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PD ABA-072

# EPI Technical Assistance to CCCD/Guinea

July 16 - September 24, 1986

# Resources for Child Health Project

## REACH

John Snow, Inc.
1100 Wilson Boulevard, 9th Floor
Arlington, VA
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PD-ABA-072

# EPI TECHNICAL ASSISTANCE

# TO CCCD/GUINEA

July 16 - September 24, 1986

Submitted by:

Harry Godfrey, Consultant

THE RESOURCES FOR CHILD HEALTH PROJECT
1100 Wilson Boulevard
Ninth Floor
Arlington, VA 22209

AID Contract No: DPE-5927-C-00-5068-00

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ACKNOWLEDGEMENTS

Thanks to all those persons in the Ministry of Health and donor agencies who participated so willingly in CCCD/Guinea's efforts. UNICEF was great in providing timely solutions to material/support problems. Extra and unending thanks to the workers in the health centers and communities; without whom, CCCD/Guinea would remain only a plan on paper.

## ACRONYMNS

| | |
|---|---|
| AID | Agency for International Development |
| AID/W | AID/Washington |
| CCCD | Combatting Childhood Communicable Diseases Project |
| CDC | Centers for Disease Control |
| CDC/A | CDC/Atlanta |
| CDD | Diarrhoeal Diseases Control Program |
| CFR | Case Fatality Rate |
| EPI | Expanded Programme on Immunization |
| FG | Franc Guinean |
| GOG | Government of Guinea |
| HEP | Health Education and Promotion |
| HIS | Health Information Systems |
| IHPO | International Health Program Office (CDC) |
| JSI | John Snow, Inc. (Public health firm administering REACH Project) |
| LOP | Length of Project |
| MCH | Maternal and Child Health |
| MOH | Ministry of Health |
| NE | Northeast |
| ORS | Oral Rehydration Salts |
| ORT | Oral Rehydration Therapy |
| PHC | Primary Health Care |
| REACH | Resources for Child Health Project |
| STC | Short-term Consultancy |
| TO | Technical Officer |
| UNICEF | United Nation's Children's Fund |
| USAID | United States Agency for International Development |
| WHO | World Health Organization |

## I. EXECUTIVE SUMMARY

The Agency for International Development (AID)/Washington (authorizing agency) and Centers for Disease Control (CDC)/Atlanta requested assistance from the Resources for Child Health (REACH) Project to help the Combatting Childhood Communicable Diseases (CCCD) Project in Guinea to begin meeting their program objectives as set forth in the Project Agreement signed June 22, 1985. On July 16, REACH sent to Guinea a consultant with experience working at all levels of CCCD. His task was to assist the national CCCD coordinator and the CDC technical officer begin providing and/or improving CCCD/Primary Health Care (PHC) services to the public. This report describes what was accomplished during the ten-week consultancy and what remains to be done before the January 1987 mid-term evaluation. It also shows why program start-up was slow; two of the main reasons being lack of commodities and lack of local currency operating funds. Among the causes of these short-comings were failure to follow-through on the US commitment in providing commodities in a timely manner, and failure to provide sufficient and readily accessible Government of Guinea (GOG) counterpart operating funds.

The consultant arrived in Guinea at a time when the Ministry of Health (MOH) was facing a major, acute public health problem. A cholera outbreak was suspected in January of this year approximately 100 km southeast of Conakry. Cholera was confirmed in May, and by July it became a serious problem in Conakry. By the end of August, 1768 cases and 222 deaths were reported in the capital city of Conakry plus five Prefectures. In addition to providing assistance to combat the cholera epidemic, CCCD/Guinea, during the past ten weeks, accomplished the following:

1. Obtained a project vehicle for the CCCD national coordinator (the technical officer (TO) uses her privately-owned vehicle for project activities);

2. Obtained local currency (counterpart) operating funds of 1.008 million Franc Guinean (FG) ($2,800);

3. Submitted a revised CCCD operating budget for obtaining additional 1986 local currency funds and 1987 funding;

4. Completed construction/repairs of the CCCD office;

5. Furnished and began using the CCCD office;

6. Obtained estimates for repairs of vaccination centers (installing/repairing water lines, etc.);

7. Obtained permission for repair and use of a building at Conakry (Donka) Hospital and launched an oral rehydration therapy (ORT) demonstration/training center;

