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9. ABSTRACT

The American Public Health Association, under a contract with the Agency for International Development, has designed a program in public health improvement which is called the Development and Evaluation of Integrated Delivery Systems (DEIDS). The activity is designed to assist countries to demonstrate how to establish health delivery systems within seven years. Such projects include, but are not limited to, Maternal and Child Health and Family Planning and Nutrition. The projects are to cover large populations in predominantly rural areas. They are to utilize in-country resources for the service component, although external assistance organized by DEIDS is available for planning, evaluation, training, and limited amounts of essential equipment. It is expected that successful health delivery systems can be subsequently replicated in the country or in the region.

- These are phases through which DEIDS projects proceed:
- a) Phase I -- reconnaissance within a specific country or region, to gather information about disease patterns, health services as currently organized, local resources, cultural aspects, community involvement, the potential for integration of various parts of public health, opportunities for innovation, current and potential staffing, training, supervision, emphasis upon preventive services, outreach, cost, and evaluation
 - b) Phase II -- Detailed planning. This phase begins if the survey in Phase I recommends it, and involves experts from the host country as well as experts assigned by DEIDS.
 - c) Phase III -- Pilot Project Operations, which continue for as long as eight years.

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FEASIBILITY STUDY
RURAL HEALTH DELIVERY SERVICE
REPUBLIQUE CENTRAFRICAINE
(CAR)

December, 1975
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For the Agency for International Development
under Contract with
American Public Health Association

FEASIBILITY STUDY
RURAL HEALTH DELIVERY SERVICE
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FEASIBILITY STUDY
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REPUBLIQUE CENTRAFRICAINE

I. INTRODUCTION:

The Republique Centrafricaine, located near the geographic center of Africa, has a population estimated at 1.7 million, of which over 75% live in rural villages of less than 1,000 inhabitants.

This country's population, the majority of which occupies the three western prefectures, suffers from the variety of parasitic diseases common to tropical areas, the diseases of childhood, the socially communicable diseases and the filth-borne diseases resulting from primitive hygiene and sanitation knowledge and habits.

As one of the newly liberated countries of Africa, the Republique Centrafricaine suffers from an embryonic infrastructure in all sectors of services with inadequate resources to pursue development without considerable outside assistance.

Thus this country was a prime candidate for a DAP study by the Agency for International Development which was conducted during 1974. In this study the status of the system for rural health services was described, and the recommendation

made that AID maintain programs directed at health manpower development and assist the Government of the Central African Republic in developing a BIMBO-like demonstration rural health delivery project.

Concurrent with this development, the Division of International Health Programs of the American Public Health Association was seeking an acceptable African site for its third DEIDS project and had invited the Director-General of Public Health to attend and participate in the 3rd Annual Meeting of the National Council on International Health in Washington and the meeting of APHA in New Orleans.

During these meetings, Dr. Bedayo Ngaro, former Director General for Health and now Inspector General for Health Services, was exposed to the DEIDS concepts and had several discussions with APHA/DIHP staff and with Dr. Albert Henn, AID Regional Public Health Advisor, regarding the potential of a DEIDS type project in the CAR.

These conversations were pursued further by Dr. Henn and Dr. Ngaro upon their return to Africa. The result was an invitation to the American Public Health Association in December 1974 to dispatch a team to assess the feasibility of a DEIDS-type project in the CAR.

Subsequent to APHA's advice to AID that it could dispatch a feasibility team to the CAR in March 1975, the decision was made that the Office of Health/AID would no longer provide funds for the implementation of DEIDS-type projects from its central funds. Furthermore, the CAR project would have to involve more logistic and staff support than anticipated for DEIDS-type projects. This would necessitate obtaining funds from the African Regional Bureau for implementation. OH/TA would still fund the Planning and Design Phases.

Having met all requirements, including the receipt of a Project Information Document (PID) from the Regional Development Office in Yaounde, an APHA Phase One team consisting of John C. Eason, M.S., PH Administrator/Sanitation, John L. Lucas, M.D., M.P.H. Physician/Epidemiologist, and Janet Anderson, M.P.H., Health Educator, left on July 26, 1975 for a feasibility study in the CAR.

The team travelled first to the Agency for International Development Regional Office in Yaounde, and together with the Regional Public Health Advisor arrived in Bangui on August 1, 1975.

For the next fourteen days, the members of the team met with government officials and staff, private missionaries, staffs of clinic and health posts, the staff at Bimbo, and officials of international organizations and bi-lateral medical missions providing assistance to the CAR government in Bangui and the Ouham Prefecture. The chronology of these interviews and visits is attached.

During its visit, the team had the opportunity to assess the Bimbo demonstration project and the overall operations of the Ministry of Public Health in rural areas. Based on its observations, alternative approaches to the solution of the health care delivery problem in rural areas which are broader in scope and more basic in structure than those seen by the DAP team at Bimbo are recommended.

II. SCOPE OF WORK:

An assessment of the Health Sector by the DAP Team prior to the visit of our Team states: "Potential Areas for Program Development in Health/Nutrition/Population focus on: (1) support for existing demonstration program (2) expansion of demonstration project already underway, and (3) assistance in the collection and analysis of basic population, nutrition and health data. Program areas take into consideration the fact that many programs already exist which address health sector Government priorities. These programs are emphasizing training of personnel suited to rural areas and community development through a Demonstration Health Zone at Bimbo. We believe external assistance should concentrate upon these rather than embark on new programs which might exceed absorptive capacity of the Ministry of Health."

"CAR health priorities are (1) Training of Personnel; (2) Development of Health and Social Services; (3) Maternal and Child Health; (4) Environmental Protection; and (5) Campaigns Against Communicable Diseases....."

Against this background it was decided that any Team making a visit to the CAR should "(1) Explore the interest of the Government of The Central African Republic in developing proto-type low cost delivery systems by expanding possibly a modified Bimbo Project, (2) Explore with Regional Developmental Office, AID, the Government of the CAR and other donors possibili-

ties for alternate funding sources for infrastructure development and commodity procurement should such prove necessary to expand delivery systems."

Within these rather broad guidelines the APHA Team undertook the following:

1. To assess the Government of the Central African Republic commitment to provide basic health care to its rural population in an organized manner through increasing allocations of personnel and resources.

2. To assess the feasibility of developing a rural health delivery system or systems which could eventually be extended with CAR resources to those rural areas inhabited by the largest segments of the population.

3. To assess the role AID and other donor agencies can play in assisting the Government at the national and prefecture levels develop a rural health delivery competence meeting the basic needs of the rural people.

4. To provide the Regional Development Office (RDO) available data and information pertaining to objectives, additional donors, scopes of work and technical feasibility of assistance, which would enable the RDO to prepare a PRP for AID assistance to GOCAR if it has been determined that Rural Health Delivery competence can be attained by the Ministry of Public Health of the CAR, within a reasonable period.

In following the scope of work the team considered, the character and status of the government's rural health and family planning policies and their acceptance or rejection by those segments of the population to whom they are addressed. It investigated the quality and quantity of institutional development in the country as it pertained to the promotion of preventive and curative health services in rural areas. It examined the existing programs in the Bimbo Demonstration Zone and those in the Ouham Prefecture, one of the target areas in the Government Five Year Health Plan. It explored the existing demographic and epidemiological data base at the National and Ouham Prefecture levels. Based on its visits to existing facilities in the Bangui Area and the Ouham Prefecture, it evaluated the current accessibility of the public at large to preventive and therapeutic health care in these areas. Limitations, primarily in transportation and secondarily in time, prohibited a determination of common epidemiological patterns, cultures, occupations and topography which could influence the replicability of health development systems and methodologies in various parts of the country.

The Team was unable to ascertain the precise level of other than AID and WHO/UNICEF donor assistance or the exact amount expended by the CAR National Treasury from its revenues for the delivery of health services. A detailed description of these activities may be found in the Diary of the Team's inter-views and visits:

Prior to returning to the United States, the team provided the Regional Development Office in Yaounda with copies of all data and information as well as the notes and comments of the individual team members on their observations. This raw material has provided the basis for the Project Review Paper (PRP), which is being prepared for the proposed Rural Health Delivery Project (RHDP).

III. FINDINGS:

A. As stated in the Introduction, the Feasibility Team made the visit to the CAR at the invitation of that Government. The interest expressed in the letter to APHA regarding the development of rural health services was repeated during the team's official visit with the Minister of Health, Andre Christian Zane-Fe Towan Bonna, and in his formal statement at the Official Dinner given the team.

Several months prior to the team's visit, Dr. Bedaya Ngaro, the then Director General was promoted to the newly created position of the Inspector General for Health Services and the Director of the Bimbo Pilot Zone was promoted to Director General. He was replaced at Bimbo by Dr. Beouane, a recent returnee from postgraduate training in Public Health in France and former head of the Directorate of Urban Health and Hospitals. The team was advised officially that a CAR national is being trained to serve as the homolog to the French Director of the Directorate for Rural Health and the Grandes Endemies with the primary responsibility for the development and implementation of the rural health program.

Dr. Yvonne Sureau, the Acting Director of the Directorate De La Sante Rurale a Des Grandes Endemies and Dr. Beouane were the two government officials assigned to work with the team during its visit. Dr. Ngaro, Inspector General, was given the responsibility by the Minister of insuring a successful visit by the team and was the chairman of all staff conferences.

Unfortunately, he was in Brazzaville a part of the time and not available for indepth discussions after the team returned from its field visits. Other officials encountered or interviewed expressed considerable interest in improving the delivery of health care and willingness to be involved in any project undertaken as a result of the team's visit. There was considerable concern expressed by Dr. Ngaro and the Ministry's senior officers regarding Maternal and Child Health Services which are the responsibility of the new Ministry of Social Affairs, which was formerly a part of a Ministry of Public Health and Social Affairs. Since the split, a Special Committee has been formed to coordinate activities between the two ministries.

The other Government policy affecting health development pertains to population growth and family planning. Although cognizant of its low GNP, the National Government policies favor large families, and family planning counseling is permitted at Health Centers only for those women who have experienced previous miscarriages or other birth irregularities.

In order to implement these policies, the Government of the Central African Republic is nearing the end of its second five year period of Planned Social and Economic Development - 1971-1975. Under the Second Five Year Plan for the Health Sector four objectives were set:-

- (1) The education of health personnel
- (2) The development of Health Service having the following elements:
 - a. An up-to-date inventory of the health infrastructure
 - b. Integration of a five year development plan for Public Health into the national plan.
 - c. Strengthening of existing Public Health infrastructure, concentrating mainly on rural health and coordinating a uniform health policy for the whole country.
 - d. Integration of curative and preventive health services.
 - e. Transformation of the five Grandes Endemies sectors into the zones of integrated activity using methods developed in the Bimbo Pilot Zone.
 - f. A rural health oriented manpower training program.
 - g. Recycling of health auxiliaries at the village level.
 - h. Coordination of health and social work activities.
 - i. Creation and development of maternal child health programs.

