



Government of the Central African Republic - U. S. A. I. D.

Project Paper

OUHAM PROVINCE RURAL HEALTH

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PART I. B.

Recommendation

It is recommended that:

1. Grant funds be authorized for the Ouham Province Rural Health (C.A.R.) Project in the amount of \$1,655,000.
2. A procurement Source/Origin Waiver under section 636 (i) of the Foreign Assistance Act of 1961 be granted for procurement of vehicles and commodities (see Annex R).

I. C. 1.

Project Summary

This project is designed to address those administrative, management, personnel and communication/transportation problems that the GOCAR now faces which act as impediments to the development of integrated, rural, village level health care delivery system.

The possibilities for future progress in the health sector in CAR will be determined by the extent to which these management issues can be resolved and a low-cost rural health system in Ouham can be designed.

The ultimate program goal toward which this project is aimed is the active participation efforts of the rural population of Ouham Prefecture in community development. The subsector goal is the implementation of an integrated health care delivery system in Ouham.

Toward the achievement of these objectives, the project purpose is to develop a health management capacity at the prefectural level together with a central support system in the capital capable of planning, administering, training for, and executing a program of rural health education, sanitation and basic village health care.

These program and project goals coincide with and are designed to complement GOCAR's efforts in achieving the goals stated in the Third Five Year Plan.

To achieve these ends, the Ouham project will place two M.P.H. level technicians in the CAR for a period of three years. They will both be experienced in the problems of developing countries, with expertise in Public Health Administration and management systems. One, an M.D., M.P.H., will be placed at the prefectural level to act as technical advisor to the CAR director of the newly developed Rural Basic Health Office (Bureau de Santé de Base) at Bossangoe, Ouham Prefecture. Acting together the CAR physician, the AID technician will coordinate the planning, administration and management of the rural health system in Ouham, provide coordination, support and supervision for training in management and administration, in appropriate curative and preventive care, in sanitation, and in MCH.

In-service training will be developed by the Ministry of Social Planning of the Government of the Central African Republic. This prefecture base office (PBO) will also be responsible for the development of a prototype rural health

I.C.2.

care delivery system wherein village health care agents (traditional healers or any other trusted and willing villagers) chosen by the commune or by village development committees will be trained in diagnosis, basic village treatment of appropriate diseases, and in basic supply management. Although, at present, the provision of medicines is made free of charge, the Government of CAR is prepared to phase in a system where a nominal charge is made for the medicines provided. It is felt that as the agricultural and economic base improves, the rural population will have more money and will be able to utilize a fraction of this for the purchase of medicines. In the interim the Ministry of Health will be responsible for the inventory, purchase and distribution of medicines to the rural zones.

The PBO will develop training programs in ordering and management of medical supplies for personnel at various levels, and will establish a functioning system of pro-pharmacies for rural drug supply. It will coordinate repair, construction, equipping, and staffing of health facilities. It will support health education efforts which will augment community development programs, including water source projects, latrine construction, fishery and poultry expansion, and related school curricula. It will establish the relevant health data collection and analysis system necessary for future health planning in Ouham, and will be linked directly to the central planning and administrative capacity in Bangui.

In Bangui, the second AID technician, and MPH/MBA (or Masters in Public Administration) with experience in national health planning, will be assigned to the Bureau of Research and Planning within the Ministry of Health. He will act as advisor to his counterpart in the Ministry of Health (MOH) on matters of program and personnel planning and the development of central support systems to meet prefectural needs. He will attend all relevant MOH, WHO and other agency coordinating meetings and be responsible for maintaining Ouham Prefecture's feedback to, and communications with, central levels.

Management and administrative training will be provided at the prefectural level for existing health workers. To assure that administrative and planning capacity in the prefectures will persist after the end of this project, three CAR personnel will be provided with M.P.H. training in the U.S. To assure adequate Health Education personnel to support prefectural based in-service training activities, four CAR personnel will be provided with Health Education training at C.U.S.S./Yaounde.

Training programs for mechanics and garage supervisors will be provided at the administrative garages in Bossangoa and Bangui. Equipment, parts, and supplies will be provided by UNICEF. These garages will provide critical logistic support by maintaining Ministry of Health, Social Affairs, and Education vehicles in Ouham Prefecture.

I. C. 3.

All project efforts will be coordinated with ongoing and planned activities of the Ministries of Health, Agriculture, Education, and Social Affairs, as well as those of Peace Corps, RDO/Yaounde, WHO, UNICEF, FAO, etc. This project will result in the development of a CAR management and administrative capacity to plan-for, support, and implement a replicable prototype integrated village health care delivery system in Ouham.

Part I. D. 1.

Summary Findings

This project appears to be both technically and socially sound and to be ready for implementation at an early date. It addresses the most immediate constraint to health service expansion in the Ouham prefecture, namely weak management, and it attempts to mobilize additional resources for later development. Quantitative cost effectiveness analysis is not possible because of the qualitative nature of the outputs, but two consultation teams have concluded that it is the most efficient approach at the present time. The project is designed to have very low recurrent costs, partly because the Central Africans strongly prefer lasting systems that they can manage without external support. The Social Soundness Analysis, Part III. C., demonstrates that villagers are interested in self help health activities and that they do have some small resources to contribute. In brief, the project relies heavily on local experience and capability but seeks to mobilize and organize them through the development of an effective management system.

Implementation can proceed relatively smoothly if contract technicians arrive before Peace Corps Volunteers are stationed and if the required vehicles are available when technicians arrive. Both actions require AID waivers (see Annexes Q and R). GOCAR must create and staff the prefectural base health office and locate housing in Bossangoa before the technicians arrive, and in the sub-prefectures and communes before the PCVs arrive.

The project meets all applicable statutory criteria.

PART I. E. 1.

Project Issues and Constraints

The project committee review of November 26, 1975, and the executive committee review of the PRP of December 18, 1975, requested further information on the following points:

1. The relationship between the development of managerial capacity and the extension of health services;
2. The role of the two AID technicians and their relationships and project linkages with other activities and donors;
3. Whether the beneficiaries will adopt health innovations;
4. The ability of GOCAR to bear any recurring costs resulting from the project;
5. Financial and administrative changes in the Ministry of Health required by the project and their acceptability to GOCAR.

All of these issues have been dealt with and largely resolved in the project paper, as summarized below.

1. Management or Services?

The project description, project technical analysis, and implementation - administrative arrangements sections address the management and service issue. Briefly, it is not possible to develop managerial, planning, and logistic capacity in a vacuum, nor would it be productive to try to freeze the government's planned expansion of health services in Ouham while management capacity is developed. Management capacity can only be developed in the context of a system which is ongoing, developing, and changing but operating all the while. Innovations and capability cannot be developed in the abstract, but only through attempts at applying, analysing feedback, and modifying principles as they become operational in the field. To this end the project will collect and analyse such data as may be necessary to implement the management objectives. This should be done with the full co-operation of the GOCAR and should serve as a guide for present evaluation and possible implementation of future health activities.

