ACSI-CCCD and DMPGE had adequate information and opportunity to plan for the potential effects of funding cuts.

### **B. CONCLUSIONS:**

The ACSI-CCCD support mechanisms, although integrated into the DMPGE, have not been integrated into the overall MOH systems, and at this stage the project probably could not function if they were. The project will likely need to remain semi-autonomous of certain support functions for quite some time if it is to succeed in its objectives. For example, pharmaceutical distribution, cold chain support, the health information unit, the motor pool management (for which systems design has begun but implementation not yet completed), and administrative and financial services functions of the DMPGE are operating reasonably well and are clearly superior to those of the GOCAR.

#### **1. Training**

Currently, training appears to be the most sustainable activity of the project in terms of capacity building. This conclusion is based on the leadership provided by the Director of Preventive Medicine and the integration of technical, managerial, and training activities at DMPGE. Further, the style of collaboration with the TO, combined with the last two to three years of experience with in-service training, speaks in favor of a central capacity at the

Directorate level for sustaining this combination of training, technical assistance and monitoring.

This particular combination of technical assistance and training, while recognized as a model by other directorates, has not been institutionalized outside of DMPGE. It should be recognized that, while successful, it is in contrast to and in competition with other distinct management styles being practiced in the MOH, and, therefore, not at all assured of wide replication.

Consistent effort has been made to involve personnel from other sections of the MOH in the training and monitoring activities of the DMPGE, especially at the regional and peripheral levels. This can lead to an eventual decentralization of some or all of the training to a regional level. This would lighten DMPGE's burden and increase local responsibility and initiative. Cumbersome Ministry financial and administrative mechanisms, and shortage of resources, will continue to be an obstacle to complete integration for the foreseeable future.

## **2. Donor Coordination**

UNICEF currently provides vehicles, vaccines, and ORS packets in addition to technical assistance in administration, training and logistics. The UNICEF Interim Representative reiterated previous commitments to continue their full range of assistance to the DMPGE program after the current categorical funding from the Italians through UNICEF terminates later in 1990. Informally, it was hinted that such a commitment does not imply continuation of full funding of current activities. Indeed, it was estimated informally, that UNICEF funding in 1991 would be about 20 percent of the 1990 amount.

A.I.D./W sent its last shipment of measles vaccine in June 1990. There has been some recent cable traffic to suggest that any follow-on activity to the ACSI-CCCD project would need to be funded by buy-ins in each country. This will need to be carefully resolved by the U.S. Embassy, which faces the raised expectations of the GOCAR, and the lack of direct control over A.I.D. budget allocations for C.A.R. The ALO plans to pursue the issues and problems related to follow-on funding.

Given the rapid, recent evolution of both the service delivery and the HIS, much of the service and costing data which is needed for addressing questions of sustainability is not yet complete. Yet, given the information available, it is difficult to imagine how the project could suffer cuts in funding from UNICEF and from A.I.D. in the range of magnitude being discussed and still survive. It is not clear to the evaluation team what other options A.I.D. may have in its allocations to be able to continue the project, but it is clear that the GOCAR is not in a position at this time to shoulder the ACSI-CCCD project and sustain it with its own systems and human and financial resources.

The ALO is aware that a number of parallel initiatives are underway in the area of health care financing, health management, and pharmaceutical distribution, and that these could offer significant opportunities or obstacles for a long-term A.I.D. funded effort in health management improvement depending upon how they evolve.

The ADB is just beginning a technical assistance program to help improve through computerization the Ministry's management of its Division of Financial and Administrative Services (DSAF). Potentially this intervention could address the 1986 Evaluation Team recommendation to modify record keeping at all levels in the public sector in order to enable the routine determination of the costs of delivering products and services. This is a more profound and complicated task than it sounds, and it is not known whether the ADB and the DSAF intend to develop a system capable of supporting the sale of products and services by

government health facilities that would address issues of procurement, distribution pricing and collection and reprogramming of revenues. The Director of DSAF was reluctant to speak about details before the arrival of the ADB consultant.

In addition to the effort on pharmaceutical distribution cited above, the WHO has two other initiatives in various stages of development:

- Installation of a new consolidated planning and budgeting system. The process as described by the WHO representative and confirmed by the Director General of Public Health, would be a participative, bottom-up process starting at the sub-center level, consolidated at intermediate levels (prefectural and regional) through workshops and finalized at the national level with Regional and Medical Officers, and technical Directorates coming to a consensus. The entire process would synthesize and reconcile GOCAR-funded and donor-funded activities into one plan, and one budget for the Ministry.
- Under the leadership of the Director of the Division of Evaluation, Plan and Statistics, a system of community mobilization would be established including village health action committees and village cooperative pharmacy posts. The system as described may be duplicative and competitive with the village/community mobilization efforts of the DMPGE.

### **C. RECOMMENDATIONS:**

The evaluation team makes the following recommendations as ways to sustain the achievements the project has already made and move the project in future directions that will yield positive results.

1. The ALO should follow through on his plans to involve the A.I.D. Health Care Financing/Health Management Advisor in a collaborative process of planning and implementation regarding all four parallel initiatives under way: (a) the ADB computerization of the DSAF, (b) the WHO assistance in consolidating the Ministry's planning and budgeting system, (c) the WHO assistance to strengthen the primary health care system, and (d) the WHO assistance to reorganize and regulate public and private pharmaceutical product distribution.
2. The MOH and DMPGE should be provided external technical assistance to streamline and integrate various management information systems used at regional and peripheral health facilities, with the aim of reducing the number of entries, forms, and notebooks required, and merging all donor sub-systems into one integrated Ministry management and health information system.
3. A.I.D. and the U.S. Embassy/Bangui should pursue discussions regarding sectoral allocations with a view to finding sufficient funds to sustain the child survival activities, considering the expected decline in UNICEF funding.

**ANNEX I**  
**TERMS OF REFERENCE**  
**SCOPE OF WORK**

**STATEMENT OF WORK (SOW) FOR  
ACSI-CCCD 1990 EXTERNAL EVALUATION FOR CENTRAL AFRICAN REPUBLIC**

This version of the SOW supplied by A.I.D. for the Evaluation of the Africa Child Survival Initiative - Combatting Childhood Communicable Diseases (ACSI-CCCD) represents revisions by the contractor, Atlantic Resources Corporation, to include the concerns of USAID/Banqui put forward in a cable to A.I.D./Washington.

**I. OBJECTIVE**

The objectives of the external evaluations are to: (1) review actual versus planned progress towards the outputs, effects and impact of the project, (2) reassess the relevance of project objectives and targets to the host country's and A.I.D.'s program strategy, (3) identify and recommend solutions to persistent management or technical problems, (4) document factors accounting for success or failure of the project components and (5) estimate the sustainability of the project.

**II. BACKGROUND**

The ACSI-CCCD Project is the Agency's primary child survival project for Africa. The project has been designed to (1) strengthen the ability of African countries to control preventable childhood diseases through immunizations, (2) treat dehydrating diarrheas with oral rehydration therapy and (3) treat and prevent malaria with appropriate antimalarials. These major interventions are reinforced by support strategies that include, the development of health information systems, health education, training and operational research. The development of sustainable systems is an over-riding objective in all activities. When completed, the project hopes to achieve a 25 percent reduction in mortality rates of children less than five years of age.

The project is implemented through a Participating Agency Service Agreement (PASA) with the International Health Program Office, at the Centers for Disease Control (IHPO, CDC). Separate grants to the World Health Organization, Africa Regional Office (WHO, AFRO) and the Peace Corps support the training and health education component of the Project. In addition, HEALTHCOM, PRITECH, REACH and the Bureau of Census contribute technical assistance to many ACSI-CCCD project countries. Currently, the project is operational in ten African countries: Guinea, Liberia, Togo, Nigeria, the Central African Republic, Zaire, Burundi, Lesotho, Swaziland, and the Ivory Coast.

The sixth amendment to the ACSI-CCCD Project stipulates that AFR/TR/HPN, with the Missions are responsible for external evaluation of country projects, while the CDC is responsible for impact monitoring. In the implementation of these activities A.I.D. has maintained a schedule of rotating external evaluations

every other year with internal reviews in the intervening years. Country projects due for an external evaluation in 1990 include Zaire, Liberia, the Central African Republic and Nigeria.

### III. STATEMENT OF WORK

The contractor shall recruit, select and manage one team for an external evaluation of the ACSI-CCCD Projects in the Central African Republic.