- j. Promotion and development of programs for environmental sanitation in rural areas.
- (3) Control of transmissible Diseases.
- (4) Improvement in the Collection of Health Statistics.

Without a knowledge of the status of these priority areas at the beginning of the Second Quinquennial, the team was unable to evaluate the progress which has been made. However, there was tangible evidence of accomplishment in several areas:- the education of health personnel, the control of transmissible diseases of epidemic significance, and the creation of a Zone for operational research and training.

The Grandes Endemies operating in the five sectors of the country has successfully prevented the outbreak of an epidemic of yellow fever, small pox or measles. The country has been free of cholera in spite of its limited sanitary facilities. Trypanosomiasis exists only in localized foci.

Regarding the training of health personnel, the Government has successfully developed the curricula and instructional facilities (INEMS) for the training of the middle level health personnel required to staff an integrated health system. It has not been successful in providing the housing which would make it possible to train in quantity potential health personnel recruited from distant rural areas requiring health services. The team was advised that this will be undertaken shortly. In the meantime, this need was being partially satisfied.

by a mission operated housing facility in Bangui in close proximity to INMES.

Prior to the team's visit a study of the data collection and utilization had been made and recommendations submitted by the School of Public Health, University of Pittsburgh. The problems outlined in this study still exist, and in fact the team was unable to substantiate during its visit to Ouham Prefect that the Grandes Endemies mobile team maintained individual records on the immunizations and prospections of the inhabitants of the villages which they visited. The only patient records the team saw pertained to leprosy patients.

Due to restraints discussed later in this report, progress in the development of Rural Health Services during the previous Five Year Plan in other than the Bimbo Zone appeared to be minimal. However, building on what had been accomplished, the Ministry of Public Health has prepared in draft, a plan for the Third Quin-quennial 76-80 in which it is re-ordering its objectives, placing the Development of Health Service first; a new approach to locating Health facilities on designated roads, Politique des Grands Axes, second; and Education and Training last.

During the next two years, it proposes to extend the services provided in the Bimbo Zone to the balance of M. Ombella - M'Poka Prefectures and then to the Prefecture of Basse Kotto in 1977, to the Prefecture of L'Ouham in 1978 and to the Prefecture of Lobage in 1980. The plan outlines in detail the improvement in

facilities planned for each of these years and the procurement required, the budget estimate and the anticipated sources of financing. The additional resources required for the extension of the Rural Health Service to the rural areas are not specified in the plan. Indicators are that the Government is seeking outside assistance, and some officials were anxious to know what the contribution of the United States would be if a proposed project were undertaken. The funds the Government estimates would be needed for attaining its objectives total 1.318995.00 Central African Francs.

The second objective of the Third Five Year Plan appears to be a policy to be followed in carrying out the first objective: namely that the Health Centers and Health Post that are provided should be located along the major roadways leading out of the prefecture or sub-prefecture capital cities. Such a policy would promote ease of communication and availability of first-aid to victims of accidents along the roads. The overall objective is provision of a health facility every ten kilometers along the major roads as a complement to the long range government plan to resettle the rural inhabitants along existing major roads, thereby reducing the resources needed to service its rural population. In its travels, the team noted that between Bangui and Begola, a distance of 500 kilometers, most roadside sites suitable for habitation were occupied by small villages of 25 to 30 huts or less. Yet the team was told that some rural inhabitants are reluctant to leave the villages in which their forebears are

buried for roadside sites. Moreover, they would have farther to walk to their fields which are away from the roads. Currently where fields are some distance from the village, temporary shelters are built for overnight housing. This adds to the sanitation and vector control problems.

The third objective under the Third Five Year Plan is continuation and expansion of the training of indigenous personnel to meet the needs of an expanding rural health service.

Having established an institution for the training of middle level personnel, the CAR government gives top priority in the Five Year Plan to the training of professional personnel who can replace the expatriate staff which it must now depend upon for the delivery of health services both in urban and rural areas. More than 90% of the physicians and pharmacists in the CAR are non-nationals of the country. Thus the Government is incorporating in a modest manner professional medical education as a part of the University of Bokassa's curriculum with an annual entering class of 20 students in medicine for six years of training.

Their desire to allocate a part of their scarce resources to the establishment of a modest medical faculty at the University in Bangui rather than use outside facilities should be evaluated with full consideration of the following:

- (1) Until there are ample CAR physicians, the Government must employ at considerable cost expatriate physicians in sufficient quantity to meet minimum health care standards.

(2) The reluctance of European trained CAR physicians to take rural health assignments.

(3) The long period of residence in Europe, (up to nine years) required for medical training and the excessive cost of training a sufficient number of CAR nationals, and finally

(4) The unsuitability of the European medical curricula to health problems, conditions and illnesses in tropical Africa.

In connection with the development of a Medical Faculty, the Government, with French assistance, is renovating and upgrading the Surgical, Pediatric and Laboratory Services at the National Hospital.

Recognizing the contribution para-medical personnel are currently making to the delivery of health care and the necessity to expand the capabilities of this cadre of personnel, the 3rd Five Year Plan includes the establishment of a physician' assistance program at I.N.E.M.S. This new category of personnel who will receive four years of training, will be designated Superior Health Technicians. The number of each category of personnel to be trained annually is specified in the Plan.

Having studied the Plan the team could appreciate the amount of Government effort which has been devoted to determining (based on available data) the professional requirements for rural

health development. At the same time the team was concerned with the Ministry of Health assumption that the human and material resources beyond present capabilities of the Ministry to provide, would be available for the implementation of the Plan.

These resources include:

(1) Adequate numbers of candidates for training at all levels, but particularly for physicians, pharmacists, nurses and senior technicians.

(2) Funds from the National Treasury for the continuous operations of a rural health service.

(3) The capacity of the country's infrastructure, governmental, industrial and commercial to provide the logistics, communications and material support needed.

A cursory examination of accomplishments under previous five year plans indicates that these assumptions were not valid. This indicates the need for assistance to Ministry of Public Health in strengthening its planning capability to deal with its problems in a realistic manner. The team has addressed itself to this need in its recommendations.

Based on our observations and interviews our team concludes that the CAR Government is committed to the progressive development of Health Services in Rural Areas and is supporting, within

available resources, plans and programs aimed toward this objective.

B: Having made the assessment that the CAR government is committed to improving rural health services, the team's next task was to determine whether such is possible.

In doing this the team considered the following:

1. The existing data base for program formulation.
2. The current organization of the Ministry of Health at the national and prefecture levels and the personnel system which provides the staff for these organizational units.
3. The capacity of the Ministry to staff, supply and supervise its health centers, sub-centers and health posts.
4. The potential for developing a prefecture-wide rural health service, in an area other than the Bimbo Demonstration Zone, which would be an integral part of the Third Five Year Plan.

1. The Existing Data Base for Program Formulation. As with most developing countries, data collection in the CAR is a routine task and not a scientific operation. Personnel devote considerable time to "keeping records" without understanding the reason for making the entry except that data must be sent to the various Ministries in Bangui periodically.

The best currently available population data has been collected and compiled by the staff of the Grandes Endemies in the Ministry of Public Health. The nation-wide census, delayed by Presidential Order, is re-scheduled for December 1975. It is anticipated that a preliminary report of the results by Commune can be published by Fall of 1976. Later more detailed population information will be available for the use of planners.

Currently, the most recent mapping of villages was done in 1957 by Institut Geographique National-Paris. These maps accurately show the location of villages and in some instances the trails for reaching them.

Data on the incidence of diseases and illnesses are spotty and unreliable. As the Pittsburg studies indicated the data that are collected are not evaluated, analyzed or effectively used in directing current operations or developing future plans and programs. The study recommends fundamental changes.

In addition to these changes in the system of data collection, processing and distribution, major improvements need to be made in the skills of health personnel in reporting health information and in the management of the communications and records required by the system.

Reports of program activities and evaluations furnished to the APHA team by the MOH, WHO and AID and others contain some useful information for planning and extension of

rural health services in the Ouham Prefecture, and the experience gained in the project at Bimbo can definitely be drawn upon for guidance in project formulation.

It is the opinion of the APHA team that the model proposed for M. Ombella - M'Poko Prefectures based on the Bimbo experiment, will require further development before it meets the coverage and feasibility specifications of the GOCAR Plan. In any case the characteristics of health problems and available resources vary sufficiently by prefecture to require considerable adaptation of any model developed. Capacity for planning and innovation to meet local conditions should be incorporated into each prefectural rural health program.

2. The current organization of the Ministry of Health at the National and Prefecture Levels and the Personnel System which provides the staff for these Organizational Unit.

The Republic of Central Africa is divided politically into Prefectures which are further divided in sub-prefectures. The smallest political unit is a commune. However, the provision of health care to the rural areas is highly centralized, in the Directorate De La Sante Rurale and Des Grandes Endemies in the Ministry of Public Health, and the Ministry of Social Affairs.

The Ministry of Public Health is a line type organization of five principal levels as follows:

a. The Office of the Minister

- b. The Cabinet of the Minister
- c. The Office of the Director General
- d. Five Directorates
- e. Facilities and Services.

Attached to the Office of the Minister as a staff unit is the Technical Committee which we understand is an inter-ministerial committee of the Ministers for Public Health, Social Affairs, Education and Youth and Sports, for the purpose of coordinating the operations of these Ministries.