2. Technicians's role and project linkages

Both the AID technicians and the PCV's will work in consulting, liaison, and technical advisory roles. This is set out in detail in the job descriptions section (Annex K). Briefly, they will be counterparts of the Central Africans who will have direct, personal, line responsibility for health services. American personnel will be helping to develop plans and systems which they will help the Central Africans to apply, coordinate, and integrate into existing operations. This will be occurring in the context of the government's over-all expansion of health services, prefecture by prefecture, and is planned to congruent with that plan

I. E. 2.

and coordinate with the activities of other donors in that regard (see project description Part II. B.) and Annex O for details on links with other donor efforts).

3. Acceptance by Beneficiaries

The social soundness analysis (Part III. C.) discusses in detail the potential for adoption of health behavior innovations. Building on the demand for curative care and on the importance of fecundity to the people of Ouham, the project will move from responding to needs already clearly felt and explicit, to developing awareness of the potential benefits of health education and sanitation activities, and finally to building motivation to adapt behavior appropriately.

4. GOCAR's ability to support recurring costs

The impact of the program on per-capita recurring costs of health care is discussed in the previous projects part of the social soundness analysis, (Part III. C.), in the financial analysis (Part III.B.), and in the project description (Part II. B.). In summary, the project purpose is to develop a plan for a health care system whose recurring costs will not significantly exceed the government's previously existing commitment to expansion of health personnel. Whether GOCAR can meet the costs of a greatly expanded and upgraded health personnel establishment is an important issue that remains, but one which exists with or without this project. The acceptability to the Ministry of Health of a fee-for-service and fee-for-medication village health care scheme, of its viability from a financial and managerial standpoint, and perhaps also of the ability of the rural population to pay for more expensive kinds of pharmaceuticals, all remain more or less problematic issues for the project technicians and volunteers to attempt to deal with. This raises a related issue. If the provision of an initial stock of drugs and equipment to village level health care agents and traditional birth attendants (or to village development committees) is subsidized, demand and appreciation for services may develop more quickly, and the supply of a larger initial stock may be possible. On the other hand, it may also create expectations or distribution practices in the villages which cannot be continued if resupply must be purchased at full cost.

I. E. 3.

The challenge of developing a health care scheme with absolutely minimal mechanical transport requirements is alleviated somewhat by the inclusion of the garage component in the project, but it cannot be expected that GOCAR will be able to support a large fleet of health vehicles in the near future, whatever the maintenance capability developed. This is an unavoidable constraint for any rural health program in CAR.

5. Acceptability of Administrative Changes

The project was designed under the assumption that there will be central control from Bangui over allocation of resources, and is aimed at the development of a maximal prefectural capacity for utilization of these resources in an effective, integrated, locally appropriate program. Whether the Bossangoa basic health office will have the necessary authority vis-à-vis Ministry headquarters and the prefectural administration remains an unknown which is difficult if not impossible to ascertain at this time.

Constraints

During the development of the project paper some other constraints have surfaced and some issues crystalized whose ultimate resolution will be important for the project's success.

1. Does the necessary willingness exist among the Ministry of Health, Agriculture, and Social Services personnel at all levels to work together in an integrated, cooperative program? The experience of the community development effort in Basse-Kotto Prefecture indicates that this can be achieved, but effective coordination will probably take time to develop.

2. Will the Ministry of Health and other personnel accept the role of traditional birth attendants (TBA's) and village level health care agents (VLHCA's) in the delivery of health services? Will the

I. E. 4.

respected traditional birth attendants and the traditional healers who have the rural population's confidence participate along side government staff? Will a partnership develop between these two kinds of practitioners, traditional and modern, in which each accepts, respects and encourages the contribution of the other and recognizes the complementarity of their joint efforts? This partnership, which seems potentially fruitful and desirable has been achieved elsewhere<sup>x</sup>, has been initiated and agreed to by the Ministry of Health, and is the active policy of WHO, so there is reason to believe that problems in this regard can be overcome.

3. Will the rural population use and maintain the wells and latrines they help build? If during half the year most people spend the day at their fields away from the village, will the utilization, if any, of the latrines during the rest of the time warrant their construction? This issue will require special attention by project staff if the practices, and not just the external forms, of sanitation are to be achieved.

4. Can the necessary channels of communication, feedback, and self-maintaining adaptive capabilities be developed so that the perpetuation of the project is assured without the input of American personnel? Will sufficiently high morale and motivation be inculcated in field personnel so that a commitment to continued service in the face of inevitable setbacks and frustrations will be sustained after the short-term American presence ends? Can AID and Peace Corps locate and obtain the services of the kind of technicians and volunteers crucial to the nurturance of this capacity for self-sustaining effectiveness? Nothing is more important to the success of this project than the quality and motivation of the personnel involved.

5. While poor health is clearly an impediment to development efforts by the rural poor in Ouham, the increased energy and time made available by improved health may or may not be invested in development efforts. The momentum of success in community health projects may carry over to other kinds of development activities, but the assumption (see Annex D, Logframe) linking improved health to increased participation in development may or may not be supported by the experience of the project.

6. The project is designed and budgeted for the training of 4 CAR nationals in health education (one year each) and three in public health administration (two years each, to masters level). It is assumed that qualified candidates can be identified to take advantage of these training opportunities.

I. E. 5.

However, the capability must be created for sustaining the project in Ouham at the end of the American presence, and there must be a real potential for application of the system developed in Ouham to other prefectures. So considerable effort on the part of GOCAR and the AID technicians to find such candidates seems warranted, even if it requires granting leave to government staff already employed so that they may go for such training.

PART II. A. 1.

Background

Planning for this project was initiated in November, 1974, when Dr. Albert Henn visited the Central African Republic (CAR) for preparation of the Development Assistance Program (DAP).

He discussed the DEIDS concept of low cost rural health delivery system development with the Ministry of Public Health at the time, and in January 1975, the Minister requested the American Public Health Association to further study the feasibility of DEIDS in CAR.

It was tentatively decided at this time that planning should be directed towards Ouham Prefecture, since GOCAR planned to expand health services there beginning in 1977. In June, 1975, RDO/Yaounde prepared a PID based on the DEIDS model. In this same province the Ministries of Social Affairs, Agriculture, Education have also planned increased activities for community (village) development. This expansion will allow the expansion currently in progress in Basse-Kotto. This province will receive some financial and technical support from this project. The activities in Ouham are the logical extension of the development of basic health services as begun in the Bimbo pilot zone and conform to the provisions of the present five-year plan for development (1976-1981).

A three person APHA team visited the CAR in August 1975 and recommended that a full scale DEIDS project not be attempted prior to development of improved local management systems. APHA suggested a two phase project, the first phase to emphasize management and a possible second phase to provide fuller DEIDS-type services. The RDO prepared a PRP on this basis in November, 1975, and AID/Washington approved it with minor revisions in December.