Based on project-specific priorities of the Mission, the evaluation team will: (1) review the project agreement, extensions design, and health information collected by the project, (2) using available data, assess the plans and outputs (immediate goods and services provided), and report on the effects (intermediate effects on target audience knowledge, attitudes, and practices), quality of services and impact (morbidity/mortality) of the core project interventions, (EPI, CDD and Malaria) and the support strategies, (HIS, OR, health education, and training), (3) identify and pose solutions to persistent management or technical problems, (4) document factors accounting for success or failure in the project components, (5) assess the relevance of project objectives and targets to host country and A.I.D. strategy and (6) assess the sustainability of the project.

The following questions correspond to broad service delivery and support activities in the EPI, CDD and Malaria components of the project. These questions reflect the areas of concern (activities and process) that are critical for sustaining program effects and impact. The questions are intended to serve as a guide to focusing the evaluation. The Missions will review, prioritize and add to or delete questions in order to reflect the importance the Mission attaches to the individual project components, technical and management issues.

(The issues USAID/Banqui wishes the team to address are added below in boldface. These issues were prefaced with "in order to tailor core SOW to the C.A.R. CCCD program, and in the spirit of evaluation for the purpose of improving program operations, we suggest the following priority program components and relevant questions be evaluated by the external team in collaboration with host country nationals and USAID Mission."<sup>1</sup>)

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<sup>1</sup>The Mission in its cable also said:

(a) it was exploring the possibility of involving someone from the MOH Planning Unit or for the Ministry of Plan in the external evaluation, and

(b) a meeting of representatives from each of the 5 health regions to review progress in EPI/CDD/Malaria and other preventive medicine interventions has been rescheduled from May to June to allow participation of the evaluation team. This meeting

For each of the project's major interventions (EPI, CDD and Malaria) the team should assess the following:

a) Was a needs assessment of the interventions (EPI, CDD and Malaria) and support strategies (health ed, training, OR, HIS) conducted? Are objectives and targets (coverage, use, access, morbidity/mortality, behavior change, etc) identified? What is current status and can objectives be accomplished by end of project?

b) Is there a management system in place? Has a strategy been developed for the interventions and support strategies? Are national policies, work plans, schedule, standard treatment protocols, internal evaluation system and budgeting and financial controls developed?

USAID/Banqui adds the following:

Can the management system currently in place (USAID-Yaounde/Amembassy Banqui/MOH/Department of Preventive Medicine) and the technical support strategies that have been developed be sustained over the life of the project and beyond?

c) Has a logistics system been established for procurement, storage, distribution and inventory?

USAID/Banqui adds the following:

With what degree of effectiveness has the project been able to assure regular supplies of vaccines, ORS and chloroquine at regional, district and peripheral levels?

d) Has a system for health worker supervision, with objectives and targets, personnel development, training and work plans been designed and implemented? What were the effects and impact on health worker performance and quality of service delivery?

USAID/Banqui adds the following:

On the basis of C.A.R.'s experience in evaluating health worker performance in EPI and CDD via health facility surveys since 1988, how can a sustainable system of health worker supervision now be established and maintained?

e) Has a training plan, with work plans and training schedule been established to train personnel to operate the health service delivery and support system? Are training sessions evaluated and follow-up assessment of performance conducted? What are the

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will take place in Berberati from June 11-18.

effects of training on service delivery and health behavior of the target population?

USAID/Banqui adds the following:

What have been the effects of the EPI and CDD in-service training programs on EPI service delivery and diarrhea case management in the 5 health regions of the C.A.R.?

f) Has a health education system with work plans, schedule, materials development, communication and community mobilization activities been established to support project interventions? Were evaluations of activities conducted? What are the effects of health education activities on service delivery and health behavior?

USAID/Banqui adds the following:

What has been the effect of the EPI social mobilization program on the health behavior of the target population living in the immediate vicinity of fixed vaccination sites?

On the basis of the EPI social mobilization experience, what approaches/methods/materials should be retained for diarrhea disease control and malaria educational activities?

g) Are operations research needs identified and research conducted? Were OR findings used to correct operational, technical or management problems?

USAID/Banqui adds the following:

How were operations research needs identified in the C.A.R.? How can the findings from the CDD D.R. activities be used to assist decision-makers in considering a national policy on home available solutions?

h) Is there an information systems (HIS & MIS) developed to provide data for assessment of impact and management decisions? Has an assessment of the HIS/MIS needs been conducted? Is there a strategy and plan for collection of data? Have personnel been trained to manage the system? Is there a supervisory system in place to assure quality control? Are data collected, processed, interpreted, disseminated and used for program decision making?

USAID/Banqui adds the following:

How can decision-making at national, regional and district levels be improved with the considerable amount of data now being collected, processed, interpreted and disseminated in the C.A.R. ASCI-CCCD project?

Sustainability: The team will evaluate the prospects for long term sustainability of the project-funded activities in terms of the following elements which have been identified as important for sustainability.

- a) Effectiveness of technical interventions
- b) The institutional capacity of the government to implement the project
- c) A constituency for project activities
- d) Training
- e) Health care financing
- f) National leadership and strength of implementing country to negotiate with donors.

#### IV. REPORTING REQUIREMENTS

The evaluation team will provide five copies of the draft report, to the Mission, two working days prior to departure for review and discussion. The draft report shall include an executive summary. For francophone countries, the executive summary will be in French.

The contractor with the technical assistance of the team leader, will edit and produce the final draft of the report incorporating mission input. The Contractor will have 7 working days following the return of the evaluation team and the debriefing to produce the final edited draft for AFR/TR/HPN approval and USAID concurrence. AFR/TR/HPN will review, make final editing and substantive recommendations and return the approved draft to the Contractor within 5 working days. Upon reediting, the Contractor will have four working days to submit twenty copies of the final report to AFR/TR/HPN. French language translations of the report will be submitted for francophone countries. The contractor will have 10 working days following receipt of final comments from AFR/TR/HPN to submit a french translation of the report.

A.I.D.'s required format for evaluation reports as set out in A.I.D. Evaluation Handbook (April 1989), shall be followed in writing the final report. The following is a summary of the major sections:

1. Executive Summary
2. Project Identification Data Sheet
3. Table of Contents
4. Body of the Report - this should include the elements of the scope of work, as set forth in Section IV above and should be structured in accordance with the outline given in the A.I.D. Evaluation Handbook (purpose and study questions for the evaluation, findings, conclusions drawn from the findings and recommendations)
5. Appendices - including an update to the evaluation synthesis

matrix.

The body of the report should be no longer than 40 pages. Detailed discussions of methodological or technical issues should be placed in appendices. The recommendations based on the evaluation findings and conclusions should be stated as actions to be taken to improve project performance. The recommendations should specify responsible organization, USAID, MOH or A.I.D./W. The executive summary should not contain more than 20 recommendations.

**ANNEX II**

**LIST OF DOCUMENTS RECEIVED FROM A.I.D. WASHINGTON FOR  
CAR EVALUATION**

## ANNEX II

### LIST OF DOCUMENTS RECEIVED FROM A.I.D. WASHINGTON FOR CAR EVALUATION

1. Project Authorization (PP) 1981
2. CCCD Evaluation (French) 1983
3. CCCD Country Assessment, CAR, 1983
4. Project Grant Agreement 4 (with 3 attachements 4a-4c)
5. Revue CCCD/RCA 1985
6. CCCD CAR Program Review 1985
7. Country Summary 1985
8. External Evaluation ACSI/CCCD (Westinghouse) 1986
9. Annual Report 1987
10. Annual Report 1988
11. Annual Report 1989
12. Program Review 1989
13. Bilingual Annual Report 1988-1989
14. Child Survival Implementation Report 1989
15. Project Amandement 1988
16. Revision du Programme CCCD/RCA 1987
17. Leighton Trip Report (REACH) 1988
18. Feasibility Study ... Household Contribution ... (REACH) 1986
19. Cost Recovery in CAR (REACH)
20. Liste de Formations Sanitaires en Republique Centrafricaine
21. Carte de la Republique Centrafricaine (Densite de la Population)
22. Health Education Roundtable, CCCD Annual Conference, March 1990 "Monitoring and Improving Health Education at the

Facility Level"