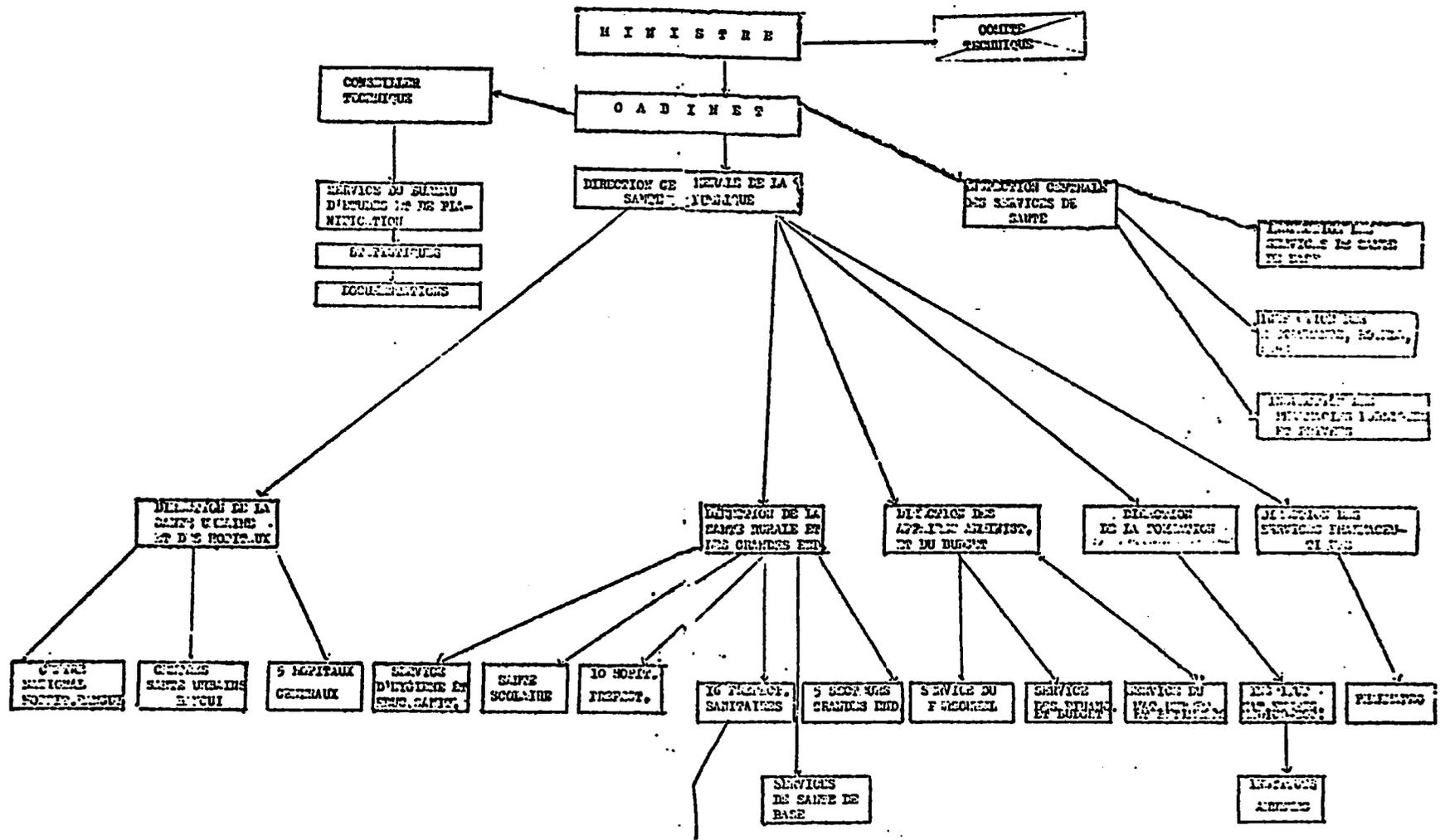
The Cabinet of the Minister is headed by a Chef de Cabinet and includes the Director General, the Inspector General for Health Services, Technical Advisors and the Directors of the five Directorates.

Attached to the Cabinet of the Minister is the Office of the Technical Advisors and the Office of the Inspector-General for Health.

The Office of the Technical Advisors consist of the WHO Representative and other WHO technicians on assignment to the CAR Government. This office supervises the Bureau of Studies and Planning which also maintains the statistical and documentation units and the Bimbo Demonstration Zone Project.

The office of the Inspector-General for Health supervises the inspection of all health facilities, the inspection of restaurants, hotels and bars and the inspection and control of

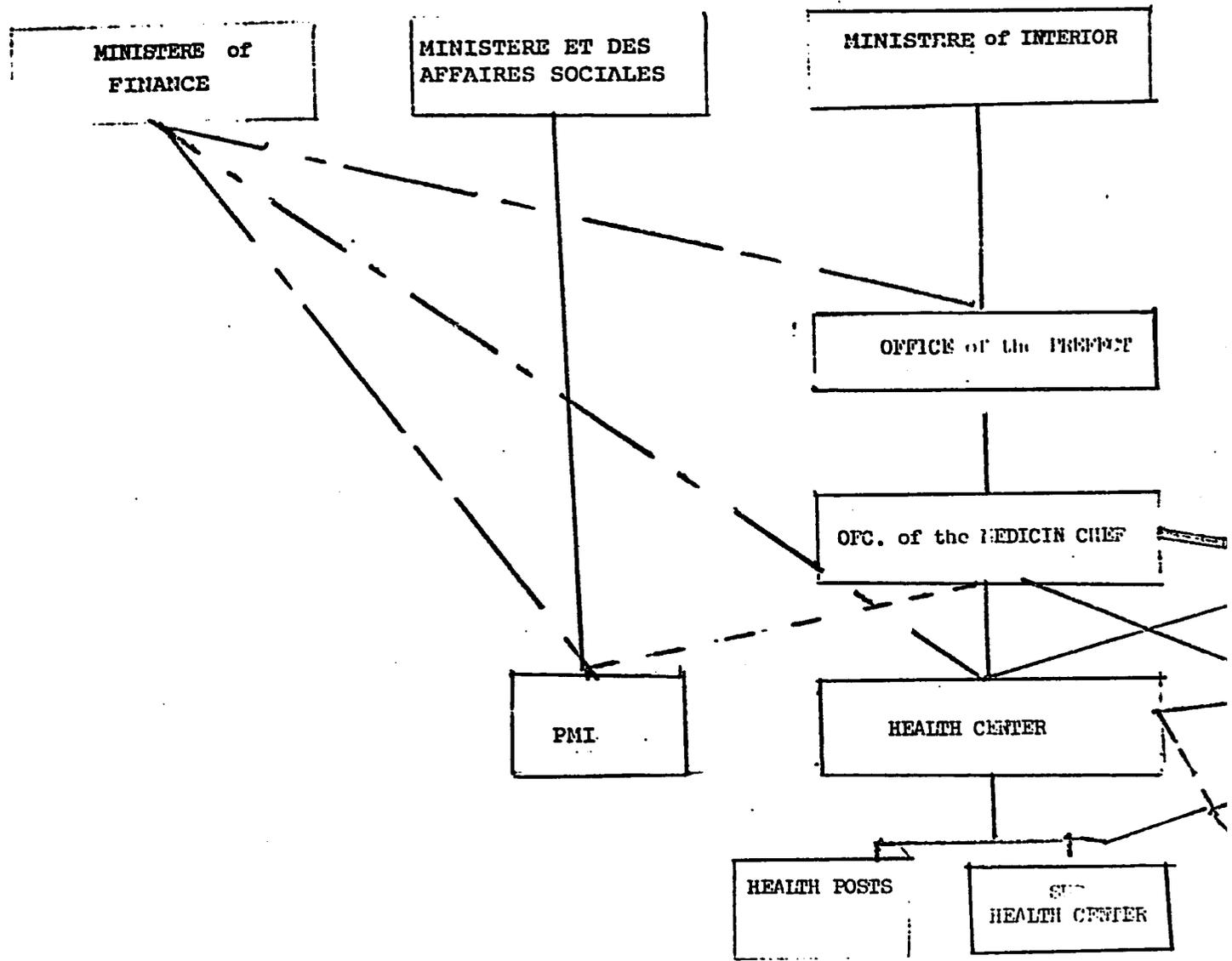
ORGANIGRAMME DU MINISTRE DE LA SANTE PUBLIQUE
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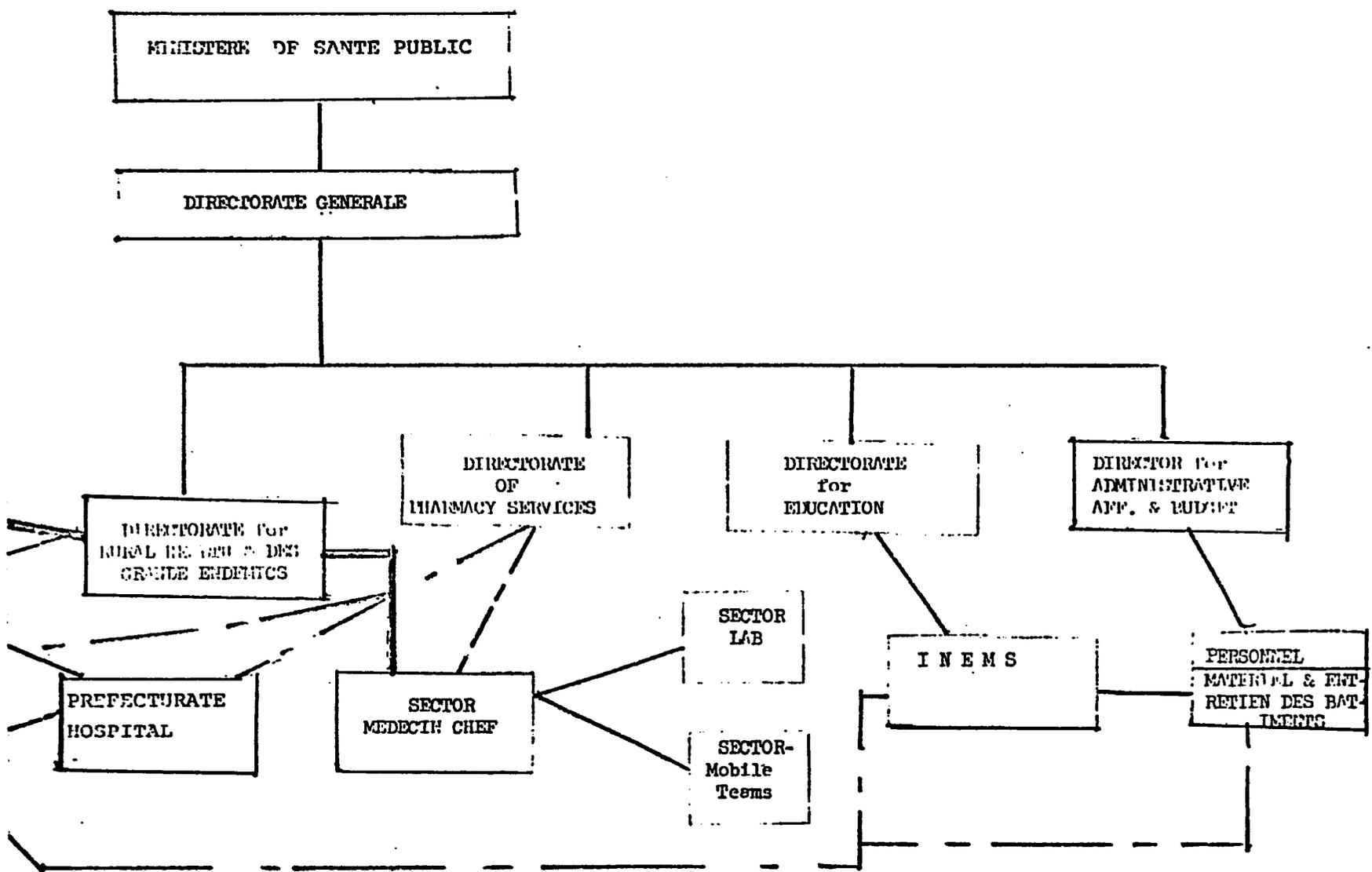


both government and private pharmacies.