The present Project Paper and design were prepared in May and June, 1976, in consultation with the Ministries of Public Health and Social Affairs and Ouham Prefectural officials, plus representatives of OMS, UNICEF, PNUD, and the Peace Corps. The project team consisted of three consultants from Westinghouse Health System, plus individuals from REDSO (Abidjan) and the HEW Office of International Health.

Country Background

CAR has made progress toward improving its health situation in the face of an almost overwhelming combination of difficult disease problems, insufficient numbers of trained personnel and very limited financial resources. However, CAR's current health status as reflected in the usual health indices and the judgements of its health officials and expert advisors demands that positive action be taken on a broader scale in rural areas of the country.

II. A. 2.

CAR has a population, according to the 1975 census, 3,055,500, of which over 70% is rural. CAR's infant mortality rate is at least 10 times that of North America (According to the 1975 World Population Data Sheet, published by the Population Reference Bureau: CAR, 190/1,000 live births; N.A., 18/1,000 live births). Life expectancy in North America exceeds that in CAR by 30 years (CAR, 41 years; N.A. 71 years). CAR's high birth rate (46/1,000) and high death rate (26/1,000) spell high cost in human and economic terms. Over 40% of the population is under 15 years old; only two per cent is over 60 years old. The population growth rate is about 2.2%. Estimated kilo calories consumption per person per day is 2,100 in CAR as compared to 3,320 in North America.

The 1975 DAP analysis and GOCAR's own assessment indicate that the major factors affecting health problems which have obstructed previous attempts at extending health service delivery to the rural areas of the Central African Republic are:

1. Lack of adequate organizational infrastructure to administer an effective health delivery system in the remote areas;
2. An insufficient number of trained health personnel at all levels;
3. Lack of sufficient health facilities to serve as a base for comprehensive rural health services;
4. Lack of adequate medications and materials;
5. Lack of attention to preventive medicine;
6. Lack of adequate transportation and communication facilities; and,
7. Lack of sufficient data base to permit effective health planning.

The DAP Team noted that progress was being made in addressing some of these constraints. It was recommended that rather than initiate new programs, external assistance should concentrate on supporting existing training programs, expand the demonstration program and assist in the collection and analysis of basic population, nutritional, and health data. Based on the assumption that the sub-optimal health status of the population results in lowered development activity, the sector goal of all health projects should be to permit the rural population to be more active participants in development of their communities by improving general health conditions (C.W.R. DAP 1975 p.2).

## II. A. 3.

The GOCAR is acutely aware of the gravity of its health situation and its dependency on external resources for health development. Early in its history the expert advice of WHO was sought with the aim of strengthening its own health resources. Although health planning was initiated with the help of WHO resident advisors before the Four-Year Plan, 1967-1970, it was not until the Five-Year-Plan of 1971-1975 that a Health Chapter was included. A priority of that plan was the development of "basic health services throughout the country and training of qualified health workers at all levels," specifically through "preventive programs directed at rural populations" (CWR DAP 1975 p. K-65).

### Recent Progress

During the implementation of the 1971-1975 plan several important steps were taken which strengthened the GOCAR's capability to improve rural health:

1. The development of the paramedical training program (INEMS) which was carried out with the assistance of WHO, UNICEF, The French Fonds d'Aide et Cooperation (FAC) and others (APHA Feasibility Study -- CAR August 1975, pp. 25-30). This excellent program prepares paramedicals at all levels for both rural and urban posts. Although at first the graduates were quickly absorbed by the urban health installations, more recently graduates are being posted in rural areas at the sub-prefectural level.
2. The development of the Bimbo Zone to study and implement health services that could be extended to the rural population nationwide. Emphasis was given to maternal and child health services, environmental sanitation, communicable disease control and improvement of health statistics. The OCEAC/AID Regional Health Training Project, as a part of this endeavor, demonstrated how health education can support preventive services; it developed educational materials suitable for teaching rural people; and it trained health staff to teach their clients. The organization of village development committees to carry out preventive measures proved to be a practical approach in the Bimbo Zone.
3. The grouping of rural health services, endemic disease control and basic health services in one administrative unit to bring about an integration of these services at the national, prefecture and sector levels. Also a Research and Planning Bureau was created (1971) headed by a Central African trained in health planning at Brazzaville

II. A. 4.

and assisted by a technical expert provided by FAC.

New Priorities

Although considerable progress was made during this Five-Year Plan 1971-1975, the extension of basic health services to the rural areas of the country was not realized. It was evident that greater efforts would be necessary to achieve this end. The Five-Year Plan of 1976-1980 lists the following health priorities (see Annex P for third Five-Year Plan Objectives):

1. Extension to four prefectures of the basic health services developed in the Bimbo Zone;
2. Improvement of facilities and personnel capabilities in key centers to respond to automobile accident injuries;
3. Training of health personnel.

Basic Health Services Development is scheduled to begin in Ouham Prefecture in 1977. As part of an integrated development plan, parallel programs will be initiated by the Ministry of Social Affairs, Ministry of Agriculture, and Ministry of Education.

The Ministry of Social Affairs, with the assistance of UN consultants, has launched a community development program which is designed to motivate rural people to organize village committees; to define priority problems in such areas as agriculture, sanitation and nutrition; to work together to solve these problems themselves, with the technical help of community development workers, using the resources already in the village. Following successful trial the program was instituted in Basse-Koto and was scheduled to be initiated in Ouham early in 1976.

The Ministry of Education, with the technical assistance of UNESCO, has developed a program "Ecole de Promotion Collective" designed to reorient teaching in primary schools toward a more functional education, particularly for children in rural areas. It is based on the concept that the realities of the child's everyday life provide the best springboard for his education. This approach has been successfully demonstrated in five schools. It involves the students in a study of their own community under the guidance of the teacher. It involves the adults of the community in solution of problems e. g. health, agriculture. Four schools in Ouham Prefecture will initiate this program in October 1976.

II. A. 5.

The Ministry of Agriculture with the technical assistance of FAO, has developed agricultural extension programs in three prefectures, Ouham being one of them. Demonstrations in cotton growing and vegetable production carried out in three villages in Ouham Prefecture in 1973 were extended to 12 in 1975. It is anticipated that fish culture, which has been successfully introduced elsewhere in CAR, will be added to the Ouham program in 1976.

Ouham Prefecture

Ouham Prefecture is located in the northwestern part of the country. It has a population of 350,500. Ouham Prefecture has five sub-prefectures ranging in population from 20,000 to 150,000; 23 rural communes; and 1,080 villages. The population density is about 5.3 persons per square kilometer. An inventory of the health infrastructure includes:

The Endemic Disease Service (mobile)

- 1 General Hospital
- 2 Health Centers
- 1 Health Center (2nd category)
- 5 Health Sub-Centers
- 19 Health Posts
- 1 Mission Hospital
- 2 Mission Dispensaries

The health manpower serving the government facilities include: 4 physicians, 25 paramedicals, 20 nurses, 19 nurse-first aides, 17 leprosy workers and three Sisters who direct maternal and Child Health services in the three largest centers (General Information on Ouham Prefecture, Ministry of Health, CAR; 10/5/76). In addition there is a small administration and maintenance staff.