8. Completed orders for all AID supplied commodities;

9. Obtained vaccination cards and oral rehydration salts (ORS) in order to begin providing services;

10. Began repair and conversion to kerosene of refrigerators in the Conakry vaccination centers where electricity is unreliable;

11. Obtained an official revision of EPI policies to conform to WHO recommendations, and updated and initiated implementation plans;

12. Began the reorganization of vaccination centers to handle daily vaccination sessions (rather than weekly) and to vaccinate sick children;

13. Updated vaccine and supply ordering/inventory;

14. Developed a national malaria policy and strategy and arranged for four malaria program personnel to assist in the September in-vivo drug sensitivity training in Cote d'Ivoire;

15. Scheduled and requested assistance for developing a national diarrheal disease control policy and strategy, CCCD/PHC program training, and health information system (HIS) development;

16. Arranged for employment of a computer specialist for training CCCD/Guinea personnel;

17. Revised/updated Project Agreement.

It will be difficult to expand effectively CCCD/PHC to the other two CCCD-designated zones before early 1987. Therefore, in order to provide significant and effective CCCD/PHC services to the population of Conakry, especially before the beginning of the next measles season, it is recommended that:

1. Additional counterpart funds (nine million FG or $25,000) be obtained for operational costs;

2. A mechanism be found for making operational funds readily accessible;

3. Personnel in Conakry vaccination centers receive up-to-date expanded programme on immunization (EPI) training before launching Accelerated Vaccination Days on October 20;

4. Two full-time technicians be employed and provided with transportation before October to supervise/assist CCCD/PHC activities in Conakry. Their tasks will include: verification of vaccination techniques, sterilization procedures, and vaccine conservation; collecting disease surveillance data and CCCD activity reports; providing training and logistics support for personnel in ten maternal and child health (MCH) centers and two hospitals;

5. A health education workplan be developed to inform the public of CCCD/PHC services and to promote the utilization of these services (this includes mobilization of Quartier Chiefs*);

*Quartier can be defined as a subdivision of several blocks within a village or city.

6. Personnel in Conakry clinics be trained in ORT and malaria treatment/prophylaxis, and that ORS and chloroquine be made available to all treatment centers in Conakry before the end of this year.

A mid-term evaluation of CCCD/Guinea will be conducted in January 1987 to determine whether sufficient progress has been made to merit continuation of AID assistance beyond the 30 month LOP (Length of Project) as stipulated in the Project Agreement. The objectives as set forth in the Project Agreement, the recommendations that were made during the first-year CCCD/Guinea review, and the recommendations resulting from this consultancy will be reviewed during the evaluation and will serve to measure the progress of the Project.

## II. PURPOSE OF VISIT

A nine-month review of CCCD/Guinea done in April 1986 revealed that the program was not yet prepared to begin providing vaccination, ORT, or malaria treatment/prophylaxis services. AID/Washington (AID/W) and CDC/Atlanta (CDC/A) requested REACH/JSI to send a CCCD consultant to Guinea to help the National Coordinator and the Technical Officer speed up the process.

The scope of Work/Objectives given the consultant were:

1. Identify and make operational a pilot ORT demonstration site in Conakry City. Determine a schedule for PRITECH assistance in formulating a national policy and strategy for the project area, and submit request for assistance to PRITECH through IHPO.

2. Review the National EPI Policy and strategy and develop implementation plans for the project area and begin implementation.

3. Review the national cold chain policy and procedures for the central and project area and develop vaccine ordering, inventory and distribution procedures and establish training needs for implementation in the project area.

4. Draft a national malaria policy and strategy for implementation in the project area and arrange for the participation of Guinean malaria personnel in the In-Vivo sensitivity testing training to be conducted in Cote d'Ivoire in late October/November.