23. Plan d'Operation pour la Mobilisation Sociale dans le Cadre du PEV 1989-1990
24. Vaccinons nos Enfants Protegeons notre Richesse: Serie d'Images avec Texte
25. Calendrier de Diffusion des Messages Educatifs PEV: Mobilisation Sociale
26. Depliant PEV (EPI Folder)
27. Rapport Concernant l'Enquete Paludometrique par Sondage Effectuee a Bangui en Republique Centrafricaine du 28 au 31 Octobre 1985
28. Etat de la Chimioresistance de Plasmodium Falciparum en RCA de 1984 a 1986
29. Protocole/Questionnaire de l'Enquete Communautaire sur les Pratiques Alimentaires pendant une Episode de Diarrhee
30. Sommaire de l'Etude sur le Traitement Precoce de la Diarrhee a Domicile au Moyen d'une Solution a base de Cereale en RCA 2 Mai 1989
31. Review and Evaluation of the Health Information System in the Central African Republic, December 1988 (J. KAHN)
32. Compte Rendu du Seminaire de Formation des Agents de Sante en Matiere d'Enquete CAP/PEV (Avril 1989)
33. Estimation de la Mortalite Infantile : Etude de la Naissance Precedente Effectuee a la Maternite des Castors Bangui, RCA, Janvier 1989
34. Protocole: Enquete Communautaire sur la Mortalite, Bangui, Avril 1990
35. Fiche d'Activites de Sante Publique et Tableau de Morbidite-Mortalite (Routine Surveillance Form)
36. Guide de Remplissage du Rapport de Surveillance Sentinelle
37. Analyses des Occasions Manquees au Niveaux des Vaccins Utilisant les Donnees d'une Enquete de Couverture Effectuee en RCA 25 Septembre 1989
38. Enquete Nationale de Couverture Vaccinale Janvier-Fevrier 1989
39. Geographic Distribution of the Population Served by EPI in the Eight Prefectures of Highest Population Density year: 1986

Population CAR: 2.728.787

40. Programme d'Extension du P.E.V. 1986-1990
41. Repartition des Centres PEV RCA 1987
42. Couverture Geographique PEV RCA 1987
43. Centres Fixes PEV en RCA Evolution: 1985-1989
44. Evolution des Centres Fixes PEV en RCA
45. Evaluation Internationale du Programme Elargie de Vaccination, RCA 1989, UNICEF
46. Analyse de la Gestion du Kerozene pour la Region Sanitaire No.3 pour les Annees 86-87-88
47. Plan d'Operation pour le Developpement Accelere du Programme Elargi de Vaccination: Plan d'Action 1988
48. Organigramme du Ministere de la Sante Publique et des Affaires Sociales

**ANNEX III**

**LIST OF PERSONS CONTACTED**

## ANNEX III

### LIST OF PERSONS CONTACTED

#### 1. MOPHSA/Banqui

Dr. Francois Sobela, Director General of Public Health  
Dr. Jean-Baptiste Rongou, Director of Preventive Medicine and Endemic Diseases (MPGE), and National Coordinator CCCD Project  
Dr. Jean Delmont, Director Curriculum, Medical Faculty Bangui (FACSS), and Head of Malaria Program  
Dr. Des Fontaines, Technical Advisor, Malaria (MPGE)  
Dr. Emmanuel Kiteze, Head of Expanded Program on Immunizations (EPI)  
Mr. Etienne Douelle, Chief EPI Division, Health Region I  
Dr. El Hadji Yaya, Head of Control of Diarrheal Diseases Program (CDD)/Malaria Program  
Mrs. Lucie Gabrielle Gbondjie, SMI Supervisor RSI  
Dr. Kpizingui Eugene, Head of Studies, Planning and Statistics Direction (DEPS)  
Mr. Henri Billaut, Head of State Pharmacy  
Mrs. Ruth Doutisonga, Head Health Education, DMPGE  
Mrs. Lucienne Mpoka, Director of Administrative Services and Financial Affairs (DSAF)  
Mr. David Ongbama, CCCD Project Accountant, DMPGE  
Mr. Joseph F. Naimoli, CCCD Technical Officer  
Mr. Aime Moise Boby, Head of Statistics Services at DMPGE  
Mrs. Yvette Agouo, Secretary Staff, Statistics Services DMPGE  
Mrs. Cecile Madouzoum, Secretary Staff, Statistics Services DMPGE  
Dr. Kilayo David, Pharmapro Director MSPAS  
Mrs. Picard Marie Elizabeth, Pharmacienne au Foyer de Charite  
Ms. L. Gaba, Director of Pediatric Service, CNHU

#### 2. UNICEF

Dr. Jean-Louis Excler, EPI Program Officer  
Mr. Kipsa Sawadogo

#### 3. WHO

Dr. Kalisa Ruti, Resident Representative

#### 4. FAC (French Assistance)

Dr. M. Carrie, Technical Advisor to the Minister of Health and Social Affairs

5. US Embassy

Ambassador, Mr. Simpson

DCM, Mary Marshall

6. USAID

Mr. Steven Brundage, USAID Liaison Officer, Bangui

Mr. Philippe Makendebou, Program Manager Assistant

7. Peace Corps

Ms. Kandice Christian, Associate Director for Health

Ms. Paulette Valliere, Third Year Volunteer

8. Field Trips

Contacted Supervisors and Health Care Delivery personnel in following Regions, Prefectures, Health Centers, sub-Centers and health posts.

a. Health Region I

Region IV Headquarters, Bangui  
ORT Demonstration Unit, Boy-Rabe  
Prefectoral Hospital, Sibut - Mr. Fidele Ngana  
Health Center, Yaloke, M'Baiki, bimbo, Castors  
M'Baiki - Mme Martine Moussa  
El Hadji Yaya  
Bimbo - Mr. Michael Gboe  
Albert Christ Kakola  
Health Sub-Center, Kobadja, Bobangui  
Kobadja - Faye Ngouyombo  
Bobangui - Mr. Paul Noel Bana  
Health Post Gbango, Fere  
Gbango - Mr. Pascal Kongho  
Fere - Mr. Fidele Ouakanga  
Region Sanitaire I - Dr. Jean Sarda

b. Health Region III

Prefectoral Hospital, Bossangoa  
Medical Center, Church of Grace Brethren, Boguila  
CS Ouham Pont  
SCS Nana-Bakassa  
CS Paoua  
CS Bocaranga  
PS Kounang  
FP Pende  
PS Bossemptele  
HP Bozoum

c. Health Region IV

Region IV Headquarters, Bambari

- Dr. Jean-Claud Ravolet
- Mme Fatou Soumbou
- Mr. Victor Balenguelenzenque

Health Center, Grimari - Mr. David Goni

Health Center, Ippy

- Clementine Ngaoka
- Mr. Richard Azoudanga
- Mr. Leopold N'Guelekossy

Regional Hospital, Bambari

- Mr. Mathias Pounebingui
- Mr. Pascal Kada

**ANNEX IV**  
**TRAINING AND HEALTH EDUCATION**  
**MATERIALS PRODUCED BY CCCD PROJECT/RCA**  
**1985-1990**

ANNEX IV

TRAINING AND HEALTH EDUCATION  
MATERIALS PRODUCED BY CCCD PROJECT/RCA  
1985-1990

Program	Material	Users
E P I	- Training Manual	- Regional Training Teams
	- Job Aids	- Health Personnel From Reg To Sub/Health Centers
	Publicity stickers	Health Personnel. Reg To Health Centers
	T-Shirt	Health Personnel Comun Mobilizers
	Hats	Health Personnel Comun Mobilizers
	Posters	Health Personnel. Reg To Health Centers
	Flyers	Health Personnel. Reg To Health Centers
	Flip charts	Health Personnel. Reg To Health Centers
	Song Competition	Radio and TV
Radio and TV Spots	Radio and TV	
C D D	- Training Manual	- Regional Training Team
	- Job Aids	- Health Personnel From Reg To Sub/Health Centers
	- Booklet on How to Treat Diarrhea at Home	- Mothers
	- T-Shirt	- Health Personnel. Reg To Health Centers
	- Comic book	- Health Personnel. Reg To Health Centers

Program	Material	Users
Social Mobiliza- tion for E P I	- Posters  Training Manual	- Health Personnel. Reg To Health Centers Regional and Prefectoral Training teams

**RECAPITULATION FOR TRAINING ACTIVITIES 1985-1990**

# Episo de of Trai ning	Date 1985/ 86	Course Title	Personnel	# of Parti cipants Trained	Course Length days	# of Per sone days of Trai ning
1	06-85	ORT	Peripheral Health staff	35	1	35
2	07-85	Management	Mid-Level Manager	6	10	60
3	07-85	CDD case management	Mid level Manager	2	10	20
4	10-85	In vivo CQ resistance studies	- " -	5	40	200
5	11-85	Survey Deve lopment/exec	- " -	3	5	15
6	12-85	Survey Inter view Tech	Peripheral Health	26	2	52
7	12-85 86	Program De velopment practicum	Mid level Manager	3	25	75
8	10-86	ORT	Peripheral Health	12	3	26
9	11-86	In vivo Q Resistance studies	- " -	3	10	30
S/TOT 9 Sess	17 Mon th	7 Courses	2 Categories	95	106	513
Cumulative number of Participants trained				95		
Percent life-Project-Target realized				9.5		