The next level is the Office of the Director General of Public Health which is responsible for directing, supervising and coordinating the work of the five Directorates. There are no staff offices or units attached to the Director General's office.

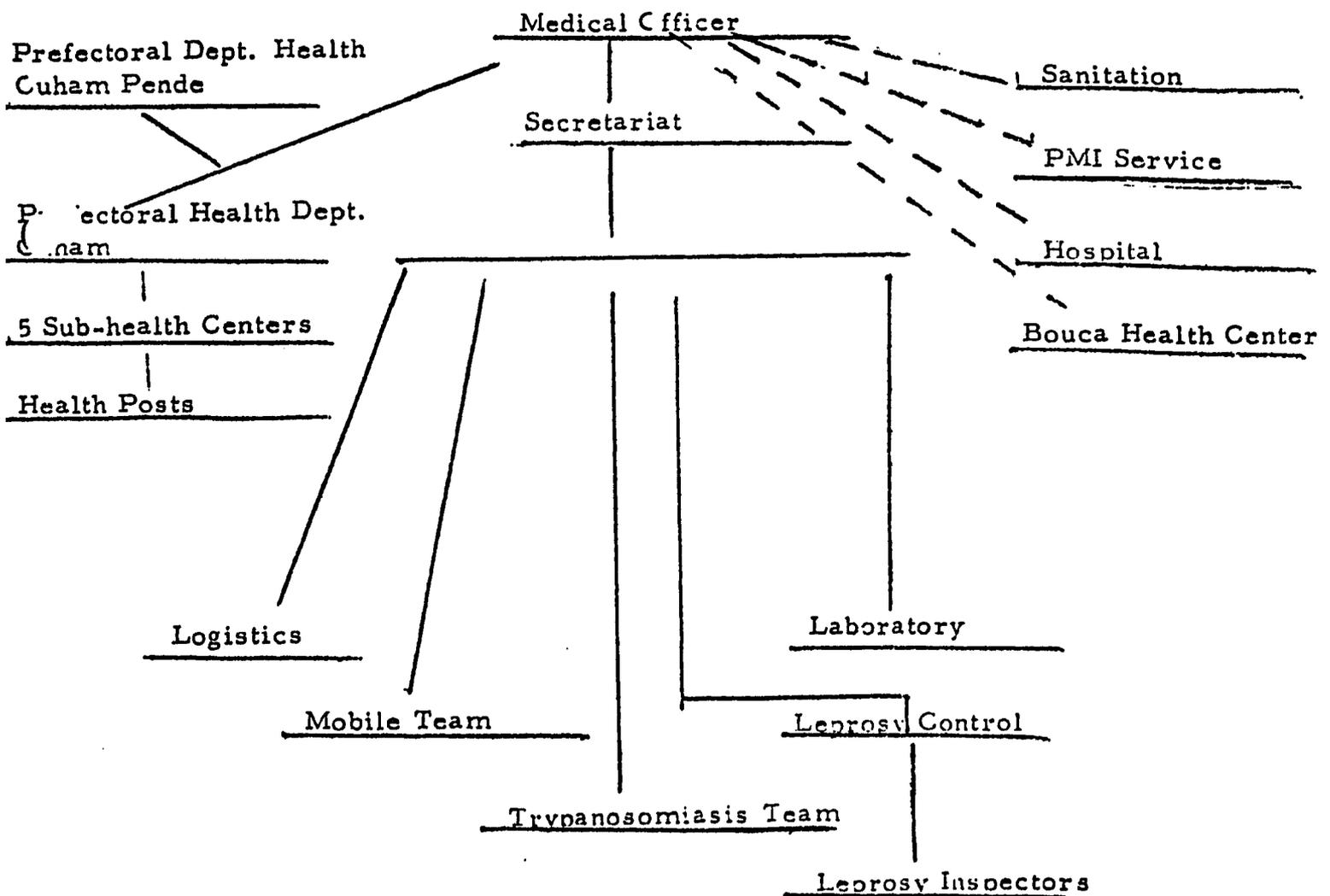
The fourth level consist of the five Directorates: .
Direction de la Sante Urbaine and des Hopitaux, Direction de la Sante Rurale et des Grandes Endemies, Direction des Affaires Administrative et du Budget, Direction de la Formation et Education Sanitaire and Direction des Services Pharmaceutique. The first two supervise the work of the local facilities both urban and rural which provides primary health services to the people, and the last three provide the funds, personnel and materials needed to operate the local facilities. The names of each of these units are shown on the organization chart which follows.





At the Prefecture Level, since all services are centralized at the national level, there is no one single person responsible organizationally for providing the total health care for the population or the community. The following diagram shows the present complex organizational structure:

Because of the paucity of physicians to fill rural posts, the Expatriate Sector Chef for the Grandes Endemies often fills the Prefecture Medicin Chef position and in some instances heads the Prefecture hospital. The following organogram shows the different services in the Ouham and Ouham Pende Prefectures which depend upon the medical officer of the Grandes Endemies for professional and technical direction and service:



Thus the team concludes that:

(1) The present organization of health services at the Prefecture and below levels does not provide for joint planning and coordination of health preventive and curative services including P.M.I. activities, sanitation and health education.

(2) The present organization favors the delivery of therapeutic services and limited MCH services in rural areas with inadequate support to sanitation, community health education and preventive services except immunization against small pox, measles and yellow fever.

(3) The present expensive Grandes Endemies mobile operation provides a critical input into existing rural health services and should not be phased out until a network of fixed facilities is staffed, supplied and supervised.

Concurrent with its evaluation of the organization structure, the team attempted to learn the current staffing pattern and the level of position vacancies. During our interviews with Mr. Mondo Daupauy, Director for Administrative Affairs and Budget, we requested a listing of positions, a copy of the position classification structure and the schedule of Salaries and Benefits. The team was advised that such was not readily available, but would be provided. The material was not provided before the team departed,

and we must conclude it either doesn't exist within the Ministry of Public Health, or it requires compilation from the individual records of the employees which would be a time consuming operation.

However, from our interview with Mr. Daupany and from other sources the personnel structure in the Ministry appears to consist of the following:

- a. POLITICAL APPOINTEES in senior positions.
- b. PROFESSIONAL PERSONNEL provided by French Medical Mission and contract expatriate personnel, filling senior professional positions for which no CAR national is available. A few have junior CAR counterpart personnel.
- c. ADMINISTRATIVE POSITIONS filled when possible from graduates of the National Administrative School. This training consist of two years classroom instruction and one year in-service experience.
- d. CLINICAL POSITIONS for PHYSICIANS AND GRADUATE NURSES filled primarily by foreign professionals provided by the French or Russian Missions or employed by the CAR under local contracts. They serve both in Bangui and at Hospitals and Sector Posts. We were unable to ascertain exactly the number of these persons, but they must exceed 50 such positions and constitute approximately 90% of such staff positions.

e: CLINICAL POSITIONS OTHER THAN PHYSICIANS AND GRADUATE NURSES in Bangui area usually filled with graduates of the Institut Nationale d'Enseignement Medico-Social et Sante Publique (INEMS) who have had one or more years of training. The same is true of social affairs positions and sanitarian positions. INEMS graduates occupy a graded position in the civil service structure of the government.

f. CLINICAL POSITIONS OTHER THAN PHYSICIAN AND GRADUATE NURSES outside of the Bangui area filled by graduate of INEMS when available, by personnel trained by the Grandes Endemies and by locally in-service trained individuals who are given short periods of training at INEMS. The government will employ personnel trained in missionary hospitals when available.

The team concluded that the personnel system within the Ministry of Public Health needs further indepth study to determine what changes if any should be made in recruitment, training and career development of Ministry of Public Health personnel.

3. The capability of the Ministry to staff, supply and supervise its health centers, sub-centers and health posts.

Not unlike most developing countries the CAR is plagued by the paucity of tools and equipments and skilled and semi-skilled workers to use and repair such items. The CAR is further handicapped by its geographic location which limits its accessibility to sources of supply. Thus, international and domestic transportation costs increase the price of common commodities beyond the capacity of the rural inhabitant to purchase or the Government to supply in the quantity needed; e.g. a 94lb bag of cement which retails in Washington, D.C. for \$3.00 costs \$9.00 or 1800 CFA in the CAR. Regularly gasoline costs \$5.00 or 1000 CFA per gallon, and common tools such as pliers and screw drivers are unobtainable outside of the capital city.

Thus it is not surprising that the Ministry with its limited resources has experienced extreme difficulties in trying to transport staff and supplies between its various health centers and health post during the two previous five year plans.

As far as the team could observe from its visits to health facilities and based on its own experiences in attempting to obtain adequate and reliable transportation for both in town and field travel, logistical problems restricting the receipt and distribution of medical supplies, the transportation of resident and supervising staff and the regular compensation of field personnel have not been solved except to some limited extent in the operations of the Grandes Endemies, a unit functioning as a semi-autonomous unit within the Ministry of Health.

Of the 100 vehicles provided to the CAR by UNICEF over the past ten years, only a handful are usable. The Ministry could provide only one vehicle for the team's visit - a Landrover of ancient vintage - and this was not used since it would handicap critical work in the Bangui area. The team was impressed with the absolute necessity of developing reliable repair and maintenance facilities for the rehabilitation, repair and maintenance for Ministry of Health vehicles, buildings and medical equipment which were observed to be inoperative because of needed minor repairs or parts. A detailed description of the current miserable status of the combined motor pool and garage established and formerly supported by UNICEF is given in the memorandum on the team's visits to that facility.

The Grandes Endemies, whose program is entirely dependent upon transport, operates its own motor pools and garages at each Sector Base. In Bassangoa, the Administrative Secretary stated that ten vehicles were running. Inspection, however, indicated that only 6 appeared to be operating, the rest were under repair or deadlined. The garage was short of tools, common auto materials such as tire repair patches, and trained personnel.

Vehicles suitable for constant field activities are unavailable from responsible rental sources. The ones which are available are totally unreliable although they may have low mileage and be recent models. Tires, tubes and dirty gasoline are major problems. Simple tools such as pliers, and screw drivers

are totally unpurchaseable outside of Bangui, and none of the vehicles has tool kits. Rental fees are high, averaging \$50 per day plus mileage; gasoline, is 200 CFA per litre or \$5 per gallon.