5. Review current status of the health information system and schedule appropriate STC requests through IHPO.

6. Review current commodity procurement documents to determine whether or not additional procurement orders need to be placed and take necessary action.

7. Finalize the establishment and organization of the CCCD Project Office including hiring a competent secretary/administrative assistant.

8. Review Project training needs, and training schedule, and request IHPO for appropriate training STC assistance.

9. Review accomplishments of the Hawkins-Reed consultancy and continue implementation of those activities.

10. Undertake any other appropriate project activities which may present themselves during the course of the consultancy.

## III. BACKGROUND

### A. GENERAL

The Republic of Guinea, situated on the West Coast of Africa, has 6.2 million people distributed over 246,000 km2 (95,000 sq miles). There are four main geographic regions divided into eight provinces, 36 prefectures, 347 sub-prefectures, and 2500 districts. Three ethnic groups out of 24 comprise 75% of the population. At least 75% of the

groups out of 24 comprise 75% of the population. At least 75% of the population are Muslims; over 20% maintain their animist traditions; and less than 1% are Christians. Seven national languages are widely used but French is now the official language.

Since independence in 1958, the Second Republic took power only two years ago in April 1984. The political and economic climate of the first regime was not conducive to development and although Guinea is one of the best endowed countries with natural resources in West Africa, it is one of the least developed. The present regime has announced dramatic, new economic policies to reverse development trends. Among the many reforms, the improvement of health services is now considered vital to the economic and social rehabilitation of the country. Government's attitude on population growth has also changed - discounting the pro-natalist policy of the previous regime.

If the low life expectancy at birth of 39 years was correct in 1982, the health status of Guinea is inferior to that of most African countries. The high infant mortality of 186/1000 calculated in 1984 and under-age-five mortality rate of 50/1000 calculated in 1982 would confirm this finding.

## B. TARGET DISEASES

Neonatal tetanus incidence in the capital city is high. There were 119 cases and 71 deaths (60% CFR) in 1985 and 112 cases in the first eight months of 1986 reported by Donka Hospital.

Measles cases are yearly under-reported although the 150,000 cases reported in 1982 represent a three-fold increase over 1976 and a twenty-fold increase over 1979 - indicating that the reporting system is improving. There occurred however, probably well over 150,000 cases in 1982, since virtually all unimmunized children contract measles.

Poliomyelitis is not reported because it is usually not diagnosed or misdiagnosed. It is estimated that more than 2,000 cases of paralytic polio occur among non-immunized children in a country the size of Guinea.

Malaria is found throughout Guinea and may be the number one cause of mortality yet only 156,000 cases were reported in 1982. This figure may represent as little as 5-10% of the actual cases. Preliminary results of a 1986 Conakry survey found that children under age five have six episodes of fever per year.

Diarrhea cases in children under five years of age in Conakry was found to be high according to a survey done in May and June 1986. One hundred thirty-five (13.2%) out of 1023 children surveyed had an episode of diarrhea during the two weeks prior to the time of questioning (four episodes per year).

## GUINEA

### BASIC POPULATION, HEALTH AND NUTRITION INDICATORS*

| | |
|---|---|
| Area (sq. km.) | 256,000.0 |
| Mid-1985 population (in millions) | 6.1 |
| Average annual population growth rate (%) | |
| 1960-70 | 1.5% |
| 1970-82 | 2.0% |
| 1980-2000 (projected) | 2.4% |
| Population density per Km2 | 24.7 |
| Urban population, 1984 (%) | 27.0% |
| Population aged 0-14 (%), 1984 | 40.0% |
| Total fertility rate | 6.0 |
| Crude birth rate per thousand, 1984 | 49.0 |
| Crude death rate per thousand, 1984 | 26.0 |
| Life expectancy at birth, 1982 | 39.0 |
| Infant mortality rate per thousand, 1984 | 186.0 |
| Child death rate per thousand, 1982 (age 1-4) | 50.0 |
| Adult literacy rate, 1980 (%) | 20.0% |
| Enrollment (%) in | |
| Primary school, 1981 | 33.0% |
| Secondary school, 1981 | 16.0% |
| Population with access to safe water, 1980 (%) | 10.0% |
| Annual growth in labor force, average for 1980-2000 | 2.3 |
| Population per physician, 1981 | 8551 |
| Population per nursing person, 1984 | 1518 |
| Daily per capita calorie supply as percentage of requirement, 1984 | 81.7 |
| GNP per capita U.S. dollars, 1982 | 310.0 |
| Average annual growth rate, 1960-82 (%) | 1.5% |
| MHSA BUDGET AS % of 1984 National Operational Budget: | 5.0% |
| (Personnel = 55%, Pharmaceutical = 34%, Supplies = 11% | |