Accurate data on baseline health status, agriculture production and other basic indicators are not presently available for Ouham. However, UNICEF has designated the site for a thorough social-economic survey to be conducted later in 1976 (PRP OPRH Project p. 17).

The needs and characteristics of Ouham Prefecture, as related to health, are fairly typical of those in other areas of the country.

II. A. 6.

As in most African countries the health services infrastructure in CAR has been organized along curative lines and has a strong bias toward benefitting people in cities and towns. When new national programs are inaugurated within this structure, the tendency is inevitable to favor urban areas over rural areas. For example, in 1973 a program to improve maternal and child health services was initiated and a committee appointed to coordinate these services on a national scale. In 1974, a GOCAR/OMS/UNICEF team evaluating the development of health services in CAR reported that the MCH program had been well developed in Bangui and was serving a growing proportion of the target group (90% of the infants under 6 months old, and 80% of the pregnant women). Elsewhere in CAR, MCH services were less comprehensive and available only in major centers. Dr. Simon Bedaya Ngaro, Inspector General of CAR Ministry of Health clearly states in his paper on "The Rural Health Center as a case for Primary Health Care" the need to emphasize development of health services for rural populations and to promote collaboration for this among health officials, other development sector authorities, and the rural communities themselves.

International Context

The need for a rational strategy to ensure delivery of basic health services to all African communities has been recognized and given the priority it deserves by international organizations such as WHO, UNICEF OAU, ECA and FOA. It should be noted that the rest of the world is also engaged in the search for ways to achieve the same purpose and that a wide range of experiments are underway in many countries to develop better means to do this. Communities' participation in the task of protecting their own health, the use of traditional workers such as healers and village birth attendants as members of health units in rural areas and the increasingly important role of auxiliaries, all have amply proved their value in various countries. It is pertinent to note that African health officials and other international experts concluded a recent seminar on this subject with the following recommendations:

-Make full use of available resources, including involvement of the communities concerned. The burden of health expenditures is too great to be left to any national government alone; populations, including rural populations, should be asked to contribute.

-Planning is the key to progress in health, including progress in increasing the health coverage of the rural communities. But sound planning entails a great deal of work, including taking inventory of

## II. A. 7.

resources, making use of statistics and modern management methods, working out priorities and programmes with the help of country health programming, and evaluating the implementation of the plan and programs (AFR/PHA/128 1-6 July, 1974, p. 19).

These recommendations support the concepts that underly this Ouham Prefecture Rural Health Project.

### A.I.D. Policy

Recognizing that health planning at the highest levels must be in conjunction with motivation of the rural sectors, USAID, in the Congressional Mandate document, is directed to give attention to programs:

1. in which "decisions about development programs are made in cooperation with the poor to the fullest extent possible", and
2. "programs in which implementing development programs becomes a learning experience for participants, yielding lasting improvements in their skills". In order to accomplish this, Africa Health Strategy "Health in Africa", AID-January 1975, suggests certain priorities:
  - a phased approach to the development of an integrated rural health delivery system which includes elements of disease control, planning, sanitation and nutrition
  - The strengthening of the health system infrastructure including administration, planning, information system, health education, and manpower development
  - Coordination of the activities of the various donors in the health sector.

These USAID approaches respond to the need to direct the health effort to the rural populations, the need to involve the rural populations in preventive self-help programs, and the need to improve the quality and quantity of existing health personnel.

II. A. 8.

The following AID Projects are related to this project:

The "Village Training for Rural Development CAR", sub-project under the Africa Regional Project, "Accelerated Rural Learning" (698-11-690-387), provides for the construction and development of four small training centers in Ouham Prefecture. These centers will be used to prepare village leaders to involve their communities in planning and implementing development activities, including agricultural innovations. The project will support the community development agents of the Ministry of Social Affairs in their program to organize action committees at the communal and village level and to train village leaders. The Peace Corps and UNDP will also be supporting this program of family and village improvements.

The AID/Peace Corps Well Drilling Project provides for the boring or rebuilding of 280 wells in CAR, about 60-70 of which will be in Ouham Prefecture. The specific action taken will be decided jointly by the population to be served and the technicians.

The Strengthening of Health Delivery Systems Project (625-904) is a regional project which provides for health management and other training relevant to this project. CAR is one of the two francophone countries on the Coordinating Council of this regional project, involving 20 countries and WHO.

The Practical Training in Health Education Project is a regional project which provides practical training in health education for students of WHO/CUSS, OCEAC, and ENISFAY training programs. These regional training programs are a resource to GOCAR and to this project.

II. B. 1.

Project Description

The project described herein is derived from the study of Ouham Prefecture and a definition of the conditions that would have to precede the successful development of a integrated rural health delivery system. It is recognized that there exist financial, manpower and technological constraints which hamper the effectiveness of present Ouham health services in CAR. The key to future progress will be determined by the extent to which these administrative issues can be resolved, because in the absence of improved management efforts in service areas will be futile. Originally the focus of this projects was centered only on Ouham Province. In the three years since the project was first conceived, GOCAR has modified its inputs into rural health services. As a result the GOCAR has officially requested in July, 1976 that some of the U. S. assistance planned for the Ouham Province be diverted to the Basse-Kotto Province. It is in this province that GOCAR, WHO, UNICEF, and Peace Corps are currently (1976) expanding community development services. These community development services include a health component of general health education, safe water sources, latrine construction, etc.

Therefore, this project will now include some limited activities in the Basse-Kotto Province.

After several meetings between the representatives of RDO/Y and GOCAR the following types of assistance were included in the project for use in the Basse-Kotto Province.

1. Two 4-wheel vehicles - these will be used by one PCV and a GOCAR 'chef d' medecin' based at Mobaye. They will be used for general support of ongoing GOCAR and Peace Corps Community Development Activities in the health sector. Cost: \$24,000
2. 15 Mobylettes to be used by GOCAR Community Development Agents in all of Basse-Kotto. Cost: \$ 6,000.
3. Maintenance and P.O.L. for vehicles. Cost: \$10,000.
4. Support for Health Posts. One complete or several renovations. Cost: \$ 40,000

In addition the technician stationed at Bangui will devote some time to activities in the Basse-Kotto. The exact amount of time spent will in no-way jeopardize the co-ordination of activities in the Ouham Province which is still the principal focus of the total project activities.

The project description which follows has been written in three sections: the first contains a statement of goals and purpose followed by a short discussion of problems areas; the larger second portion addresses the project's four major activity areas; and there is a short concluding section of summary.

II. B. 1.a.

Goals

The ultimate program goal toward which this project is aimed is the achievement of active participation on the part of the rural population of Ouham Prefecture in community development. The subsector goal is implementation of an integrated health care delivery system.

Given the typical constraints faced by any health ministry in a developing country, the CAR Ministry of Health is relatively strong. The central health system, in theory, is sufficiently developed to support integrated rural service projects. Practically, however, the health infrastructure in Ouham, as in other prefecture of CAR, is compromised by a lack of administrative organization, logistic support, and management skills. Therefore, the necessary pre-conditions for moving from a centrally based health system to a broad rural delivery system do not now exist.