Commercial transportation of supplies whether by private company or the government operated corporation is expensive and unreliable according to the Director of the Evangelical Mission in Boguila and the Director of the CAR Central Pharmacy. This Mission sends its own trucks to Bangui (580 km.) to pick up all supplies except gasoline which it obtained from Bossangoa 120 km. away. Shipments sent to the CAR by sea take months for delivery, requiring trans-shipment and forwarding at Pointe Noire by rail to Brazzaville and reshipment by river barge to Bangui. We were informed by the Mission that drugs and materials must be ordered 18 months to two years ahead. There is less delay and pilferage in air shipment via Paris to Bangui.

Whereas these conditions are recognized by CAR field personnel, the team saw no evidence that the planners had considered them in developing the new Five Year Plan. There was no specific provision for the building of support facilities such as repair shops and warehouses, or the training of equipment maintenance and logistical support personnel.

Thus the team finds that the transportation resources available to the Ministry of Public Health are inadequate to support the existing health activities. The strengthening of logistical support capability with vehicles, materials and supplies and

will be required for a rural health program in Ouham Prefecture.

The foregoing discussion regarding transportation assumes that the CAR Government, from a variety of sources, will be able to obtain needed drugs and supplies and to employ adequately trained personnel.

From its interview with the Acting Chief of the Central Pharmacy, a CAR national trained at the University of Strasbourg France and from observation of the pharmacies at institutions visited, the team believes that the current level of National government and donor expenditures for drugs and medical supplies would be sufficient for the extension of preventive and therapeutic health service to the rural population in the Ouham Prefecture. The bases for this opinion are detailed in the memorandum on the team's interviews with Central Pharmacy personnel.

In summary, the French Medical mission provides the Director for the Pharmacy Directorate who controls the purchase and payment of all drugs and material other than those purchased directly by the Head of the Grandes Endemies. All drugs are purchased by contract with French companies in quantities estimated to meet the needs of all medical facilities. Selection of specific drugs is from a list prepared at the Conference of National Directors, Medicin-Chefs and Chefs of the Services of the Ministry of Public Health on April 9, 1974. Attempts of the WHO Representative to introduce the WHO listing of standard drugs have been unsuccessful.

The preparation and packaging of drugs and supplies for distribution to the health centers and health posts are done by the Central Pharmacy. The shipment is handled by the Government transportation company. This arrangement does not insure speedy delivery to the health posts at all times.

The team is of the opinion that utilization of the WHO drug listings, reducing the categories of drugs stocked at health centers and health posts, accurate determination of each post's needs, improved distribution facilities, controlled warehousing, including a perpetual inventory would be useful means of regulating dispensing at all health centers and posts, thereby reducing the existing per capita expenditure for drugs and medical supplies and enabling the Government to serve a larger number of patients. Further, the team believes this can be accomplished without disturbing the existing delicate political-economic arrangement between France and the CAR for drug and medical supplies.

From its conversations with missionary groups, the team believes that any additional funds required for the procurement of drugs can be obtained from the patients treated at the health facilities.

TRAINING

With regard to staffing its rural health facilities and supervising the personnel, the CAR recognized that it must depend primarily on para-medical personnel to provide primary health care indefinitely. Thus para-medical training enjoys top priority in the Second Five Year Plan.

Paramedicals

Training remains a high priority in the new 5 year plan, but it is no longer the first priority of the health service development plan.

It is generally recognized that considerable progress has been made in the I.N.E.M.S. program. Health officials report satisfaction with the improved performance of I.N.E.M.S. graduates and staff who have participated in the in-service training.

The government has experienced difficulty in placing I.N.E.M.S. graduates in rural posts. In 1973, UNICEF pointed out that 90% of I.N.E.M.S. graduates were posted in Urban Centers - Bangui or capitals of Prefectures.

In 1974, the GOCAR/OMS-UNICEF Joint Mission to evaluate the development of health services in CAR concluded that a more systematic method should be inaugurated to assure rural areas better coverage by trained health personnel. It is recommended that a nation-wide plan for placement of graduates be projected to assure an orderly development of rural health services. The plan suggested includes the establishment of basic health teams of Infirmier, Agent d'Assainissement and Sage-femme in the Prefectures; supervision and in-service training; and improvement of rural health center facilities.

It is obvious that this action alone is not sufficient to assure paramedical health manpower of the quality and number necessary to serve rural areas of CAR. A system of recruitment and training of first level health aides will need to be developed at the Prefecture level.

The Institut National d'Enseignement Medico-Social et Santé Publique (I.N.E.M.S.), created in 1967, has by law the responsibility for the preparation of paramedical personnel for MOH posts. It is directly under Minister of Public Health. In July, 1975 it moved into a new modern plant in Bangui with good classrooms, auditorium, office and library facilities. The plan is to construct dormitories to lodge students adjacent to the Center.

I.N.E.M.S. has a Director, Dr. L. Chamorin (FAC), Deputy Director, Mr. Thomas Follot (CAR), a full-time faculty of seven nationals, eight foreigners, one WHO specialist, ten national trainees, and one professional (Soviet). Forty-five part-time professors, mainly staff of the National Hospital, teach special subjects.

In addition, five members of the faculty are now studying at CESSI-Dakar and in Yaounde.

In addition to the I.N.E.M.S. training center at Bangui, there are four Annex Institutes. Bambari provides training for Aides de Sante; Bimbo, Aides d' Hygiene; Bouar, Aides Accoucheuses; and Damara, Agents de Developement Communautaires.

Courses of study for each specialty have been outlined by I.N.E.M.S. staff with the assistance of WHO and other experts. Each year academic entrance requirements have been raised so as to recruit the best qualified candidates possible. Also the program provides opportunities to advance on a career ladder based on experience, academic achievement and examination, and open to all interested. The first year of training is a core course taken by all students. This allows flexibility in specializing, screening of students for more advanced studies and development of a team approach among the different workers. Practical work is emphasized. All courses include assignment to government health facilities of one to three months. Bimbo is a primary training center for I.N.E.M.S. trainees.

The following degrees or levels of study are offered:

Techniciens superieur	4 years
Diplomes d'Etat	3 years
Infirmiers Assistants	1 year
Agents de Development Communautaire	2 years
Aides de Sante	1 year
Aides Accoucheuses	1 year
Aides d'Hygiene	1 year

The following number of paramedicals have completed training at I.N.E.M.S. (October 28, 1974):

Infirmieres (eres) - Diplomes d'Etat	74
Infirmiers (eres) - Assistants Brevetes	144
Sage-Femmes - Diplomees d'Etat	25
Assistants d'Assainissement - Diplomes d'Etat	20
Assistants (es) Sociaux (ales) - Diplomes d'Etat	14
Aides de Sante - Diplomes	18
Aides Accoucheuses - Diplomes	22
Aides d'Hygiene - Diplomes	23
Agents de Development Communautaire - Diplomes	16

The 1975 student body of I.N.E.M.S. and Annex Institutes numbered 367. Students are listed by specialty and anticipated date of graduation:

Infirmiers (eres) - Diplomes d'Etat	36 (1977)
	45 (1976)
	27 (1975)
Sages-femmes - Diplomes d'Etat	19 (1977)
	22 (1976)
	18 (1975)

Assistants (es) (Sociaux (ales) - Diplomes d'Etat	16 (1977)
	10 (1976)
	15 (1975)
	8 (1977)
Assistants d'Assainissement	
	8 (1976)
	7 (1975)
Infirmiers Assistants	38 (1975)
Techniciens Superieurs de Sante	? (1979)
Aides de Sante (Bambare)	27 (1975)
Aides Accoucheuses (Bouar)	22 (1975)
Aides d'Hygiene (Bimbo)	14 (1975)
Agents de Developement Communautaire (Damara)	17 (1976)

I.N.E.M.S. also provides in-service training for para-medicals - Infirmiers and Secourists posted in rural health facilities. Three courses per year of 3 months duration are offered to Infirmiers, (15 in each group). Three courses per year of 2 months duration are offered to Secourists, (15 in each group). By the end of 1975, all Infirmiers and Secourists will have taken these in-service training courses.

Regional training resources of WHO at Lome and Brazzaville as well as CESSI at Dakar are utilized for special courses. Some basic training at Antwerp has been provided under the AID Regional Public Health Training Project.

An effort is being made to develop public health educational personnel in CAR. The Bimbo Pilot Project has a component of the OCEAC Regional Public Health Training Project (AID 625-11-540-510, FY 1972-1975) which aims at preparation of middle and upper level health educators for positions in the Ministry of Health. The project technicians conjointly with WHO technicians have undertaken experimental work to develop suitable educational approaches and materials for CAR. They have provided training in health education skills for other public health disciplines through refresher and training courses under I.N.E.M.S., and have given consultative, supervisory and support services to personnel in the Bimbo zone. Some effective work has been accomplished in school health education, organization of village health committees and patient education. A real block faced by the project has been the lack of sufficient staff to follow-up and maintain the services developed in addition to the heavy teaching responsibilities entailed in the Bimbo Pilot Project. More CAR staff is needed for this work.

One CAR trainee completed the International Course at Antwerp and returned to work in CAR July 1975. Hopefully this CAR health educator and one additional CAR trainee at Antwerp will provide leadership in health education at the national level.

Another development having important implications for health education is the new national program of community development being launched by the Ministry of Social Affairs with the assistance of the UN. The first class of community development workers has been trained at I.N.E.M.S. A pilot zone has been established in De Mobaye, Basse-Kotto. This new category of personnel will be assigned to villages to help communities organize themselves for integrated action with the government. One area of action will be health improvement, environmental sanitation, nutrition, etc. The community development workers will refer persons to health services and carry out simple medical skills which they are learning at one-month orientation courses in health centers. They are expected to help villagers with latrine building and simple sanitation improvements. As the community development approach is largely an educational one, these workers will be supported by a visual aids service. This service has been established at Bangui with the assistance of UNESCO. Flip charts, flannel graphs and puppets have been designed and pre-tested under the direction of a UNESCO technician and with the help of a Peace Corps Volunteer.

Two additional national programs of rural education are being launched as part of the Développement Intégrée movement. Functional primary schools will be established in four pilot villages where parents will be actively involved in the teaching.

UNESCO/UNICEF are assisting in this project. The National Education Ministry is also launching a functional literacy program in rural areas. These two programs will serve Ouham Prefecture.

Physicians:

Lack of sufficient number of CAR physicians to assume leadership and direction of health and medical services continues to be a serious problem. The government provides some fellowships for study of medicine abroad, mostly in France (estimated about 8 at present). Although medical training at CUSS at Yaounde is available, CAR has not taken advantage of this resource.