*Source: The World Bank, The World Development Report, 1984 and World Bank/WHO Sector Review Mission, 1984

## C. INTERVENTIONS

### 1. EPI

EPI/Guinea was launched in 1980 with most of the material support still being provided by UNICEF. The six target diseases are measles, polio, tetanus, pertussis, diphtheria and tuberculosis. An EPI evaluation from April 7 through May 4, 1986, by 13 national and 11 expatriate specialists concluded that the initial planning and management of EPI was weak, the operational budget was insufficient, training was inadequate and vaccination coverage less than 10 percent.

However, an excellent central-level cold-chain was recently installed in Conakry. The cold room, though small, is 15 cubic meters. Freezer capacity is 3 cubic meters. Both have a back-up power source (20 KVA diesel generator). Five MOH staff attended WHO senior-level EPI courses in 1981 and 1982. Four of these persons are still involved either directly or indirectly in EPI activities. Since 1982, 47 EPI personnel received mid-level EPI training organized by the MOH.

VACCINATION COVERAGE

| | No. child | % w/ card | % BCG | % 1st DTP-P | % 2nd DTP-P | % 3rd DTP-P | % measles | % completely vaccinated |
|---|---|---|---|---|---|---|---|---|
| Guinea* April 86 | 211 | 18 | 46 | 31 | 14 | 8 | 43 | 5 |
| Conakry** | 1023 | 33 | 18 | 13 | 7 | 4 | 13 | 2 |

* Children 12-23 months of age; Conakry excluded; Biased by choosing best areas to save time; DTP & Polio combined using lowest %.

** Children 0-4 years of age; information taken from vaccination record only - mothers response not recorded; DTP & Polio combined using lowest %.

2. Malaria

The MOH initiated an anti-malaria program in 1972, supported mainly by WHO. The program director recently participated in the Second International Malarialology Course held in Europe and Africa from October 1985 to April 1986. The malaria program staff consists of two entomologists, 17 parasitologists, one secretary and two laborers. Office and laboratory space is relatively adequate but only one of the ten microscopes works and therefore laboratory analysis is limited. The malaria program, in cooperation with CDC/A personnel conducted a malaria practice survey in June. As expected, the survey revealed that the variety of anti-malaria drugs employed in Guinea is too large and that there is the typical exagerated dependence on injectables.

3. Diarrhoeal Diseases Control (CDD)

Prior to CCCD/Guinea there was no specific plan for diarrheal disease control. A CDD director was designated in March 1986 but the post has been vacant since May. An ORT demonstration/training center is now operational. A national policy and strategy is to be developed in conjunction with a consultancy visit scheduled with PRITECH in October. ORT is being used in the pediatric ward of Donka Hospital during the present cholera epidemic but use in the adult infectious disease ward was more limited during the first months of the epidemic.

D. STRATEGIES

1. Health Education/Promotion (HEP)

The HEP service, located within the Division of Preventive Medicine conducted a health practice survey (malaria and diarrhea incidence and treatment practices at home and in health centers) in Conakry in May and June 1986. Eight professional HEP staff share one vehicle which is in dire need of repair and one office which requires renovation. An HEP technician is assigned to each of the 33 prefectures. No HEP workplan related to CCCD/PHC has been drafted.