# Episo de of Trai- ning	Date 1987	Course Title	Personnel	# of Parti cipants Trained	Course Length days	# of Per son days of Trai ning
1	02-87	Computer operation	Senior level Officials	2	6	12
2	02-87	CDD case manag	Peripheral health staff	11	6	66
3	03-87	- " -	Senior level Officials	1	6	6
4	05-87	- " -	Peripheral health staff	8	6	48
5	06-87	- " -	- " -	10	6	60
6	8-87	EPI Refrige rator Maint	Peripheral health staff	7	6	42
7	09-87	Computer operators	Senior level Officials	2	24	48
8	11-87	EPI/CDD/Ma- laria	Mid level Manag	30	5	150
9	12-87	EPI/CDD/Res piratory diseases	- " -	4	10	40
10	12-87	EPI	- " -	40	1	41
S/TOT 10 Ses- sions	11Mon th	6 Courses	3 Categories	115	76	513
Cumulative number of Participants trained				210		
Percent nbre of-Project- Target realized				21		

# Episode of Training	Date 1988	Course Title	Personnel	# of Participants Trained	Course Length days	# of Person days of Training
1	03-88	EPI/CDD/Malaria KAP Surveys	Mid Levels Managers	35	6	210
2	03-88	Health Care Financing	Senior Level managers	6	4	24
3	06-88	EPI TOT	Mid Level managers	35	10	350
4	08-88	Computer Operation	Mid Level managers	2	6	12
5	08-88	Computer Operation	- " -	2	30	60
6	11-88	EPI In-service Training workshop RS 5	EPI field Personnel	38	8	304
7	11-88	EPI In-service Training workshop RS 4	- " -	51	8	408
8	12-88	EPI In service Training workshop RS 3	- " -	61	8	488
9	12-88	EPI In service Training workshop RS2	- " -	56	8	448
S/TOT 9 Sessions	10 Months	5 Courses	3 Categories	286	88	2304
Cumulative number of Participants trained				496		
Percent nbre of-Project- Target realized				49		

# Episo de of Trai- ning	Date 1989	Course Title	Personnel	# of Parti cipants trained	Course Length days	# of Person days of Trai- ning
1	01-89	Epi In ser- vice Trai- ning work- shop SR 1	EPI Field Personnel	117	8	936
2		KAP Survey Tech.for Community mobilization	Prefectoral Health / ED-Teams	96	6	576
3		TOT for Com mun mobili- zation	- " -	96	6	576
4		Mobilization Techniques	Health agents - community mobilizers	150	3	450
5		Technniques of Health facility Training needs asses sment	Regional Health teams	1000	3	3000
6		National Symposium on ORT	Physicians	25	2	50
				50	3	150

S/TOTAL 6 Ses	2 Courses	4Categories	1534	31	5738
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Cumulative number of Participants trained		2030
Percent life of-Project- Target realized	103	Excluding community mobilizers

Nbre Episo de of Trai- ning	Date 1990	Course Title	Personnel	Number of Parti cipants Trained	Course Length days	Mbre of Person days of Trai- ning
1	03-90	Mobilizatio Techniques	Health agents Mobilizers	150 1000	3 3	450 3000
2	06-90	CDD case urgent	Health agents	215	6	1290
3 3	06-90	TOT for CDD	Regional Health teams	16	2	32
S/TOTAL 3 Ses 6Mon- ssions th		3 Courses	3Categories	1381	14	4772
Cumulative number of Participants trained						3411
Percent life of-Project- Target realized					141	Excluding community mobilizers

**ANNEX V**

**C A R**

**EVALUATION CONTENT ACSI-CCCD**

Project Start Date: May 1984 LOP Funding: \$639,114

Categories	EPI	CDD
<p>Plans Needs assessment, goals &amp; objectives, planned inputs, expected outcomes</p>	<p>Objectives set in 1984; revised in 1988                      target: decrease mortality due to:                      measles: 40%                      MNT: 35%                      pertussis: 25%                      increase national coverage to:                      BCG DPT/OPV measles TT                      55% 40% 45% 45%                      baseline 1984:                      EPI activities ongoing since 1980; integrated into programs and services at all levels                      coordination, logistical &amp; cold chain support at central level                      EPI integrated into MCH services at periph. level</p>	<p>Objectives set in 1984; revised in 1988                      target: decrease mortality due to diarrheal disease by 30%                      increase proportion of population with access to ORT to at least 55% by 1988                      increase proportion of mothers of &lt;5's who use ORT to 40% by 1988                      baseline 1984:                      before CCCD, no formal plan for a CDD program                      ORS recently available to MCH project. ORT included                      ORT included in MCH health education at centers                      ORT practice generally ineffective; no instruction                      no baseline data on cases or practices</p>
<p>OUTCOMES (Actual v. planned) (1) Outputs that was provided, accomplished? (2) Quality How well are new systems/skills used? (3) Effects Access &amp; coverage What are effects on KAP of target population? (4) Impact What is impact on morbidity/mortality?</p>	<p>(1)                      27 new fixed centers added 1987-1988                      2 mass measles campaigns in rural areas in 1986 and 1987 increased national measles coverage to 51%                      three series of National Vaccination Days in 1988                      began instituting kerosene management system (1988)                      national policy of sterilization adopted; steam sterilizers, needles, syringes distributed to all vaccination centers; practices evaluated                      national Plan for Community Mobilization developed in 1988                      implemented national in-service training program: 123 agents trained in correct EPI practices                      services extended via outreach to most heavily populated areas: 15 mobile teams in 1988                      health worker's practices evaluated in 55% of fixed posts in '88 to introduce observation of practices into supervisory routine                      hospital surveillance systems in process of implementation (ready in 1989)                      (3)                      1988 national coverage levels:                      BCG DPT1/OPV1 DPT3/OPV3 measles TT1 TT2                      84% 68%/70% 42% 55% 57% 40%                      (TT in women giving birth over past 12 months)                      (4)                      MNT incidence: 0.8/100,000 cases in 1988                      1981 rate: 1.5; flux between 2.3 and 2.6 1984-7                      Measles incidence: 11/100,000 cases in 1988;                      between 1980 and 1987, incidence ranged from high of 247 in 1984 to low of 54 in 1985                      Polio incidence: 0.5/100,000 cases 1988;                      3 year cycle: 6.4 in '81 followed by 2 yr decline                      6.8 in '84 followed by 2 yr decline                      Pertussis incidence: 22/100,000 in 1988;                      45/100,000 in 1981, high of 85/100,000 in 1985                      steady decline in incidence since 1985</p>	<p>(1)                      KAP study conducted in 1985                      1985 ORT unit opened at central hospital in Bangui                      member of national team trained in ORT in 1985                      ORT treatment units installed in 4 prefectural hospitals and 3 outpatient facilities (1986)                      developed National Program for CDD (1986)                      baseline levels of diarrheal inpatient mortality first measured in 1987                      ORT units established in 3 prefectural hospitals (1988)                      10 ORT demonstration units established by 1988;                      staff assigned to units trained in appropriate case management                      detailed training plan developed 1988; implementation postponed until 1989                      trained 76 health workers in ORT, case management                      to staff existing ORT units                      OR study of mother's use of cereal based solutions in home completed (1988)                      patient education materials produced (1988)                      case management data from ORT units entered into HIS (1988)                      pre-test of CDD health facility survey instrument in 1988                      major reassignment of health personnel in 1988                      (2)                      data on case management listed; evaluation of 3 out of 4 units in regional hospitals showed that 70-90% of children were being treated with adequate amounts of ORS; 53-78% gained adequate weight; and 61-94% were leaving unit rehydrated                      (4)                      3 regional hospitals with functioning ORT units reported case fatality rate of 3.7% in 1987; same hospitals report 5.7% rate in 1988</p>
<p>CONCLUSIONS (1) Institutionalization: To what degree does MOH support systems? (2) Program strengths (3) Problems/Constraints that factors limited achievement of targets? (4) Lessons learned: what worked? what did not work? Recommendations?</p>	<p>(1)                      EPI activities in '88 provide models for in-service training and supervision of health personnel and for community health education                      in-depth review of cold chain in 1988 revealed underestimation of kerosene needs and lack of adequate storage capacity have been addressed                      replacement needs for refrigerators being monitored                      (3)                      trend data on disease mortality rates and reduction not available                      shortages of supply in 1986 and 1987 due to funding                      problems between UNICEF &amp; Italian Government delay donor coordination caused significant delays in delivery of health services                      (4)                      Ministry, UNICEF and USAID failed to adequately coordinate planning of EPI activities to ensure complementarity                      technical training of health personnel in EPI postponed in 1986 and 1987</p>	<p>(2)                      donor conference on AIDS and WHO-sponsored seminar on health policy in CAR immediately following National Vaccination Days engaged CDD resources                      ambitious 1989 workplan                      (3)                      1988 implementation of workplan and training schedule slow due to redirection of resources for National Immunization Campaign                      shortage of health personnel impeding opening of 20 ORT rooms in out-patient facilities                      lack of adequately trained health personnel serious constraint to implementing National CDD; inappropriate therapy using variety of antibiotics widely practiced according to 1988 survey                      personnel in ORT units last trained in 1986, supervision limited to resupplying units with materials since 1986                      (4)                      use of mass media and social marketing strategies should be considered for implementation of CDD at community level (from 1986 evaluation)                      training, health education, supervision following EPI model developed in 1988 needed                      high priority should be given to training of all regional level personnel so that demonstration &amp; training units say be opened in each region for</p>