Given that the development of a rural health delivery system is the highest priority within the Ministry of Health's action plan, external assistance in support of this plan appears warranted. Such support should be provided on a phased basis, with this project (the first phase) directed at establishing the necessary pre-conditions which would permit a later more comprehensive expansion phase.

Purpose

The purpose of this project is to develop a health management system at the prefectural level to maximize the effectiveness of available public and private health resources. The management system will involve planning, administering, training for, and implementing a program of rural health

II. B. 2.

education, sanitation, and basic village health care. Poor management of existing resources has been identified as a major impediment toward improved health conditions. Thus, improved management is critical to the effective implementation of the health strategy adopted by the government of the CAR, i. e., to extend and expand the health services available in rural areas.

The program goal and project purpose coincide with and are designed to augment and assist GOCAR in achieving the goals stated in the Third Five-Year Plan (1976-1980): to develop health services, improve management and administrative capacity, and to increase the quality and quantity of health facilities, manpower, and transportation maintenance capabilities ( see Annex P for GOCAR Five-Year Plan Objectives).

Discussion of Problem Areas

This project is designed to assist GOCAR in achieving its goals partly through limited provision of facilities and equipment, but principally through development of both formal and informal training programs. In-service training will be designed to provide existing personnel with those additional administrative, management, and technical skills necessary to lay the groundwork upon which a functioning integrated rural health care delivery system can be developed. Thus, the existing Ouham Prefecture health system will be strengthened to permit it to serve as the base for the subsequent development of an integrated rural health delivery system for the entire prefecture.

The expectation of the achievement of these goals by GOCAR is based on the assumption by the Ministry of Health that human and material resources 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 rural health services.
3. The capacity of the country's infrastructure (governmental, industrial, and commercial) to provide the logistics, communications and material support needed.

I. B. 3.

A cursory examination of accomplishments under previous five year plans indicates that such assumptions were not always valid in the past. This indicates the need for assistance to the Ministry of Public Health in strengthening its planning capability to design appropriate programs which can work despite such constraints.

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", but facilities for data use and analysis are not well developed. The results of the 1975 census have just been released and have been reviewed and computed by the personnel of the Grandes Endemies (Division of Endemic Diseases).

Thus, changes in the system of data collection, analysis, and distribution, as well as major improvements in the skills of health personnel in reporting health information, and in the management of the communications and records is required.

B. II. 4.

Activities of the OPRH Project

1. Prefectural Administrative System for Planning and Evaluation:

In order to address the problems of management, planning, administrative capability, and support systems that currently prevent the expansion of what is a basically strong central health capacity into rural areas, this project will establish a prefectural administration system for rural health planning, training, implementation, and evaluation.

This will be achieved through the support and reinforcement of the, soon to be established, Prefectural Bureau de Santé de Base (Prefectural Base Health Office, or PBHO) in Bossangoa which is to coordinate the administration and management of the basic rural health system in Ouham. The PBHO will provide coordination and support; will design and conduct training in management services, and provide feedback to existing health and other relevant sector personnel; and will provide in-service training in health education, village sanitation, and maternal and child health to MOH personnel, village health agents, and to traditional birth attendants.

The PBHO will also provide training in the procurement and management of medical supplies, and will improve the system of drug distribution to existing facilities. It will coordinate the repair and equipping of key health centers. It will establish a program of regular equipment repair. It will also coordinate the construction and equipping of new facilities, at such time as the necessary GOCAR staff are trained and assigned to these new posts.

The PBHO will establish a relevant health data collection and analysis system to provide the feedback essential for the development of a relevant, need-based, cost-effective plan for integrated village level health care in Ouham.

For maximal efficiency in any system geared toward delivery of health care, it is essential that there be optimal programmatic and informational exchange and coordination of efforts from all related sections (education, agriculture, water and wells programs; sanitation efforts, etc.) . The PBHO will assume responsibility for arranging for and supporting regular inter-ministerial meetings to facilitate such exchanges at the prefectural and lower levels.

These responsibilities will be carried out by the PBHO over a three year period with the aid of an AID technician, preferably an M.D., M.P.H. with community health services, public health, or public administration expertise. This technician will be assigned to the Bossangoa PBHO and serve as technical advisor to the CAR Director of the Prefectural Base Health Office (Médecin-Chef du Bureau de Santé de Base).

II. B. 5.

Acting together, they will coordinate the administration, planning and management of rural health services. They will coordinate training (in management administration, locally relevant medical problems, and maternal and child health) for appropriate government personnel, village health agents, and traditional birth attendants. The PBHO will be responsible for the development of a prototype rural health care delivery system using village level health care agents (VLHCA's) (traditional healers or any other trusted and willing villager). These VLHCA's will be chosen by the commune or village health committee, and will be trained in diagnosis and treatment of appropriate village diseases. These village level health care agents will operate on a voluntary basis, thus alleviating the need for a large increase in the recurrent costs of the already strained GOCAR budget.

The PBHO will develop training in systems of procurement and management of medical supplies as it establishes a functioning system of pharmacies and the drug supply to them. It will coordinate repair, construction, equipping, and staffing of new facilities. It will develop health education programs to coordinate and augment community development programs including water source project, latrine construction, poultry and fisheries, and related school curricula. It will establish the health data collection and analysis system necessary for future health planning, providing reliable and useful data to the MOPH Office of Research and Planning in Bangui.

A Peace Corps Volunteer will serve as an assistant in the PBHO to aid in coordinating the work of other PCV's at the sub-prefecture and commune levels, and to help provide the logistic and technical support they will need.

One of the pervasive themes of this project is the development of administrative management and support systems that will continue to operate and develop on their own after external assistance is withdrawn. It would be self-defeating for this project to simply insert its own support system at central levels in Bangui if, upon termination of the project that system ceases to function. Therefore, rather than simply provide a special logistic support unit for the PBHO in Ouham, the second AID technician, in Bangui, will assist the chief of the Office of Research and Planning in working with all of the directorates within the Ministry of Health to respond and to support more effectively the increasing health care delivery needs of the prefectures.

This second technician, preferably an MPH with an MPA or MBA, and with experience in national health planning, will be assigned to the Bureau of Research and Planning of the Ministry of Health. He will act as a planning resource for the Bureau of Planning and Research, especially on matters of program support and personnel planning. He will represent

II. B. 6.

The Ouham PBHO at relevant MOH, WHO, and other agency coordinating meetings, and will be responsible for assuring Ouham's liaison and communication with central levels. He will provide administrative support to the Bossangoa PBHO (in budgeting and financial planning) and will assume primary responsibility for project fiscal reporting to USAID.

(For detailed information and elaboration of these roles see Annex K, Job Description)

In order to insure that public health administrative expertise will exist at central levels to effect this rural expansion, this project will also provide for the training of three Central Africans to the masters degree level in Public Health Administration. This should provide GOCAR with the administrative manpower necessary to replicate the system developed by the project by placing trained MPH personnel in prefectural positions in other parts of the CAR after the three year AID input has ceased. This training will be provided to the extent to which the GOCAR establishes positions with the government requiring such training.