2. Health Information System

The Statistic Service for the MOH was reorganized and upgraded to a directorate in 1975. The newly appointed (April 1986) director and his staff of 7 have inadequate office and storage space. Basic office/statistic supplies are limited. There is no photocopy or computer capacity. The African Development Bank will be assisting the MOH to develop the Division of Planning and Statistics. The $2 million, 2 year project with two technical assistants was to begin in October 1986 but will most likely be delayed until after the service moves from its present location.

3. Training

No training service unit exists within the MOH. CCCD in-country training is coordinated by CCCD Headquarter staff. Health personnel (26) were trained in Telemele, one of the three CCCD zones, in December 1985. Materials and equipment were not available at that time to begin providing CCCD services. A CCCD workshop is scheduled in October 1986 for 60 health personnel from 10 vaccination centers in Conakry. Local currency operational funds were made available for the workshop by the GOG. Resources are to be available to improve and accelerate vaccinations by October 20, 1985.

4. Operational Research

Six thousand dollars (USAID) was budgeted for operational research. No protocols have been submitted to date and the formation of a Guinean research review committee has not been planned. UNICEF and GOG are funding a $5,000, 5-month study on the capacity and quality of MCH services in Conakry.

## IV. TRIP ACTIVITIES

A great deal of time was required to coordinate activities among the different public health services/offices and non-governmental agencies. Since telephone service is unreliable or nonexistent in many offices, it is necessary to travel daily between the CCCD office and Preventive Medicine, MCH, Ministry of Health, UNICEF, WHO, USAID, hospitals, health centers, businesses, etc.

Considerable time was spent locating equipment supplies, spare parts, collecting information, and assessing and preparing health centers for improving and increasing services. Most of the time was spent in and around Conakry. A two-day trip was made to Coyah and Kindia (150 km NE) to assist with cholera assessment and to review health facilities for future CCCD expansion.

## V. RESULTS/CONCLUSIONS/RECOMMENDATIONS

### A. RESULTS

Results of the consultancy are listed in the same order as the SOW of this report. In Section II:

1. A pilot ORT demonstration site was identified in Conakry. Concurrence was obtained from the Minister of Health and the

Director of Donka Hospital to establish an ORT demonstration training site in the pediatric service of Donka Hospital. A protocol was developed, personnel were trained in ORT, materials were made available and ORT services are ongoing. PRITECH assistance in developing policy and strategy was requested for October 1986.

2. National EPI policy and strategy was reviewed and implementation plans for CCCD project areas were developed. Personnel are being trained/recycled at vaccination sites and adequate materials are being made available to conduct proper immunization clinics.

3. National cold chain policy and procedures for the central and project area were reviewed. A dead battery (one month) for the back-up generator was replaced. Occasional ruptures occur in diesel fuel supply for the 25 KVA generator. Refrigerators are being converted from electric to kerosine in the 10 Conakry vaccination centers because of frequent power outages (daily from 1 to 24 hours) in many areas of the city. An MOH refrigeration repairman in the maintenance section of Donka Hospital is prepared to conduct refrigerator maintenance/repair training services for CCCD/Guinea. Vaccine ordering, inventory and distribution procedures were revised by the MOH in collaboration with UNICEF. Logistics personnel in all three CCCD areas need refresher courses or on-the-job training.

4. A national malaria policy and strategy was drafted, reviewed and a copy sent to the CDC Malaria Branch for review. Four malaria personnel were identified and sent to the In-Vivo Drug Sensitivity Training in Ivory Coast in September.

5. The Health Information System implementation plans suggested by the CDC epidemiologist from OCCGE and the World Bank have not progressed as planned. A request for follow-up STC assistance has been made to IHPO for October to help the MOH prepare for the ADB project.

6. PIO/Cs have finally been completed for the purchase of five CCCD project vehicles after numerous and time-delaying cables were sent between REDSO/Abidjan and USAID/Conakry. Other procurement orders were placed for motorbikes and office equipment.

7. The CCCD project office roof was repaired so that the offices are now usable. Office furniture has been installed and the offices are in use. A secretary, fiscal officer and driver have been added to the staff. An administrative assistant with computer knowledge has not been hired yet but two have been identified.