Categories	MALARIA	TRAINING
Plans Needs assessment, goals & objectives, planned inputs, expected outcomes	<ul style="list-style-type: none"> <li>o target: increase proportion of population with access to cq treatment/prophylaxis to 55% by 1988</li> <li>o increase proportion of &lt;5's in target areas utilizing presumptive cq treatment to 40% by 1988</li> <li>o increase proportion of pregnant women in target areas utilizing cq for prophylaxis to 40% by 1988</li> <li>o baseline 1984:               <ul style="list-style-type: none"> <li>no formal malaria control strategy</li> <li>malaria cases treated through MCH system and curative medical care</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>o target: 1000 people involved with project (primarily MSPAS staff) to receive technical training at different levels</li> <li>o strengthening health delivery system is primary goal; training materials to be developed, adapted as needed</li> <li>o in-service training plan developed in 1988</li> </ul>
OUTCOMES (actual v. planned) (1) Outputs What was provided, accomplished? (2) Quality How well are new systems/skills used? (3) Effects Access & coverage What are effects on KAP of target population? (4) Impact What is impact on morbidity/mortality?	<ul style="list-style-type: none"> <li>(1)           <ul style="list-style-type: none"> <li>o national program adopted in July 1986</li> <li>o cq distributed to all health facilities (1986)</li> <li>o new malaria policy announced (1986)</li> <li>o MCH is documenting resistant strains through in-vivo studies (1988)</li> <li>o appropriate treatment recommendations and national policies based on studies were prepared and distributed to health workers (1988)</li> <li>o 5 health workers attended 2-month malaria training course in Zaire (1988)</li> <li>o in-vivo cq sensitivity studies completed in 2 different health regions; results show level of resistance to current recommended dosage is weak (1988)</li> <li>o retrospective study of hospitalized cases &amp; deaths among children under 15 attending pediatric ward of Nat'l University Hospital in Bangui completed (1988)</li> <li>o preliminary training materials developed for use in 1989 in-service training program for case mgmt ('88)</li> <li>o pre-tested fever/malaria health facility survey instrument for ascertaining health worker practices in malaria case management in two regions</li> <li>o baseline levels of inpatient mortality from malaria first measured in 1987 through record review</li> </ul> </li> <li>(2)           <ul style="list-style-type: none"> <li>o 1985 KAP surveys showed incorrect dosages, history taking, and physical examination; Mivaquine alone prescribed 56% of time; quinine alone 47% of time; treatment provided only after thick smear confirmation in 50% of cases</li> <li>o 1988 11-facility survey shows little improvement; cq routinely prescribed as first-line drug, but only 1/11 used correct dosage; injectable quinine used in 50% hospitals; 20% followed monitoring guidelines; most facilities used proper prophylaxis for pregnant women, but half prescribe prophylactic doses for &lt;5's; correct management of cq tablets was infrequent; health education counseling found to be routine in 80% of facilities (Note: survey relied primarily on health worker reporting)</li> </ul> </li> <li>(4)           <ul style="list-style-type: none"> <li>o 1987 case fatality rate for &lt; 5's from 3 regional hospitals = 1.0%; 1988 rate = 2.7%</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>(1)           <ul style="list-style-type: none"> <li>o training of trainers, training design transferred to health education unit in 1987</li> <li>o national training strategy and plan for EPI developed in 1988; will be replicated for CDD and Malaria</li> <li>o held workshop on conducting KAP surveys for EPI, CDD and Malaria for regional health trainers and supervisors</li> <li>o held workshop on health care financing attended by Secretary General and Dir. General of Health (1988)</li> <li>o computer training in Kinshasa for staff of Preventive Medicine &amp; Planning &amp; Statistics, MSPAS (1988)</li> <li>o EPI Managers' workshop attended by representatives from Preventive Medicine, MCH and CCCD Technical Officer in Mali</li> <li>o implementing national in-service training program in which 323 agents from all 5 health regions are trained in correct EPI practices (current)</li> <li>o developing in-service training manual (EPI) in collaboration with regional trainers/supervisors (in progress as of 1988; finished 1989)</li> <li>o in process of training trainers in effective delivery of training (EPI) (ongoing)</li> <li>o training health workers in fixed posts in vaccine and kerosene management (ongoing)</li> <li>o preliminary training materials developed to be used in 1989 in-service training program for case management (1988)</li> <li>o 1988 Training Summary: 318 peripheral health staff trained (39% of LOP target); 167 mid-level managers trained (86% of LOP target); 11 Senior Level Officials trained (183% LOP target)</li> </ul> </li> </ul>
CONCLUSIONS (1) Institutionalization: To what degree does MCH support systems? (2) Program strengths (3) Problems/Constraints What factors limited achievement of targets? (4) Lessons learned: What worked? What did not work? Recommendations?	<ul style="list-style-type: none"> <li>(13)           <ul style="list-style-type: none"> <li>o delays in developing National Strategy - approved in 1986</li> <li>o unplanned, uncoordinated Vaccination Campaigns &amp; importance placed on EPI program have diverted human resources from Malaria program since 1986</li> <li>o Malaria Program without a Director for all of 1987</li> <li>o lack of adequately trained health personnel serious constraint to implementing National Malaria policy</li> <li>o great variety in dosage regimes</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>(2)           <ul style="list-style-type: none"> <li>o training plan comprehensive: includes needs assessment, training materials development, training of regional trainers, evaluation</li> <li>o regional staff participated and collaborated in developing EPI training materials; created ownership &amp; constituency for updating, revising material</li> <li>o data from health facility survey conducted as part of training strategy was used effectively with Minister: demonstrates how rapidly health information can influence project management decisions</li> </ul> </li> <li>(3)           <ul style="list-style-type: none"> <li>o training plans for intervention activities very late in coming (1988)</li> </ul> </li> <li>(4)           <ul style="list-style-type: none"> <li>o need training course in vehicle maintenance/repair</li> </ul> </li> </ul>