2. System for Delivery of Village Level Health Education and Sanitation Services

Basic Health Education of the population remains a significant problem even in the face of the GOCAR published school attendance rate of 63%. The majority of those entering school do not advance to Lycée. The primary school programs are providing some health education, which is rarely practiced. The vocational training schools provide both practical and theoretical health education in their curriculum. Basic health education of adults at commune and village level, pertaining to water source protection, construction and use of latrines, and general nutrition is lacking.

Thus, there is currently little means of spreading basic health or sanitation education to villagers. In response to the problems of high infant mortality due to diarrheas, superimposed on a borderline nutritional status and environmental sanitation related problems, this project will seek to develop a prefecture-based program for the delivery of health education and rural sanitation services at the village level, utilizing existing human resources and planning for the eventual assignment of additional GOCAR personnel.

II. B. 7.

This will be achieved through efforts in community development relying on national community development agents, Peace Corps Volunteers and on a Central African sanitary engineer. These people will work closely with other sector outreach agents (some of whom will be PCV's from other programs such as Wells and Accelerated Rural Learning) in working with communities to organize village development committees (VDC's). Then, working with these VDC's, problem areas will be identified and prioritized, including water source protection, well placement and maintenance, latrine building, community health education, agriculture, animal husbandry and fisheries.

The second component of this output is to provide basic health education to the community through utilization of primary school teachers (to reach) the younger and numerically predominant section of the population, and agricultural agents. Health education elements will be integrated into the approach of all persons working with rural communities in Ouham. Health education curricula are now in the process of being developed by the Institute of National Pedagogy in collaboration with the 'chef de medecin' of SNSSU. Workshops will be provided to groups of teachers from one or more schools at a time, including instruction in the curriculum and use of locally produced and tested visual aids. Training would take place over 2-3 day periods in which the teachers would be observed and helped in acquiring techniques and approaches necessary to carry out the health curriculum.

The distribution of health education materials from their point of origin in Bangui to the prefecture will be facilitated by Bangui support staff and the Office in Bossangoa.

In order to ameliorate GOCAR's health education manpower shortage (there now exist only two Health Educators who were trained in Antwerp) and to facilitate expansion of rural health education programs, this project will provide for the training of four health educators. This will directly facilitate rural health education by providing technically trained staff to continue the retraining and supervision of all village level health workers in Ouham and other prefectures.

II. B. 8.

3. System for Delivery of Village Level Health Care Services

In part because of poor roads and communication systems, and in part because of insufficient numbers of trained personnel, there now exists no means of readily accessible village level health care. Commune-level health posts and sub-centers provide care that is not integrated with preventive measures. These problems further hamper procurement of supplies and medications, and ultimately affect both access to care and levels of care provided.

It is, therefore, necessary to develop a system of maternal and child health services, and a prototype system of basic health care at the village level.

This output is to be effected through the implementation of two training programs. The first is aimed at the expansion of the role of the traditional birth attendant (TBA) through training in modern, preventive practices surrounding prenatal, natal and post-natal care, as well as infant and child care and feeding practices.

Maternal and child health services are high on the development priority list of CAR because of the country's high infant mortality rates and because of the apparent prevalence of sterility in the rural population (see M. Wilde, 1973, "The Barren Wives of Barama," People 1, pp. 26-27). The causes of infant mortality are fairly well known, and the causes of sterility should be better understood after the visit of a U.N. fact-finding mission in June, 1976. In a country with a population density of only about 8 people per square mile, much unused arable land, and a policy of encouraging population growth, every child is valuable. Women who successfully raise at least seven children to the age of three are given medals.

Child spacing advice could appropriately be included in the training of traditional birth attendants and in village health education, but since both traditional values and current government policies emphasize fecundity, the introduction of contraceptive practices aimed at reducing the birth rate would be socially inappropriate and politically unacceptable.

Village development committees will raise the food or cash necessary, or per diem will be arranged for the TBA's, so they can attend training workshops at the Sub-Prefectural Health or Community Development Centers. Existing health center and nearby health post staff of nurses and assistants will also be encouraged to attend in order to maximize dissemination of birth and MCH techniques and information. This incorporation of basic MSH

## II. B. 9.

practices at village level, coupled with efforts in environmental sanitation, agriculture and basic health education of the village population, should produce significant impact upon the general health status of the community, particularly on infant morbidity and mortality (although these changes will probably not be appreciated within the life of this project).

The second training program will be aimed at the small scale development of a prototype system of village level basic health care delivery. Village development committees will be asked to select one or two members of the village to be trained as village level health care agents. These people may be traditional healers who are already involved in health care delivery, or they may be other persons in whom the village committee have trust and confidence. These people will be trained to address the specific health and disease problems of the village, learning the relevant basics of diagnosis and treatment of appropriate selected diseases. Treatment will employ a limited number of basic drugs (e. g. 10-15). They will also be trained in very simple inventory techniques, record keeping.

One method of self-financing of medical care has been shown to be effective in the satellite dispensaries of the Boguila Mission in Ouham, as well as by the initial popular response to the GOCAR health card scheme (see social soundness analysis, Part III.B.). Villagers' eagerness to gain access to health care on a fee-for-service basis has also been demonstrated by their willingness to provide food and shelter for health workers whose salaries are delayed.

Specific curricula and methods for village and health care training will be developed by the Central African M.D. and his AID counterpart advisor at the Bossangoa PBHO. Appropriate sections of the WHO training manual (Annex N) for illiterate village health care workers will be utilized.

To further accomplish the spread of health care and services, existing health facilities will be upgraded both externally (physical plant) and internally through provision of microscopes, slides, and hand centrifuges, as well as appropriate in-service training in their use for diagnosis of malaria, filaria, and parasites.

New health posts will be constructed as appropriate personnel are assigned to the locale (see Annex S).

### 4. System for Vehicle Maintenance

Because of the condition of roads and the lack of expertise in vehicular repair and maintenance, the fourth project output will address this critical constraint to the provision of health care to Ouham Province. This is in

## II. B. 10.

accord with the DAP, which recognized the key role of mobility and transportation in any effective rural outreach program. Without adequate transportation facilities, many improvements in management, in the availability of trained personnel, and in the distribution of drugs and supplies are rendered ineffective.

A system for vehicular maintenance and repair is to be established through a satellite maintenance center in Bossangoa and a central garage in Bangui. These garages will be capable of keeping MOH, MOSA and MOE four wheel and two wheel vehicles operable. This program will be organized so as to train 3 mechanics and one supervisor each year at each center.

UNICEF has expressed strong interest in this aspect of the project and has agreed to provide all basic equipment, 20 motorcycles, and parts for the satellite vehicular maintenance station at Bossangoa. The Central UNICEF garage in Bangui is already functional but requires the services of a PCV mechanic/supervisor.