8. A training of trainers course was conducted in May 1986 which was helpful in the preparation of a vaccination training course to be given in October 1986. A review of the training needs and schedule does not indicate a need for STC training assistance during the remainder of 1986.

9. The Hawkins-Reed June Consultancy report was reviewed and recommendations are being followed.

10. Other CCCD accomplishments:

- ORS, choroquine and vaccination cards have been made available thru UNICEF until CCCD supplies arrive.

- Two project vehicles have been made available by USAID.

- EPI official policy has been revised to conform to WHO recommendations.

- Project Agreement has been revised/updated.

B. CONCLUSIONS

CCCD/Guinea's slow start-up is mainly a result of not having commodities. Commodity requests (PIO/C's) which were initiated before the Project Agreement was signed June 22, 1985, were not processed when the Technical Officer arrived in September. The PIO/C for vehicles was finally completed in August 1986.

Local currency funds were made available in November 1985. 4,437,500 sylis which were equivalent to $190,000 were allocated for 1985, of which 3,375,500 were spent for repairing a building for office space, training courses, and 7000 liters of fuel. Each expenditure required many signatures and considerable time to obtain the funds. The remaining Guinean francs* which were requested in July for training were made available in September. The Technical Officer sub-allocation funds are also difficult to access because of chronic local currency shortages within the US Embassy and USAID Mission.

Low wages are also a major program constraint. A physician's salary is around 20,000 FG ($55) per month. Rice for the average family of 8 costs 12,000 FG ($33) per month. Civil servants are obliged to seek additional income to complete their food needs, rent, utilities, transport, etc. As a result, it is not uncommon for a civil servant to spend less than five hours per day at his/her government job. On the other hand, there is no shortage of health personnel in Conakry; one Conakry health center has nearly 200 employees on the payroll.

Other program constraints are: limited telephone service, heavy Conakry traffic, deteriorated urban and rural roads, heavy rains (17 ft/yr Conakry), adulterated kerosene, and occasional fuel shortage.

Due to the aforementioned constraints, CCCD/Guinea has not been given the chance to prove what it can do. In spite of all the hardships, Guineans are agreeable and capable workers. Therefore, it is this consultant's conviction that when the US Government commodities are forthcoming and with the resolution of local currency funding problems, the Ministry of Health with its very capable CCCD team leadership can provide direly needed primary health care services to the people of Guinea.

* Guinean money was devalued and converted from 25 sylis per $1 to 340 FG per $1 in January 1986.

## C. RECOMMENDATIONS

It will be difficult to expand effectively CCCD/PHC services to the other two CCCD-designated zones before early 1987. Therefore, in order to provide significant and effective services to the population of Conakry (700,000 inhabitants or 12% of Guinea's population), especially before the beginning of the next measles season, it is recommended that:

1. The Minister of Health and Social Affairs, the Minister of Economy and Finance, and the Minister of Plan and Cooperation make available local currency (counterpart) funds of nine million FG ($25,000) in order to make possible, among other efforts, the Accelerated Vaccination Days campaign which is being organized for October 20, 1986.

2. The Minister of Health and the Minister of Finance develop a mechanism for accessing operating funds in a timely manner.

3. The CCCD Program Coordinator and Technical Assistant arrange for personnel in Conakry vaccination centers to receive up-to-date EPI training before launching the Accelerated Vaccination Days.

4. The Director of Health Education develop a workplan to inform the public of CCCD/PHC services and to promote the utilization of these services in tandem with the Accelerated Vaccination Days Campaign (this includes mobilization of Quartier Chiefs).

5. Two full time technicians be employed by the CCCD Coordinator before October 1986 to supervise/assist with CCCD/PHC activities in Conakry. The technician's task will include verification of vaccination techniques, sterilization procedures, and vaccine conservation; collecting disease surveillance data and CCCD/PHC activity reports; providing training and logistics support for health personnel in ten MCH centers and two hospitals.

6. Personnel in Conakry clinics be trained in ORT and malaria treatment/prophylaxy, and that ORS and Chloroquine be made available to all treatment centers in Conakry before the end of this year. (The coordinators of CDD and Malaria programs are responsible for these activities.)