As discussed previously, the Five-Year Plan for 1976-80 includes the establishment of a Faculty of Medicine and Pharmacy funded by the National Education Ministry, at the University of Bokasa. The school is to be operational in 1976 when 20 medical students and six pharmacy students are to be accepted for study. The graduation of the first class of physicians is scheduled for 1982; the first class of pharmacists for 1981.

The demonstrated success of I.N.E.M.S. in providing a steady flow of trained personnel supports the assumption that adequate personnel will be available at the time the CAR will have developed the facilities necessary to support and service a rural health program in the Ouham Prefecture. The team estimates that this should be possible in late 1977 or early 1978.

4. The Potential for Developing a Prefecture Rural Health Service in an area other than the Binbo Development Zone which could be an integral part of the Third Five Year Plan.

In the Third Five Year Plan, the CAR has selected four Prefectures in which to either extend or develop rural health services. One of these four is the Ouham Prefecture located in the North Central section of the Country, beginning about 100 kilometers north of Bangui and extending to the Chad Border. The Ouham Prefecture was selected because of (1) location; (2) it has some rudimentary health facilities; (3) it has a basic road system; (4) there are complementary development projects in nutrition, agriculture and community development underway; and (5) it was sufficiently far from Bangui to be rural, but still close enough to make communications and transportation possible. Further it is second in the number of inhabitants, estimated to be 180,000.

Poor hygienic practices, inadequate diets and lack of access to basic preventive health services, including sound guidance in health matters, are important factors in determining the poor health status of the rural people in the Ouham Prefecture. Villagers have not had opportunities to learn about the causes of communicable diseases and the measures which they can take to protect their health.

Accessibility of health services

The average villager in Ouham Prefecture has very little if any contact with Governmental Health Services. The mobile Services des Grandes Endemies make biannual rounds of villages and reach a high percentage of the population. But these are brief encounters for census taking, screening tests and mass immunizations. Leprosy workers have a continuing relationship with patients, but because of their specialized role cannot give the more generally needed preventive health services. Most fixed health services are clustered in the sous-prefecture capitals. These have the best trained health staff (all physicians are in Bossangoa). Of the 19 government health posts in villages it is estimated that not more than half are operable, leaving an estimated 10 secoruists to give basic health services at the village level. Taking into account all the government health workers in fixed centers in Ouham Prefecture, there is one health worker per 3,700 population.

Apparently villages in Ouham Prefecture are more likely to know about and use dispensaries sponsored by the three missions that serve in Ouham Prefecture, Mission Evangelique des Feres at Boguila, Eglise Baptist and mid missions. These missions, in addition to their hospital facilities, provide more and better staffed rural dispensaries than does the Government.

The Bougila Mission estimates that about 70% of the villagers in the vicinity use their dispensaries, and that patients travel from as far as the northern and southern borders of CAR to obtain the Mission's medical services, passing by free government facilities en route. The nominal fees charged do not seem to restrict use of the health services offered by the Mission.

It appears that health services provided by the church missions in Ouham Prefecture are not only more accessible to the rural people geographically, but also offer a service that is more acceptable to them.

Public Understanding, Practices, Attitudes

The one preventive measure that appears to be universally appreciated is immunization.

Immunizations against small pox and measles are free and accessible to villagers through the mobile service of Grandes Endemies. DPT immunizations are provided in some urban health centers and mission clinics at the cost of the vaccine. The Bougila Mission reported that it took 20 years to demonstrate to parents the value of DPT immunization, success being measured by the parents' increased willingness to pay for it.

MCH services are apparently appreciated by the villagers served by the mission at Bougila. They pay \$6.00 for a service that covers prenatal, delivery and infant care. Five thousand children are seen in these village clinics once per week

for preventive services including screening tests, malaria suppressants, diet supplements and immunizations not available at Services des Grandes Endemies. Patients are given guidance on infant care, and the staff reports success in getting mothers to boil water for their babies' consumption, a particularly impressive accomplishment in these living conditions.

Diets in CAR vary considerably in the different regions of the country depending on the local economy and the nature of agricultural production. Poor transport severely limits distribution of foods between regions.

The Bossangoa area is agricultural. The diet reflects a deficiency in animal protein, game being practically the only source for villagers. Kwashiorkor cases are seen in villages and clinics. Malnutrition (protein and vitamin C deficiencies) is fairly common particularly in children who are weaning and among all ages during seasonal food shortages. Hemoglobin level is low among those screened at the Boguila Mission. This is attributed to the heavy load of intestinal parasites carried by the residents of the area.

FAO is undertaking a project in Ouham Prefecture that is expected to assist in improving the nutritional status of the people there. The project introduces newer methods of cotton production along with vegetable culture. It should result in increased incomes for farmers to purchase animal protein as needed

and larger supplies of nutritious high protein plant foods.

Miss Verny, U.N. Specialist in Nutrition and Home Economics and the community development workers in the Bossangoa area are of the opinion that nutrition need not be a problem in CAR. They believe that a good nutritional balance can be maintained through better utilization of the foods now available locally, and through home gardening. They feel that, given the opportunity, villagers will learn to improve their diets, particularly those of their children. Social workers in the Bossangoa area do nutrition teaching among mothers served by the MCH clinics. Soeur Bernadette Lavonchere, Puericultrice, Montrice sociale, has developed some illustrations of recommended foods which she uses in teaching. She says visual aids are needed by her and the social workers she supervises.

Basic sanitation facilities, such as safe sources of water supply, latrines, and clean foods markets, are practically non-existent in villages and even at some governmental hospitals, health centers and schools of the Ouham Prefecture. Well digging projects carried out in the past, temporarily provided safe water at health installations and in some villages. Now many of these wells are nonfunctional due to poor maintenance and missing parts. Where latrines have been constructed, most have not been properly maintained and some are no longer used. It is obvious that the villagers and even the health workers themselves are not sufficiently involved and motivated for continuing improvements

in the sanitation conditions. Part of the problem is the lack of necessary materials due to cost and transportation problems. However, as has been amply demonstrated in the Bimbo Pilot Zone, an active program of community education is necessary to assure continued use and maintenance of these basic sanitation facilities.

Family planning or child spacing to improve the health of mothers and children is a concept understood by health workers in MCH clinics but not considered by them to be practicable among most of their patients. The motivation of mothers to have as many children as possible is bolstered by traditional values and governmental policy. Infant mortality rates are high and people expect that most of their children will die. Missionary workers report that people often ask why their children die. In most cases, when preventive health measures are recommended, patients do not follow them, either because of lack of resources or lack of appreciation of benefits. An explicative approach outside of the existing culture, seems ineffective in motivating patients to adopt preventive health practices. The missionaries' approach is to demand the complete compliance of their patients, feeling that in the long run people will recognize the beneficial results and will gradually adopt the new practices, as in the case of DPT immunization. Thus patients seeking prenatal care must agree to continue under the exclusive care of the mission, make weekly clinic visits for examinations and medications, be delivered by mission staff, and not seek advice or any other services from traditional practitioners or relatives, etc.

Community Involvement:

Some communities in the Ouham Prefecture have been involved in health improvement efforts. There are a number of indications of community concern and readiness to take action on health matters. Some have demonstrated sufficient interest in securing their own health worker (a securist) to request permission of the national government to establish a health post with the understanding that the commune will finance it. Usually the villagers build the health post with local materials. According to the 1974 Health Report of Ouham Prefecture, eight of the nineteen health posts were established by communes.

In the case of the establishment of Boguila Mission dispensaries, the local community is involved through its local church organization. A request for a dispensary made to a local church organization is reviewed by the Mission Medical Services Committee. The local community is involved in the planning, and assumes responsibility for construction and maintenance of the facility, and selects local people to be trained for health works, etc.

The willingness of local people to pay out of pocket for health services was demonstrated by their initial response to the ill-managed National Government's health card scheme. Unfortunately, the Government was not prepared to follow through with the services it promised, thus losing considerable confidence among the rural people. Another example is the typical response of villagers

to the plight of local health workers whose pay checks are often delayed for months. The villagers willingly provide food and necessities for the worker and his family from their own resources.

A variety of community organizational workers, e.g. social workers, agricultural extension workers, and missionaries have been in contact with villagers over the years. For the most part their approach has been to establish rapport with the villagers, to help them understand their problems and find solutions within their means. They have tried to assist in solving nutritional deficiencies, unsanitary conditions and child care needs. These workers report that villagers respond favorably to the attention given them by outsiders. As traditional villages in CAR are small and dispersed, the people lack experience in organizing for community action or agricultural cooperatives and need considerable help in managing community funds. The "new" larger villages being regrouped under the sponsorship of the government are experiencing local leadership problems, as most village men must spend periods time away to work on their farms, leaving their wives and small children behind in the "new" villages.

In Ouham Prefecture health education has hardly been tried. During the cholera threat in 1974, the Service des Grandes Endemies employed a health educator who assisted the Sector Chief in organizing informational meetings at Bossangoa for prefectural officials and village elders. The health educator traveled with the "Equipemobile" to assist in interpreting sanitary measures

recommended to control cholera. This appears to be a sensible approach to obtaining program support from community leaders and officials, but is not adequate to effect the sanitary improvements necessary for control of the disease.

Educational services to promote nutrition and maternal and child health are fragmented and of questionable value except perhaps for the Bossangoa and Bouca centers and in the mission clinics where qualified staff are in charge. Social workers of the Ministry of Social Affairs do some follow-up field visits of the patients served by the MCH Clinic at Bossangoa.

Extension workers from the Ministry of Agriculture and missionaries do community development work in villages which includes activities to improve environmental sanitation and promote nutrition and child care. The pattern of delivery of these services is for the worker to travel by car to villages along the roads radiating out from their headquarters in Bossangoa. Of course, this system favors the population in the vicinity of the capital and barely touches the rural population of the prefecture. Such community education services as are carried out under several agencies (Ministry of Social Affairs, Ministry of Agriculture and various religious missions) are ~~neither~~ coordinated standardized, nor guided by the Ministry of Health. Although there are interministerial committees on the national and prefectural levels, they are not actually planning and coordinating the work of the field personnel of the ministries concerned. The

coordination that does occur is incidental and between individual workers who find themselves confronted with such problems as how to pool transport to villages, need to refer patients to another service (e.g. Grandes Endemies for immunizations, arranging transport for a patient to a health facility).