Peace Corps will provide expert mechanics to complete staffing and training components of the Bossangoa garage (for description of multilateral coordination of programs, see Annex O).

### Conclusions

This project will provide two AID technicians for a period of three years; participant training and in-service training; training of traditional health workers; the repair of health facilities; limited construction of new facilities; and the supply of certain project related commodities. In so doing, it will upgrade planning, administrative, and management capabilities to levels at which the expansion of rural health services, as originally outlined in the GOCAR Third Five-Year Plan, will be feasible. Further, it will develop an innovative prototype system of village level health care, utilizing traditional health workers, upon which that expansion can be modeled. In so doing, this project will build upon what has been learned from the Bimbo experience, participating in and reinforcing the Ministry of Public Health's efforts to bring delivery of health services to the village level. GOCAR wishes to expand and extend rural health services, so this combined approach of management and administrative efforts, applied to the concrete development of a prototype village level service program appears to be both warranted and workable.

It is anticipated that at such time as manpower and other resources become available, the Ministry of Health will gradually expand and replicate this system nationwide according to its staged, prefecture-by-prefecture improvement and expansion plan.

This project will utilize existing health manpower to create a cadre of voluntary agents to improve village level curative health care, mother and child care, nutrition and health education, and sanitation.

III. A. 1.

Technical Analysis including Environmental Assessment

This project is designed to overcome or reduce four specific (but overlapping) constraints which impede the development of integrated rural health care in Ouham. These problems are (1) inadequate management, planning and evaluation; (2) shortage of trained personnel, (3) inadequate mobilization of village resources, and (4) poor vehicle maintenance. This section will first amplify each problem area, and then discuss what is being done now and what will be done if the project is implemented.

1. Management, Planning, and Evaluation

Major problems in this area include:

a. Personnel management: Health personnel must face not only the problems of providing rural health care but also problems of administration and supply of materials.

b. Drug Distribution: While the major problem appears to be total supply, rather than distribution, it is evident that health posts are inadequately stocked. Drug importation to Bangui and from there to the prefecture is irregular and unpredictable.

c. Evaluation: Health posts keep some clinical records but they are inadequate for personnel evaluation or problem finding. Drug distribution to patients maybe inadequately recorded.

d. Communication: Communications between Bangui, Bossangoa and the countryside of Ouham are inadequate.

e. Coordination: The work of health personnel is not well integrated with efforts in the education, agriculture, and community development sectors.

f. Inadequate physical facilities and equipment: Buildings and equipment are poorly maintained, and in many cases no longer usable as a result.

1. a. This project will address the two principal personnel management problems, namely, those due to poor morale and inadequate supervision. The Prefectural Base Health Office will attempt to expand and improve

III. A. 2.

retraining opportunities. It will consult with national officials and local personnel to clarify career ladder and promotional standards. It will involve clinic personnel in the health activities of other sectors and give them outreach skills so they can better meet community needs. Perhaps most important in the short run will be the frequent motivational and technical visits by Peace Corps Volunteers. Workshops and conferences will be used to improve communication to and feedback from health and other field personnel. The project will also improve vehicle maintenance, but will not improve roads or supply fuel or vehicles for existing personnel.

1. b. Drug distribution will be an active concern of both the Bangui and Bossangoa offices. The prefectural office will first study the existing drug supply, by type and quantity, and consider whether it represents the best possible use of available resources. It will then examine existing inventory control and procurement procedures and consider possible improvements. Bangui staff will investigate import bottlenecks and attempt to expedite internal shipment. This will build on the recent WHO study of drug procurement, distribution and utilization problems.

This project will furnish only an initial supply of medicines. The government of CAR has recognized that the future provision of medicines must be financed internally. To this end the GOCAR has agreed to institute a system of payment for medicines by rural inhabitants. However, the GOCAR feels, that at this time, the rural inhabitants do not have the financial resources to do this. Although the Government of CAR does feel that as the rural economy improved rural citizens will be in a position to buy medicines. In the interim the Ministry of Health has agreed to purchase and replace and distribute drugs as needed in the project area.

1. c. The evaluation problem will be addressed by developing at least two routine data collection systems, and perhaps a third based on special surveys. The routine system will be (1) health service reports and (2) reports from education, agriculture and community development agents on health sector activities. Clinic reports will include numbers and types of patient visits, drug inventories and outreach actions, plus an accounting for any days in which staff were absent. The system will be introduced by development of a brief administrative manual together with on-site training provided by Peace Corps volunteers. A system may also be developed for periodic inspection of all health facilities and for written site visit reports.

One special technique which we recommend that the Prefecture Base Health Office consider is the use of annual health status and population behavior surveys.

III. A. 3.

These surveys might be conducted by local health post personnel assisted by Peace Corps volunteers, and might consider:

- prevalence of certain easily diagnosed conditions;
- availability and use of protected water sources;
- availability and use of latrines;
- accessibility of curative services;
- amount spent on health care of all types during some recent periods;
- working days lost because of illness, injury, and disability.

This survey would, of course, be restricted to a limited number of villages and would have to be conducted in the local dialect. A number of the objective indicators at the Sector and Subsector levels require data of this kind, although it is not expected that marked changes will occur during the initial three year project period.

1. d. Communication problems will be at least temporarily addressed by creation of the Bangui liaison capacity and by the use of Peace Corps Volunteers as mobile coordinators between different project sectors and locations. In the course of the project, communication bottlenecks and possible solutions will have to be positively identified and dealt with.

1. e. A major function of the technical inputs at all three project levels (central, prefectural and sub-prefectural) will be the stimulation and coordination of the health sector activities of various types of government field agents. Agricultural agents will be encouraged to develop nutrition and sanitation (wells and latrines) programs; school inspectors and teachers will be assisted to implement health education curricula recently devised by the Ministry of Education. Community development agents will work with village committees to establish health priorities and develop sanitation, health education and nutrition projects. These committees will also nominate traditional birth attendants and village level health care agents for the special training programs developed by this project.

The project will employ two basic coordination techniques. The first will be to conduct localized health training for these various government agents. The second will be to use Peace Corps volunteers as on the spot assistants, working in the field in project development, and as catalysts for extension - community development committees on the communal and sub-prefectural level.

III. A. 4.

Peace Corps volunteers will provide the initial link because they will have greater health expertise than all except the direct health staff and because they will be able to make field visits with each of the agents involved. A vital assumption is that GOCAR will assign qualified and conscientious agents, for without them, volunteers could be largely or wholly ineffective. Volunteers and their colleagues will develop written guidelines so that health projects will diffuse elsewhere when they leave. The PBHO will institute periodic coordination meetings at both the prefectural and sub prefectural levels to promote coordinated and complementary efforts.

1. f. Inadequate facilities is included here as a management and planning problem because it causes personnel to abandon their posts and, thus, wastes scarce manpower. Medical services cannot easily be provided from delapidated structures. The project addresses this problem by providing funds for clinic construction (primarily repair) and equipment, but only to the extent that personnel have been firmly committed to staff new or improved posts.