## VIII. FOLLOW-UP ACTION REQUIRED

A mid-term evaluation of CCCD/Guinea will be conducted in January 1987 to determine whether sufficient progress has been made to merit continuation of AID assistance beyond the 30 months LOP (length of Project) as stipulated in the project Agreement. At that time, the objectives set forth in the Project Agreement, the recommendations that were made during the first-year CCCD/Guinea review, and the recommendations made during this consultancy will be reviewed and will serve to measure the progress of the Project.

## CONTACTS, PLACES AND PERSONS VISITED

### A. CONTACTS

#### M.O.H.

| | |
|---|---|
| Dr. Pathe Diallo | Minister |
| Dr. Mohamed Sylla | Director, Cabinet |
| Dr. Yaya Diallo | Director Preventive Medicine |
| Dr. Mamadi Conde | Director National, MCH |
| Dr. Souleymane Diallo | Coordinator, CCCD |
| Ms. Diana Gerski | Technical Officer (CDC assignee) |
| Dr. Boubacar Dieng | Physician in charge, EPI |
| Dr. Antoinette Helal | Physician in charge, CDD |
| Dr. Moussa Keita | Physician in charge, Malaria |
| Dr. Kanjoura Drame | Physician in charge |
| Dr. Telly Alpha Diallo | Physician in charge, Statistics |
| Dr. Fassou Haba | Physician in charge, H. Ed. |

#### USAID

Mark G. Wentling, AAO
Theodora Wood Stervinou, PO
Robert Hellyer, ADO

#### U.S.EMBASSY

William Mithoefer, Charge d'Affaires
Joseph Huggins, Administrative Officer

#### UNICEF

Ian Hopwood, Representative
Maria Calivis, Programs Administrator

#### WHO

Dr. Celestin Gantin, Representative

## PLACES AND PERSONS VISITED

In addition to the persons and places visited under the list of CONTACTS, the consultant visited the following:

### CONAKRY

#### MCH CENTERS & MATERNITIES

| | |
|---|---|
| 1. Matam: | Dr. Kouyate, Prefectoral Health Director |
| 2. Matato: | Ms. Marie Conde, Chief of Services |
| 3. Madina: | Dr. Djenabou Barry, Chief of Services |
| 4. Gbessia: | Ms. Sylla, Chief of Services |
| 5. Ratoma: | Dr. Mahi Barry, Prefectoral Health Director |
| 6. Corontie: | Dr. M. Conde, Chief of Service |
| 7. Koulevondie: | Dr. Johana Austin |
| 8. Boulbinet: | Dr. Camille |
| 9. Dixinn: | Dr. Tafsir |
| 10. Donka: | Dr. Marcel Spiss. |

#### HOSPITALS

| | | |
|---|---|---|
| DONKA: | Dr. Godirou Bah | Chief, Pediatric Services |
| | Dr. Niankoye Lama | Chief, Infectious Disease Services |
| | | Technician, Equipment Maintenance Service |