Categories	HEALTH EDUCATION	HIS
<p>Plans Needs assessment, goals &amp; objectives, planned inputs, expected outcomes</p>	<p>o target: health education and promotion activities will include use of mass media, printed materials, &amp; community specific activities</p> <p>o revised for 1990: assist the MSPAS in developing strategies to assist families &amp; healthcare providers to adopt behavioral practices that would contribute to the reduction of target diseases</p> <p>o baseline 1984: considerable capacity and level of activity in MSPAS health education unit at project start</p>	<p>o target: HIS will be strengthened to improve the collection, tabulation and analysis of operational and surveillance data; emphasis on: 1) early tracing of cases of targeted diseases; 2) rapid intervention if necessary by the services involved in the project; &amp; 3) use of surveillance data for planning and evaluation of the program</p> <p>o baseline 1984: before CCCD: system of routine diseases (70) and health activity reporting exists</p>
<p>OUTCOMES (actual v. planned) (1) Outputs What was provided, accomplished? (2) Quality How well are new systems/skills used? (3) Effects Access &amp; coverage What are effects on KAP of target population? (4) Impact What is impact on morbidity/ mortality?</p>	<p>(1) o KAP survey formed basis of integrated health ed strategy</p> <p>o health ed unit at 25% strength in 1986; lacking resources to produce radio/ty program, training materials and transport</p> <p>o short-term TA needed; scope of work, recruiting done in 1987</p> <p>o health educators assigned to CCCD project in 1987</p> <p>o Peace Corp provided TA in health ed and training</p> <p>o health education services decentralized in '88 by:</p> <p>1) designating members of regional health offices as planners/trainers/supervisors of health ed. in their areas; 2) establishing 16 prefectural-based health ed. teams responsible for conducting formative research in communities, training/supervising locally identified health educators, and evaluating effectiveness of health ed. efforts; 3) establishing health ed committees at commune level to choose, organize and supervise local health educators</p> <p>o health worker practices in health ed for EPI were evaluated and a health ed. module was developed and used in training 323 health workers during national in-service training program (1988)</p> <p>o Health Ed. Unit developed National Community Mobilization Plan for EPI in 1988</p>	<p>(1) o National cluster survey to get baseline EPI coverage information conducted in 1985</p> <p>o in-depth review of HIS conducted in 1986</p> <p>o began rationalizing of data collection by simplifying reporting forms and improving reporting system (1986)</p> <p>o IBM/AT PC purchased for analysis of project data</p> <p>o no population based surveys had been performed to develop morbidity/mortality info of CCCD diseases</p> <p>o central level computer system in place in 1987</p> <p>o two computer programs for EPI developed in 1987: one for data entry and analysis of vaccination statistics by health center and region; other tracks EPI materials in all health centers in CAR</p> <p>o comprehensive review of existing HIS completed in 1988; 2 Year plan of action developed</p> <p>o data management system developed for analyzing data from health facility survey (1988)</p> <p>o vaccination coverage survey designed in 1988</p> <p>o National Vaccination Coverage Survey conducted (1989)</p> <p>o Computer training in Kinshasa for staff of Preventive Medicine &amp; Planning &amp; Statistics, MSPAS</p> <p>o major hospital surveillance system designed to be instituted in 16 sentinel hospitals in 1989; data management program for analyzing these data</p>
<p>CONCLUSIONS (1) Institution- alization: To what degree does MOH support systems? (2) Program strengths (3) Problems/ Constraints What factors limited achieve- ment of targets? (4) Lessons learned: What worked? What did not work? Recommendations?</p>	<p>(2) o Consistent, short-term TA provided thru Peace Corp. and CDC - strengthened unit in 1988.</p> <p>o Peace Corp volunteer assigned to Unit and other volunteers to each of the five regions and several prefectures in 1989</p> <p>o success of project depends on ability to utilize existing health ed unit - unable to until 1988</p> <p>o inability to find working space impeded work significantly in health education - space acquired in 1988</p>	<p>(2) o 1986 Evaluation noted willingness of personnel to collect and report information</p> <p>o problems with CDD case management system resolved in 1988</p> <p>o computer operations strengthened in 1988. Hardware, support materials, training of personnel provided</p> <p>(3) o 1986 Evaluation findings: o major constraint at health center level was consistent lack of printed forms and/or paper</p> <p>o unnecessary duplication of reporting directly from regions to national Directorates</p> <p>(4) o from 1986 evaluation: o epidemic response capabilities need strengthening</p> <p>o supervisory visits should verify HIS data</p> <p>o central level should consider publishing an epidemiological bulletin</p> <p>o training in all regions needed to acquaint health personnel with new HIS system</p> <p>o due to relatively small number of facilities and apparent willingness of staff to collect data, 1986 Evaluation team recommends comprehensive HIS rather than sentinel surveillance system</p>

Categories	OR	CROSS CUTTING COMMENTS (SUPERVISION, SUSTAINABILITY)
<p>Plans Needs assessment, goals &amp; objectives, planned inputs, expected outcomes</p>	<p>no OR targets set until 1988</p> <p>target for 1988-1990: (1) Train CAR researchers in epidemiologic techniques for problem identification, investigation, and resolution; (2) perform specific OR studies in EPI, ORT, and Malaria</p>	<p>goal for future of project is the linking of the array of support strategies, needs assessments, supervision, training, social mobilization and health education into a comprehensive system that has been institutionalized into Directorate of Preventive Medicine</p>
<p>OUTCOMES (Actual v. planned) (1) Outputs What was provided, accomplished?  (2) Quality How well are new systems/skills used?  (3) Effects Access &amp; coverage What are effects on KAP of target population?  (4) Impact What is impact on morbidity/ mortality?</p>	<p>no OR protocols from CAR researchers have been submitted to Francophone CCCD Research Board (1985)</p> <p>OR focus in 1988 on cereal-based home solutions for preventing dehydration</p> <p>resistance studies for the documentation of cq resistance in the CAR planned for 1989</p>	<p><b>SUPERVISION</b></p> <p>1988 supervisory workplan developed with check-list</p> <p>supervisory skills included to a limited degree in training</p> <p>supervision to be emphasized in second phase of project</p> <p>evaluating health workers' practices in 55% of all fixed posts nationwide in 1988 (for EPI)</p> <p>regional supervisors being encouraged to visit workers regularly to reinforce new skills (EPI)</p> <p><b>SUSTAINABILITY</b></p> <p>auto-financing study in 1986 examined possibilities for self-sustaining activities in health sector - political implications</p> <p>GOCAR has contributed 72% of its cumulative budget obligations despite stringent International Monetary Fund financial controls</p> <p>health expenditure study performed in 1987 show 75% of respondents willing to pay for care at public centers; 75% willing to pay for drugs at government centers if availability assured; proximity cited as reason for use of public centers</p> <p>Minister of Health requested AID help in development and implementation of a cost recovery program</p> <p>legislation drafted in 1988 mandating payment of fees for health services in CAR</p> <p>workshop on Health Care Financing attended by officer to Embassy in Banqui</p>
<p>CONCLUSIONS (1) Institution- alization: To what degree does MOH support systems?  (2) Program strengths  (3) Problems/ Constraints What factors limited achieve- ment of targets?  (4) Lessons learned: What worked? What did not work?  Recommendations?</p>	<p>(3) funds for OR underutilized</p> <p>(4) wider use should be made of OR funds</p> <p>provide assistance in preparing research protocols</p>	<p><b>SUPERVISION</b></p> <p>lack of transport, gasoline and per diem for supervisory visits limits supervision and training in the health facilities</p> <p><b>SUSTAINABILITY</b></p> <p>(1) GOCAR contributions far exceed performance of other African countries</p> <p>(2) indicators for sustainability: 1. GOCAR seats PROAG contributions despite fiscal crisis 2. progress in policy reform and program development in health care financing shows commitment to cost recovery and sustainability</p> <p>project extension funds will be used to replace essential vehicles and increase capital stock for ORS and cq in a revolving fund to be set up</p> <p>(4) 1989 recommendation that TO and Directorate of Preventive Medicine develop a sustainability strategy with corresponding project indicators to document effects of GOCAR policy change and TA from REACH activities on CCCD interventions and support strategies.</p>