HEALTH SERVICES IN OUHAM PREFECTURE

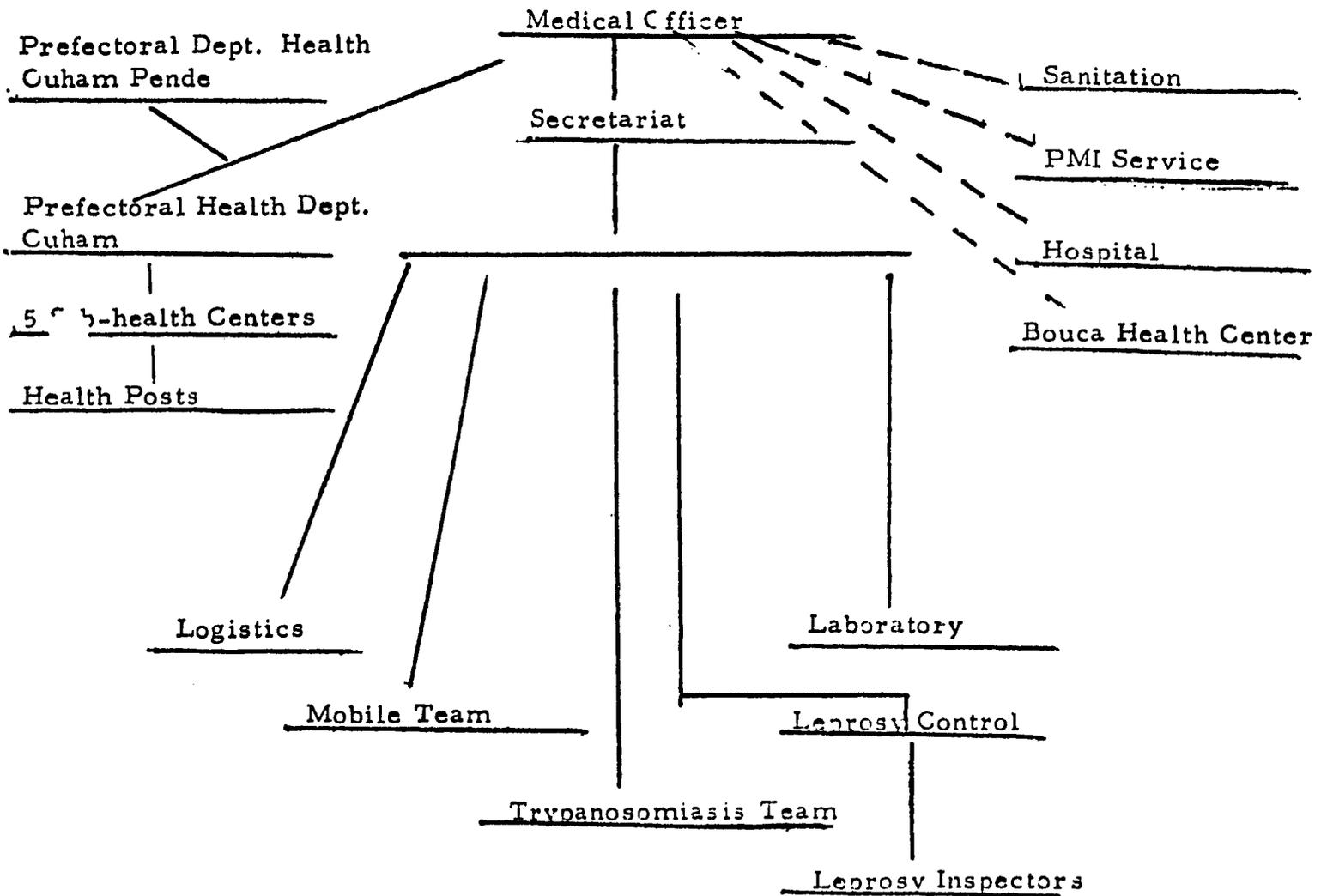
Ouham with a population of 180,000 is one of two prefectures in Sector III, one of five health sectors of the Grandes Endemies and Rural Health Service.

The following organogram shows the different services currently coming under the professional and administrative direction of Dr. Patrick Calen, a French national who is Sector Chief of the Grandes Endemies. He also serves as Medicine Chef of the Prefecture.

ORGANIZATION OF SECTOR III HEALTH SERVICES

Sector III is one of five health sectors of the grandes endemies and rural health service. It covers two prefectures, Cuham and Cuham Pende probably around 400,000 people.

The following organogram shows the different services coming under the M. O., Dr. Patrick Calen.



We were told that Sector III possesses more personnel and logistical resources than other sectors with the exception of the one containing the Bimbo Zone. In the 1974 "Rapport Annuelle de Secteur No 3", there is a list of all the personnel and their classification as well as a detailed inventory of material including vehicles, lab equipment, etc., and their state of repair.

In the annual report there is also a detailed discussion of the financing of Sector III. For operational expenses roughly \$10,000 was given by the CAR government. There were unspecified vouchers for gasoline. The government has nationalized the bulk purchase and distribution of gasoline. It must be remembered that the Grandes Endemies is supported by FAC subvention, and it is likely that in times of need, money is forthcoming from the French. Local merchants knowing this usually supply fuel and other available materials. We found most of the 12 vehicles assigned the Grandes Endemies are still functioning. Judging from the report, it appears that the prefect in Eassangoa often will intervene with government officials and merchants to keep operations going.

From the Annual Report and visits to some of the facilities, we were able to learn of the scope of services being provided. They may be categorized as follows:

1. Immunization and Prospection Services

A mobile team headed by a senior para-medical worker visits each village in the prefecture at least once every two years

to immunize all children born since the last visit and those not previously immunized against small pox, measles, yellow fever and tuberculosis, to immunize adults against small-pox and to examine children and adults for leprosy, trypanosomiasis, onchocercosis and any other communicable disease entity exhibiting recognizable clinical manifestations. The annual report shows that 75% of the assessed population of Ouham was seen in one year. These vaccinations were given:

Smallpox	119,000
Yellow Fever	46,000
Measles	14,000
BCG	11,000

During the prospection of 122,568 inhabitants in 1974, about 10% had onchocercosis nodules. Thirty three persons had the clinical manifestations of syphilis or jaws.

As a part of the mobile service, there is a special trypanosomiasis team which is dispatched to areas where there are suspected cases. In the past three years there have been flare-ups in Nan-Bokassa and Batangafo. The suspected cases undergo ganglion puncture and lumbar puncture. Those found positive are sent to Bossangoa hospital for three months and most of the surrounding population is treated with pentamidine. Batangafo was treated with insecticides this year in order to eradicate the tse-tse fly. When discharged from the hospital, trypanosomiasis patients are followed up when the mobile team passes a year or two later.

Suspect leprosy cases are referred to the Leprosy Service for diagnosis, treatment and follow up.

One of the communicable diseases which is rumored to be a real problem is gonorrhoea to which no attention was being given on a community-wide basis. Cases of treponemal diseases exhibiting no physical manifestation are not detected since laboratory facilities for performing dark-field examinations are not available.

Leprosy services:

Services for Hansen Disease patients are specialized and do not form a part of the basic health services. New cases are detected by the mobile team mainly by the observation of lepromatous patches during prospection. These are referred to a leprosy ward at Bossangoa Hospital for three months and upon discharge are to be followed by one of the leprosy inspectors in Sector III. There are two Brevete nurses in charge of leprosy control who supervise the leprosy inspectors, depending upon the availability of transportation. Each sub-prefecture has one or two inspectors who have fixed circuits, with one day a week spent in the sub-health center where the dapsona supply is issued. The controllers together with the inspector visit each health posts at least once a year to observe the work of the inspectors, to collect statistics and to review problems. An annual report is made per sub-prefecture, the leprosy controller having visited all circuits with the inspectors. (See Rapport lepre Bossangoa).

In Sector III which includes the Ouham Prefectures, there are 3,516 individuals with leprosy with 304 new cases detected in 1974. Any person free of new tuberculosis patches for two years is considered cured. Sector III office files contain individual patient records showing the distribution of patches and general status on every leprosy patient as well as a statement on any ensuing complications. However, follow-up is poor, only 60% being seen after the initial treatment. Endemicity is high, over 1% of population being infected in some areas.

The foregoing described "Services" are provided by the Grandes Endemies for the most part from mobile health units rather than from fixed Base Health Units. They are effective, well disciplined and controlled, adequately supplied and supported, and reach the population groups to which targeted.

At the same time they are very limited in scope, meeting only partially the needs of the residents. They are expensive in comparison to fixed village level posts and require a larger cadre of specialized personnel. Being mobile they are susceptible to technological and automotive disruption. Having visited a village, they leave no trained personnel or facility on which to build a health organization that can provide continuous first aid, prenatal and post natal care, child care, nutrition, health education and sanitation services.

Since the Grandes Endemies is minimally supported by CAR Government's funds, it may be difficult to promote the reallocation of these funds to the operation of fixed basic health centers and posts.

Sanitation Services:

Each sous-prefecture has an agent d'hygiene who works in a mayor's office. Efforts are being made to replace these with assistant sanitarians from INEMS. This has been accomplished in Bossangoa. The sanitarian is required to send reports to the Prefecture Medicin Chef monthly. However, none was available in the office of the Secretariat. During the team's visit to Bossangoa, the sanitarian was unavailable for interview, and we were unable to determine the impact of his services on the community.

(MCH) PMI Services:

These services are indicated with a broken line on the chart, since it falls under the Ministry of Social Affairs. The expatriate Sister-in-Charge was interviewed by Miss Anderson. Although the health of mothers and children have top priority, there appears to be no coordinated effort at the local level to include MCH into the activities of the fixed health centers and posts. The team was unable to evaluate the MCH knowledge possessed by sub-health center indigenous nurses and secouriste. Dr. Garcia, the Acting Medicin Chef, felt most mothers are still being delivered by indigenous midwives. There were no records on the incidence of

tetanus neonatorum and maternal mortality. Better integration of MCH activities by training health aides thoroughly in preventive MCH activities which could be delivered from each health post has not as yet been implemented. Native midwives in distant villages are not receiving hygienic training which could reduce the birth complications as reported by Dr. Garcia.

Laboratory Services:

The small laboratory at Sector III headquarters serves the general hospital and urban dispensary as well as the Grandes Endemies. There are two lab technicians, one working primarily with the mobile team. Both are nurses who learned lab skills on the job. The examinations being done are:

stools for intestinal parasites
cerebral-spinal fluid (CSF)
ganglion exudate for trypanosomes
Zeil-Nelson for TB
thin film smears for malaria

Blood examinations are limited to White Cell Count, Hemoglobin, and complete blood count, and are performed in the hospital laboratory. The laboratory nurse records all results in a small notebook, but statistics are not provided to Bangui for evaluation.