#### IGNACE DEEN

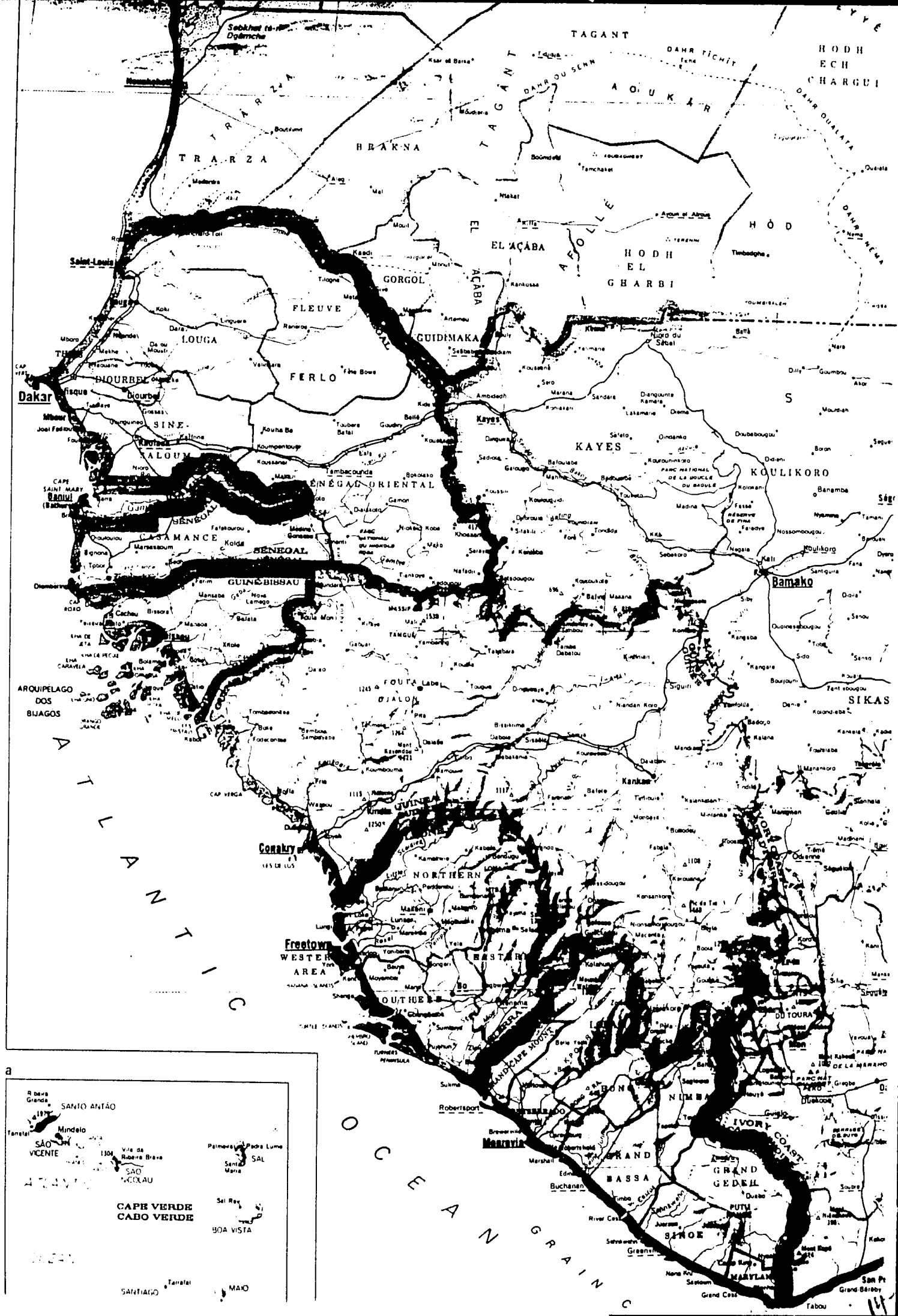
| | |
|---|---|
| Dr. Bintu Kouyate | Chief, Pediatric Services |

### KINDIA

M. Kolipe Lama, Resident Minister, Lower Guinea Region
Dr. Prosper Haba, Medical Inspector
Dr. Balde, Chief Hospital Pediatric Services
Dr. Dieng, Director, Institute of Research

### COYAH

Dr. Barry, Chief, Preventive Services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TRARZA
BRAKNA
EL ÂÇÂBA
HODH EL GHARBI
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FLEUVE
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FERLO
GUIDIMAKA
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KAYES
KOULIKORO
SÉNÉGAL ORIENTAL
CASAMANCE
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Bamako
SIKAS
ARQUIPÉLAGO DOS BIJAGOS
FOUTA DJALON
Conakry
NORTHERN
Freetown
WESTERN AREA
EASTERN
SOUTHERN
Monrovia
GRAND BASSA
GRAND GEDEH
SINOE
IVORY COAST
ATLANTIC OCEAN
GRAINC
a
SANTO ANTÃO
Mindelo
SÃO VICENTE
SÃO NICOLAU
SAL
BOA VISTA
CAPE VERDE
CABO VERDE
SANTIAGO
MAIO