Categories	PROGRAM MANAGEMENT
Plans Needs assessment, goals & objectives, planned inputs, expected outcomes	<ul style="list-style-type: none"> <li>o baseline information:</li> <li>o basic health care implemented in CAR prior to CCCD through MCH Project and EPI</li> <li>o MCH integrated into PHC service</li> <li>o number of fixed PHC centers increasing nationwide in 1983, 63 MCH centers, with resources to expand to 75 by 1985; in 1982, approx. 35% of pregnant women and children 0-11 months in entire country were registered at MCH centers, received at least 1 service</li> <li>o Amplified Project Description includes methods of measurement, verifiable indicators for each target</li> <li>o country assessment done 1983</li> </ul>
OUTCOMES (actual v. planned) (1) Outputs What was provided, accomplished? (2) Quality How well are new systems/skills used? (3) Effects Access & coverage What are effects on KAP of target population? (4) Impact What is impact on morbidity/ mortality?	<ul style="list-style-type: none"> <li>(1)</li> <li>o GOCAR: decentralization of day to day mgmt of CCCD program; integration of CCCD activities into MCH/FP structure</li> <li>o during first 2 years of project, 5 months of TA provided; full-time TO assigned 1/86</li> <li>o all 11 of the '87 evaluation recommendations have been followed by MSPAS</li> <li>o PACD date of project extended to 9/1991 with funding of \$750,000</li> <li>(2)</li> <li>o Access &amp; coverage</li> <li>o What are effects on KAP of target population?</li> <li>(3)</li> <li>o Access &amp; coverage</li> <li>o What are effects on KAP of target population?</li> <li>(4)</li> <li>o Impact</li> <li>o What is impact on morbidity/mortality?</li> <li>(1)</li> <li>o CCCD integrated into GOPCAR PHC activities</li> <li>(2)</li> <li>o quality of national level program leadership and executive management noted repeatedly</li> <li>(3)</li> <li>o delay in assigning full time T.O. (1/86)</li> <li>o technical collaboration and logistical support provided by AID Liaison Officer (ALO) in Bangui and HPH Officer in Cameroon contributed to effective program management - must be sustained; prior to ALO procurement very slow, communication poor</li> <li>o unfinished reorganization of the MOH according to WHO recommendations, and the planning of a national PHC program under WHO auspices will affect CCCD</li> <li>o due to delays in implementation, too many activities programmed for 1989 and 1990</li> <li>o shortage of professional personnel, especially nurses observed in 1986 Evaluation</li> <li>o information between national/regional levels does not flow smoothly</li> <li>o lack of formal guidance and directives from central offices allows wide variation of priorities, practices at regional level: need defined set of standards to judge performance</li> <li>o MSPAS, UNICEF, USAID failed to adequately coordinate planning EPI activities to ensure complementarity: quarterly meetings began 11/87, improvement in early 1988</li> <li>o implementation of National Campaign days, an unplanned activity in EPI strategy, caused tension</li> <li>o improved coordination renewed 11/88</li> <li>o trade off between OR, RIS may be inevitable (1989)</li> <li>(4)</li> <li>o continuity of high quality TO critical to project</li> <li>o MSPAS wants CCCD to concentrate on training, RIS: UNICEF to support EPI and other aspects of project</li> <li>o 1986 Evaluation: need closer cooperation in planning and supervision of field operations between MCH/FP Directorate and Preventive Medicine/Endemic Diseases Directorate</li> </ul>
CONCLUSIONS (1) Institution- alization: To what degree does MOH support systems? (2) Program strengths (3) Problems/ Constraints What factors limited achieve- ment of targets? (4) Lessons learned: What worked? What did not work? Recommendations?	<ul style="list-style-type: none"> <li>(1) Institution- alization: To what degree does MOH support systems?</li> <li>o trade off between OR, RIS may be inevitable (1989)</li> <li>(2) Program strengths</li> <li>o continuity of high quality TO critical to project</li> <li>o MSPAS wants CCCD to concentrate on training, RIS: UNICEF to support EPI and other aspects of project</li> <li>o 1986 Evaluation: need closer cooperation in planning and supervision of field operations between MCH/FP Directorate and Preventive Medicine/Endemic Diseases Directorate</li> <li>(3) Problems/ Constraints What factors limited achieve- ment of targets?</li> <li>o UNICEF to support EPI and other aspects of project</li> <li>o 1986 Evaluation: need closer cooperation in planning and supervision of field operations between MCH/FP Directorate and Preventive Medicine/Endemic Diseases Directorate</li> <li>(4) Lessons learned: What worked? What did not work?</li> <li>o Recommendations?</li> </ul>

**ANNEX VI**

**MISSION DE CONSULTATION OMS SUR LA  
SITUATION PHARMACEUTIQUE EN RCA**

MISSION DE CONSULTATION OMS SUR LA SITUATION  
PHARMACEUTIQUE EN RCA  
SYNTHÈSE

Dr SOUOGOANOU

OBJECTIFS DE LA MISSION

- Procéder à une analyse sommaire de la situation pharmaceutique en RCA
- Identifier les problèmes concernant les composantes d'une politique pharmaceutique nationale
- Formuler des propositions susceptibles d'initier un appui de l'OMS.

DEROULEMENT

- Période 28 Mai - 2 Juin 1990
  - Personnes rencontrées = 27
  - Documents consultés = 35
  - Visite de la Pharmapro
  - d'un Centre de santé à Damara
  - de l'Hôpital Préfectoral de Sibut
  - d'un dépôt à Damara
  - d'une officine à Bangui : Pharmacie Sambo
  - d'un grossiste répartiteur : SODIPHAC
- soit 6 établissements médico-pharmaceutiques

SITUATION SANITAIRE ET SYSTEME DE SANTE

Les problèmes sanitaires en RCA sont communs à la Région avec des indicateurs défavorables et aggravés par l'enclavement du pays et le niveau assez bas des revenus. L'état de sous développement caractérisé par un PNB de 290 \$ classe la RCA parmi les pays les plus pauvres du monde.

Le système sanitaire en pyramide est organisé en 6 niveaux dont 5 opérationnels et 1 de conception :

- Le Ministère de la Santé Publique
- La Région Sanitaire avec l'hôpital régional : 4 + 1
- La Préfecture Sanitaire avec l'hôpital préfectoral : 11
- La Sous-Préfecture avec le centre de santé : 60
- La Commune avec le sous-centre de santé : 76

- Le Village avec le poste de santé et les cases de santé 196

La quasi-totalité des formations sanitaires se trouve dans le secteur public qui dispose de 90 % de lits d'hospitalisation contre 10 % dans 27 formations sanitaires du secteur privé.

De nombreuses expériences de santé sont en cours ou en perspective à la périphérie, initiées par les ONG, la coopération bilatérale et multilatérale. L'appui de cette catégorie d'intervenants est non négligeable.

### VOLONTE POLITIQUE

Pour faire face à la situation sanitaire préoccupante, le Gouvernement manifeste une volonté politique afin de réorienter le secteur santé. L'expression de cette volonté peut s'établir à travers les éléments ci-après :

- séminaire pour l'accélération des SSP
  - loi 89/003
  - création des organes et structures des SSP
  - création et organisation des régions sanitaires
  - mobilisation sociale importante pour la micro-planification depuis la périphérie
- Mais tout ceci mérite d'être traduit en activités coordonnées, planifiées, évaluées.

### SECTEUR PHARMACEUTIQUE

Le marché pharmaceutique en RCA peut être estimé à 3,5 milliards en 1989 - réparti comme suit :

#### Secteur public :

- Pharmapro et Pharmacie d'Etat = 5 %
- Coopération = 10 %

#### Secteur privé :

- ONG = 1 %
- Privé commercial = 84 %

.../

Cependant, les besoins ci-après peuvent être faits :

- Pénurie chronique de médicaments dans les formations sanitaires en dehors de Bangui avec un relatif confort des hôpitaux régionaux
- Assez bon approvisionnement du CNHU
- Couverture des besoins insuffisante et mal répartie dans le secteur public
- Concentration du secteur privé à Bangui
- Utilisation exclusive de spécialités dans la quasi-totalité des formations médico-pharmaceutiques de tous les secteurs y compris ONG et coopération bilatérale
- Notion de médicament essentiel diversement comprise et interprétée : ex. arrêté du Ministère du Commerce - liste des produits vendus dans les pharmacies des CREF
- Système d'approvisionnement du secteur public anémié, sans méthode rigoureuse de gestion et de contrôle de gestion au niveau des centres utilisateurs
- Nombreux systèmes d'approvisionnement au niveau de la coopération bilatérale, multilatérale et des ONG avec divers outils de gestion plus ou moins performants
- Système de distribution du secteur privé déséquilibré au profit de Bangui
- Administration centrale de la pharmacie et du médicament embryonnaire : pas de mécanisme d'enregistrement, de contrôle des importations, d'information sur le médicament, d'inspection des établissements pharmaceutiques, d'assurance de qualité
- En matière de coût et prix : les coûts d'acquisition sont élevés aussi bien dans le secteur public que le secteur privé car uniquement portés sur les spécialités mais aggravés par les frais de transports et de possession de stock.

Prix disparate d'une pharmacie à l'autre car la structure des prix mérite d'être révisée en cessant d'indexer sur le prix public France et en étudiant la notion de marge dégressive qui pourrait favoriser l'introduction des médicaments essentiels sous nom générique dans le secteur privé.

- Médicaments traditionnels non inventoriés malgré la richesse du pays et la tendance des populations surtout rurales.

.../

- Personnel pharmaceutique cadre et auxiliaire insuffisant, non motivé, non impliqué
- Communication et concertation insuffisantes avec tous les partenaires au développement sanitaire y compris ceux du secteur privé.

La persistance d'indicateurs sanitaires et pharmaceutiques défavorables et le faible niveau des revenus, appellent la formulation d'une politique pharmaceutique en adéquation avec une stratégie sanitaire qui reste à affiner sur le plan opérationnel dans un esprit de rationalisation des ressources et des méthodes.

### PROPOSITIONS

1/ Etablir et mettre en oeuvre un mécanisme de communication, de concertation et de planification :

- au sein même du Ministère,
- entre le Ministère et les différents partenaires de :
  - . la coopération bilatérale
  - . la coopération multilatérale
  - . les ONG
  - . le secteur privé commercial.

Les structures et organes issus de l'arrêté n° 0392, la Cellule des SSP méritent d'être plus opérationnels (comités de travail avec thème précis et échéancier, réunions informelles et formelles, disponibilité des documents de travail, etc...).