Records indicate that few patients undergo lab examinations since there were only 15 or 20 examinations done per day for an urban population of 10,000.

Ample space is available to develop an adequate laboratory, there being two other rooms both equipped with sinks, but currently without running water. However, the lab is poorly lighted and equipped and had but a single microscope.

There is a great deal of potential for developing a basic reference public health laboratory at Bossangoa which could supervise and supply peripheral sub-center labs and periodically recycle staff. Most lab work is currently done by trained nurses which is a misutilization of manpower; lower echelon staff can be trained to do this work efficiently. Also health aides in the health posts can be taught to prepare thin film slides to refer for verification to the sub-health center. Aides could similarly prepare the fixation for TB slides. Activities could be progressively broadened to include serology and darkfield examination.

Fixed Basic Health Services

The Medical Officer in charge of Grandes Endemies also supervises the Prefecture Sanitaire, there being only a technical assistant at the Headquarters. This office's vestigial organization would normally direct and supervise the health activities of sub-health centers and health posts. These units periodically send statistics to the Prefecture Sanitaire, which are included in the documentation in the Annual Report written by the Acting Medicin Chef.

In Ouham Prefecture, there are two health centers, six sub-health centers, each serving a sous-prefecture and a constellation of 19 health posts. The Health Posts are supplied from Sector III, and the health centers directly from Bangui. However, inadequate line of communication and referral exist between health post, sub-centers and Base center.

The Prefecture Sanitaire experiences many problems in the recruitment and supervision of personnel. Many nurses are habitually absent or disliked by the population. Given the isolation, personnel tend to be of lower quality than in urban units encountered in these areas. Further, staff are paid infrequently. Accountability for drugs and materials is poor, and the centers usually lack critical supplies.

In the existing health posts a single health aide, usually with three months of training, is expected to provide the following services:

1. First aid and treatment of simple injuries
2. Diagnosis and treatment of communicable diseases
3. Prenatal and post natal care
4. Sanitation instruction and direction
5. Health education
6. Collection of statistics

This is an unrealistic goal in view of the current absence of support and supervision. A positive feature is that each aide has the opportunity for recycling in Bangui in what is usually a 3-month period every few years. During this period, however, ~~the health post is without a trained aide.~~

The sub-health center to the extent possible serves as a backup to the Health Post by providing the following:

1. hospitalization for chronic ailments and minor surgery
2. deliveries
3. supervision of health posts
4. motivation and initiation of social service activities.

The health center and sub-health centers are supported by the hospital. But again the means of transportation and communications and the standards of referral for patients are often not available.

Thus a project which would undertake to strengthen the already existing health services in Ouham should consider assistance in -

- (1) Upgrading the existing staff at the Base in Bossangoa with professional personnel capable of:
 - (a) supervising the subcenters and health post services and
 - (b) initiating and operating a training program for the annually recycling of

health aide, village aide and other personnel staff over the nineteen health posts.

- (2) Providing dependable logistical and support services including transportation of staff and patients.
- (3) Preparation of Standards and Guides for the treatment of patients and for the referral of cases to Secondary health care facilities.

The foregoing Findings have set forth the shortcomings of the Ministry of Public Health generally and of the Ouham Prefecture in particular, and the restraints they have encountered over the past ten years in developing a health service meeting the need of the people especially those in the rural areas of the country.

In these efforts they have received the sizable and continuous support of the French Government and the European Development Assistant Agencies. WHO, UNICEF and UNESCO have contributed generously of their limited resources. Yet this has not been sufficient to overcome the paucity of resources available to this nation. Thus, the government has turned to other bi-lateral sources and has made its needs known to the American Government.

The restraints which have handicapped Health Services Development in the CAR are not insoluble problems. They are common to all governments in varying degrees and settings.

The team believes that the U.S. Government can make a useful contribution to health development in the CAR, by assisting the Ministry of Public Health identify and isolate those factors that have hindered the development of Rural Health Development and in devising means within available resources to overcome these hindrances.

Two agencies of the United States have indicated an interest and desire in participating in a project: At the request of the Peace Corp Director in the CAR, Mr. Joe D. Kimmins, we met for several hours on August 8, 1975 at the Airport in Bangui and discussed in considerable depth the requirements for rural health services in the Ouham Prefecture and the scope of the assistance the Peace Corp was interested in providing. A memorandum on this interview is included in the Diary of the Team's interviews and visits. Briefly, Mr. Kimmins stated that the Peace Corps had completed the preliminary studies on a proposed well drilling project in the Ouham Prefecture and that they were willing to select as well drilling sites the Health Centers, Health Post and schools in Health Services target areas. Further, if we undertook community health education program at the village level, the Peace Corps could provide the expatriate personnel necessary to initiate and motivate this program.

Finally, as personnel and facilities become available for staff and operating of the Health Posts, the Peace Corps would undertake to provide supervising nursing personnel until CAR supervisors receive adequate training and experience.

Mr. Kimmins was of the opinion that with the consultative assistance of a logistic management organization, the Peace Corps and APHA/DIHP could provide the direction, supervision and assistance needed by the CAR. Whereas the team does not at this time share completely Mr. Kimmins' opinion on the competence of the Peace Corp and APHA to manage jointly a development project in Ouham Province, we deem this suggestion worthy of serious study and consideration. Also, Mr. Kimmins offered to assist in providing French and Sango language training for staff and field personnel at the Peace Corps training facility.

The second government agency resource is the Agency for International Development. Following the dictates of the Congress, AID in general and the Office of Health in particular has entered into contracts with health promotion agencies in the United States to carry out technical and professional tasks, formerly performed either by AID staff or the staff of the United States Public Health Services.

The sub-contractors included educational institutions, systems design and management organizations as well as professional associations such as the American Medical Associations, the American Public Health Association and others.

Thus the Regional Bureaus of AID with the assistance of the Office of Health are in the position of selecting from these

resources the type of assistance needed by the CAR government in overcoming the indigenous restraints which have retarded its rural health development activities.

The team was promised the full and continuous support of the WHO and UNICEF within available resources. We were assured of the continuous support of other International Agencies with current programs in CAR.

RECOMMENDATIONS:

It is recommended that: (1) AID assist the GOCAR in planning and implementing a prefecture wide rural health service in Ouham Prefecture; (2) the experience of the Bimbo Pilot Zone and similar projects be considered in designing the project; (3) the objectives of the project be consistent with those of the third five year plan of the GOCAR and that the implementation be an integral part of it; (4) the project be implemented in several phases with top priority during the initial phases given to the critical constraints as outlined in the Findings operational planning, logistics, communications, village level training, health education, sanitation and supervision of field operations; (5) partial resources of other U.S. and international agencies be sought and integrated into the project - WHO, UNICEF, FAO, Peace Corps, U.S. Embassy, Self-Help Funds, Missionary Groups; (6) the project should be designed to promote local financial and citizen participation in supporting health services to the maximum extent, e.g. construction of health posts and sanitation facilities; and (7) the project be designed to incorporate a procedure for internal evaluations by both project personnel and outside consultants.

Feasibility Study Rural Health Delivery System
 République Centrafricaine

Documentation of Report :

I. Listing of all the documents we already have --

1. Organigramme du Ministère de la Santé Publique,
27 juin 1975
2. Information about the Central African Republic,
June 1975, American Embassy - BANGUI
- 3a. Presentation - S.D./RV II.7.75, Unite-Dignite-Travail
République Centrafricaine (Five Year Plan 1976-1980)
- 3b. Plan Quinquennal 1976-1980, Ministère de la Santé
Publique, Direction Generale de la Santé Publique,
Service du Bureau d'Etudes et de Planification
4. End of Year Field Report, 31 December 1974
5. Work Plan 1 March 1975 - 30 June 1976, Proposal
6. Programme de Sejour en République Centrafricaine de
l'Equipe de l'Association de la Santé Publique
Americaine
7. La Formation Paramedicale à l'I.N.E.M.S. (Institut
National d'Enseignement Medico-Social et de Santé
Publique) de BANGUI
8. Requete d'Assistance FNUVP, Titre du Projet: Developpe-
ment du Service de Santé Maternelle et Infantile,
S.D./DB/25.6.75, République Centrafricaine, Unite-
Dignite-Travail

Ministere de la Santé Publique, Direction Generale
de la Santé Publique, Service du Bureau d'Etudes et
de Planification
9. Rapport sur les Conclusions de l'Etude Menée par une
Equipe d'Experts de l'Agence Americaine pour le
Developpement International pour la Protection Maternelle
et Infantile, Aout 1974
10. Bureau d'Etudes et de Planification
11. Bureau d'Etudes et de Planification

- 11a. Organization of the Ministry of Health, S.D./DB/31.7.75, 10 pages
 - b. Ministère de la Santé Publique
 - c. Direction Générale de la Santé Publique
 - Service du Bureau d'Etudes et de Planification
 - (a) Objectifs de la Santé
 - I. La Situation Actuelle
 - II. Objectif de la Politique de la Santé Publique
12. Aperçus Généraux de la Préfecture de l'Ouham, S.D./HV/ 2.8.75
13. Rapport Annuelle de la Préfecture Sanitaire de l'Ouham, 1974
14. Rapport Annuelle du Secteur III, 1974
15. Rapport Annuelle de la Sous-Préfecture de Bossangoa Situation Lèpre 1974
16. Journées Médicales : 8^{ème} conférence annuelle des médecins centrafricains
17. U.S. Government Memorandum, May 6, 1975, R&R Well Drilling Project
18. Activities Du. C.S.R.
19. Aperçus Généraux Economiques et Médico-Sociaux de la Préfecture de l'Ouham-Pende, S.D./EB/7.10
20. DAP Health Sector Analysis
21. Développement des Services de Santé en République Centrafricaine, Rapport de la Mission d'Evaluation Conjointe Gouvernement/OMS/UNICEF, 16-27 juillet 1974
 - Dr. P. Toppa (OMS)
 - Dr. A. M'Daye (OMS)
 - Dr. R. M. Lyonnet (OMS)
 - Dr. J. J. D'Almeida (OMS)
 - Dr. A. K. Joppa (UNICEF)
22. Addenda au Plan d'Opérations pour le Développement des Services de Santé Public dans la République Centrafricaine. Développement des Services de Santé de Santé Public. Termes de Référence 1975

25. Toast Prononce par le Ministre de la Sante Publique
a l'Occasion du Diner Offert par le Gouvernement
Centrafricain en l'Honneur de la Delegation Americaine,
A.C. Zane-Fe Touam-Bona
26. Republique Centrafricaine, l'Institut Geographique
National
27. PID
28. Nutrition Profile, CAR, USAID
29. Evaluation Report: OCEAC Regional Public Health Training
Project, Project No. 625-11-540-510