2/ Engager un processus de formulation de la politique pharmaceutique nationale. A ce sujet, il y a lieu de créer un comité de travail chargé d'organiser ce processus.

3/ Créer un comité de travail sur la liste des médicaments essentiels sous nom générique par niveau sanitaire sur la base des critères établis. La tâche de ce comité est d'organiser le processus d'élaboration de cette liste depuis le centre de santé ou le sous-centre de santé jusqu'à l'hôpital régional; La liste de l'hôpital régional pouvant servir de liste minimum pour le CNHU. Ce processus devra être couronné par la tenue d'un séminaire national

.../

d'adoption de la liste. Cette façon de faire garantit dans une grande mesure l'utilisation de la liste car elle aura impliqué les prescripteurs et les dispensateurs.

4/ Créer une administration centrale de la pharmacie et du médicament dont les fonctions de politique, législation, réglementation, contrôle et inspection pharmaceutiques sont clairement définies tant dans les objectifs que dans les ressources humaines et logistiques.

5/ Etudier la faisabilité de transformation de la Pharmapro et des Pharmacies d'Etat en un organisme performant chargé d'approvisionner en médicaments essentiels sous nom générique, les formations sanitaires et autres structures appelées à faire du recouvrement des coûts.

6/ Evaluer les expériences des pharmacies villageoises au sein ou en dehors des formations sanitaires avant d'entreprendre un encadrement juridique. Tout ceci doit être vu dans le cadre de la mise en oeuvre de l'Initiative de Bamako appliquée aux conditions de la RCA.

7/ Créer une commission inter-ministérielle des prix (MSP, Commerce, Finances) avec les grossistes répartiteurs et les représentants des officines pour fixer la structure des prix (prix grossiste départ usine affecté d'un coefficient pour parvenir au prix public en RCA). Le coefficient tiendra compte des frais de mise à FOB,

- . du fret
- . de l'assurance
- . du transit local
- . de la marge grossiste compatible
- . de la marge détaillant compatible.

Une commission tarifaire peut une ou deux fois par an réajuster les prix au vu des changements éventuels du PGHT. La commission inter-ministérielle devra aussi examiner la notion de marge dégressive afin d'impliquer le secteur privé commercial dans la politique du médicament essentiel, puisque ce secteur contrôle 84 % du marché pharmaceutique réalisé auprès de la population centrafricaine à revenu moyen bas.

.../

8/ Examiner avec la Faculté des Sciences de la Santé, la formation initiale et le recyclage des prescripteurs et des dispensateurs sur les médicaments essentiels sous nom générique.

- la mise en oeuvre de recherche opérationnelle avec les formations sanitaires sur l'utilisation des médicaments, les dépenses en médicaments, les systèmes et outils de gestion du médicament.

9/ Examiner avec différents partenaires nationaux ou étrangers un mécanisme de mise à profit des médicaments traditionnels. Ceci passe par l'organisation des tradi-thérapeutes reconnus tels par leur communauté, l'inventaire de la flore et de la faune médicinales, la mise en oeuvre de méthodes simples de valorisation.

10/ Reprendre la formation des pharmaciens de santé publique capables d'animer les structures pharmaceutiques de la nouvelle stratégie sanitaire. Mais en attendant, renouer le dialogue avec le secteur privé pour utiliser certaines compétences (vacation, contrat de courte durée, etc...), étudier la possibilité de formation de techniciens supérieurs en sciences pharmaceutiques au niveau de la Faculté des Sciences de la Santé.

#### QUE PEUT FAIRE L'OMS ?

L'OMS à travers sa Représentation à Bangui, ou le Bureau SRII, ou AFRO ou le DAP/HG, peut aider à :

- La conception, la mise en oeuvre du mécanisme de concertation, de planification entre les différents partenaires intéressés aux questions pharmaceutiques dans le cadre de la stratégie sanitaire nationale.

- L'organisation du processus de formulation et d'adoption de la politique pharmaceutique nationale.

- L'organisation du processus d'élaboration et d'adoption de la liste des médicaments essentiels.

- L'édition, la diffusion et la formation à l'utilisation de cette liste.

.../

- La formation à la quantification des besoins en médicaments dans les formations sanitaires.

- La mise en place des méthodes et outils de gestion de l'administration centrale des pharmacies et du médicament (homologation, certification OMS, contrôle de l'importation, statistiques pharmaceutiques, inspection, assurance de qualité).

- L'initiation de la recherche opérationnelle sur l'utilisation des médicaments.

**ANNEX VII**

**EVALUATION DES BESOINS EN PAPIER A  
RONEOTYPER. (SERVICE DE MEDECINE  
PREVENTIVE) DE LA 4E R S**

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RONEOTYPER. (SERVICE DE MEDECINE  
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TYPE DE RAPPORT	No. de PAGE	MOYENNE/MOIS	EXEMPLAIRE
<b>I-Donnees sur les acti- vites du PEV.</b>			
1.1 Fiche de rapport journalier	1	25x35= 875	
1.2 Fiche de pointage	1	25x35= 875	
1.3 Fiche de rapport mensuel	1	1x35= 70	2
1.4 Fiche recapitulative	1	1x5= 5	5
<b>II. Donnees sur les LMD</b>			
2.1 Fiche d'Evaluation de l'Enfant diar- rheique	1	160x2= 320	2
2.2 Fiche rapport mensuel	1	1x12x2= 24	2
<b>III. Donnees sur le PALU</b>			
Fiche de rapport mensuel	2	15x2=30x2=60	2
<b>IV. Fiche de rapport de surveillance sentinelle.</b>			
Fiche de rapport mensuel de surveillance epidemiologique	7	12x7x2=28	2
Besoin/Mois	16	2 270 5 rames/m.	17
	M/Chef RS4		

**ANNEX VIII**  
**RECURRENT COSTS FOR THE NEXT**  
**FOUR YEARS (1991-1994)**

## COUTS RECURRENENTS POUR LES QUATRE PROCHAINES ANNEES (1991-1994)

[Issues related to established recurrent costs, written by local team member, M. Andara.]

Le temps imparti etant tres court, il n'a pas ete possible a la mission de reunir toutes les informations disponibles pour evaluer les charges recurrentes pour les quatre prochaines annees. En plus l'indisponibilite de l'adjoint administratif a rendu l'accession a ces informations impossible. Dans ce cas, nous allons seulement donner une indication methodologique pour determiner les couts recurrents.

### Besoins du PEV

Les fonds Italiens qui financent le PEV par la fourniture de vaccins, et autres approvisionnement lies a la vaccination devant finir au courant de cette annee, l'UNICEF a assure la mission que des fonds sont prevus sur les ressources de l'UNICEF pour assurer la poursuite du PEV. Il ya un risque que ces fonds soient insuffisants et ne puissent pas durer longtemps.

### Sachets de S R O

En vue d'assurer la poursuite du programme et compte tenu du manque d'assurance donnée par l'UNICEF de fournir les SRO il est prudent de les prendre en compte.

### Besoins en Chloroquine

1) La pharmapro n'a pas un bon système de distribution. Les quantités de chloroquine envoyées restent au niveau des régions et n'arrive pas à la périphérie parce que très insuffisantes.

2) La chloroquine fournie par CCCD au profit des enfants de moins de 5 ans et des femmes enceintes est également consommée par des personnes n'appartenant pas au groupe cible. Il apparaît donc un besoin supplémentaire que la pharmapro n'est pas en mesure de couvrir: les distributeurs ambulants supplantent la pharmapro. Il est difficile d'évaluer la quantité distribuée par ceux-ci.

### Entretien, fonctionnement de véhicules, réfrigérateurs, congélateurs

Le logisticien a mis au point un programme qui est à prendre en compte. Il est payé par l'UNICEF mais il n'a pas d'assurance que son contrat qui expire en 1990 soit reconduit.

### Gestion des bâtiments

Il n'existe pas de système de gestion des bâtiments, qui permettrait aux gestionnaires de vendre une partie des bâtiments dont ils n'ont que faire ou d'agrandir en cas de besoin. Cette situation fait qu'il y a encombrement faute de local suffisant et aussi trop d'espaces pour peu de personnes.

### Coût du personnel

Trois catégories du personnel emmargent sur le budget de l'Etat :

- Le personnel cadre formé pour exécuter le programme,
- Les décisionnaires dont les tâches à exécuter ne sont pas quelques fois clairement définies,
- Les manœuvres qui connaissent un retard de paiement atteignant même huit mois mais ils sont plus utiles au fonctionnement des services.

Une autre catégorie de personnel est intégrée au programme et pris en charge par les bailleurs de fonds extérieurs. La sûreté de la continuité de leur paiement n'est pas la même.