Although the above discussion summarizes specific management activities, readers should note that the three problems areas discussed below have very important management considerations.

2. Training

Although GOCAR has developed an admirable set of training programs and institutions centered around INEMS, they are unable to produce qualified personnel fast enough to meet the very great health needs of the CAR. For example, administration techniques occupy less than 10-15% of class time. Course content may be overly academic, and trainees brought to the capital for training tend to be reluctant to return to rural posts.

In order to mobilize additional personnel, moreover, it is desirable that illiterate or poorly educated personnel, and specialists in other fields such as agriculture and education, be given minimal basic health education. These persons must be trained as close to their homes as possible and not distracted from their routine duties. Mechanics must be trained also so that vehicle maintenance may be improved. Training programs of this sort are not now available in the CAR.

The project will train the following:

- a. School teachers (Health Education Techniques);
- b. Traditional birth attendants (basic maternal and child health);
- c. A limited number of village level health care agents;  
(in basic curative and preventive activities);
- d. Government health workers (in management, administration and non-clinical outreach);
- e. 3 Masters' level candidates in Public Health Administration and

III. A. 5.

related disciplines (U.S. or Africa);

- f. 4 health educators (Africa or United States);
- g. 18 garage mechanics and 6 supervisors;
- h. Government health staff (participation in local and international conferences - 20 person months).

All in-country training will be conducted at field locations, at sub-prefectural community development centers (being constructed by AID under the Accelerated Rural Learning Project) and in the villages themselves. Instructors will be existing prefectural personnel (assisted by INEMS staff), PCVs and the AID technicians. Mechanics will be given working apprenticeships at the two garages. Ex-post-facto evaluation of each type of project will be conducted.

Long-term training will be provided for three persons in public health administration and four persons in health education. Administration training will be for two years at the masters degree level and may be provided in Africa, Canada, or possible elsewhere. The health education training will be for one year in Yaoundé (Centre Universitaire des Sciences de Santé), France or elsewhere for a total of four persons. The MPH trainees will have little impact on Ouham during the lifetime of the present project, but will assist at both the prefectural and national levels as health services expand in the early 1980's. The health education training is of shorter duration and will benefit project activities in Ouham by mid-1978. All external training is contingent on a written commitment from GOCAR to fund positions for these trainees when they return - (budgetary allowances should be made in advance).

Short-term training funds are also provided to permit GOCAR personnel to attend conferences and seminars related to rural health systems and public administration and to visit similar rural health projects in neighboring countries.

The following primary level health education activities will be initiated:

- a. primary school health instruction;
- b. MCH education by birth attendants;
- c. health reviews and development of sanitation projects by village development committees;
- d. community outreach by existing clinical personnel.

All of these approaches have been tested in the Bimbo pilot zone and will be expanded in Ouham.

III. A. 6.

3. Mobilization of Village Resources

Evidence produced by the social soundness analysis (Part III. C. ) suggests the possibility that Centrafrican villagers are able to pay for basic health care, and that traditional delivery sources are now available. Birth attendants and other practitioners have long-established relations with their clientele and probably have reasonable good diagnostic skills for the more common diseases. The spread of village health committees in Bimbo and in the Basse-Kotto prefecture demonstrates the public's considerable health interest. The problem now is how to channel that resource into preventive health care, more scientific treatment, and local drug supply networks.

Our main approaches to this problem will include the following:

- a. encouragement and support of health activities by village development committees;
- b. short-term but periodic training of traditional birth attendants to give them broad pre-natal, and post-natal skills;
- c. experimental training of village level health care agents selected by development committees (see Appendix N for WHO's suggested responsibilities of VLHCA's);
- d. development of planning for self-supporting pro-pharmacy system (see Appendix T for UNICEF's suggested basic drug list).

Community development agents will be assisted by Peace Corps Volunteers to establish and support village committees in all of these activities.

The development of training programs must be preceded by careful study of existing medical practices. The PCV's knowledge of Sango will help them in this, but most of the work will be done by community development and health agents.

As noted earlier, the Prefecture Base Health Office will work actively to develop a drug distribution system. Precise mechanisms have yet to be established but several possibilities will be explored. These will probably involve village development committees as oversight committees for the VLHCA's, with the back-up of government personnel.

III. A. 7.

4. Vehicle Maintenance

Minimal vehicle maintenance facilities now exist in both Bangui and Bossangoa, but they have had insufficient personnel, equipment and spare parts to fully meet maintenance demands. UNICEF supported the Bangui garage for several years, but the quality of service declined significantly when their technical assistance ended. Vehicle maintenance is essential in CAR because of the poor quality of roads, the scarcity of public transportation, and the great size of Ouham Prefecture in terms of traveling time.

UNICEF has tentatively agreed to re-equip the Bangui garage and to create two satellite facilities in Bossangoa and Bombari (the latter in Basse-Kotto). Peace Corps, or possibly the U.N. volunteer agency, will supply a master mechanic for Bangui and two other mechanics for the satellites. AID will provide one four wheel drive vehicle so that the Bangui mechanic can assist the satellites when difficult problems arise.

Each of these garages will service vehicles from the Ministries of Health, Education, and Social Affairs, and will train three mechanics and one supervisor per year.

5. Appropriateness for Time and Place

A basic question concerning this project is why it should be conducted in Ouham Prefecture rather than at the national level or in some other prefecture. Problems of management and planning occur throughout the country, and many of the decisions required to ameliorate them are central rather than prefectural. Systems developed nationally have broad potential impact, while those found feasible in Bossangoa may conceivably be irrelevant to other prefectures.

The project design team considered these arguments in depth and concluded that a national project would remove staff from close field contact and dilute outputs to the point where impact might be unobservable. If good management practices cannot be developed locally in the field, even the best of national management is unlikely to be effective. Central decisions do have great field impact, and this is why we recommend a Bangui based technician. The project requires both good feedback of field results and interpretation of Bangui decisions for their prefectural impact.

Ouham has been selected as the appropriate field location because the Ministry of Health plans to expand basic health services there in 1978. Basse-Kotto is also appropriate because this is the site of the current (1976) expansion of community development services including health.

### III. A. 8.

Expansion is underway in the area around Bimbo. Expansion will also continue with some AID support requested this year in Basse-Kotto. The length of the planning process required for AID funding made it impossible to place technicians in either the Bimbo or Basse-Kotto areas prior to expansion. Ouham prefecture represents the first opportunity to plan expansion on the ground. It is not a repetition of Bimbo or a parallel pilot zone, but rather a location for planning and managing a prefecture-wide system based on the Bimbo experience.

Two vital considerations at all stages of project design were potential for host country program maintenance, and replicability potential. Although vehicles, equipment and drugs are necessary for the operation of any rural health program, our emphasis must be on maximizing the effectiveness and efficiency of whatever resources are and will continue to be available. Any new project inputs which are consumable must be provided repeatedly after AID leaves, and GOCAR has no secure resources for these as yet. Sophisticated clinical equipment is undesirable, not only because lab personnel are scarce, but also because it would create an expectation that could not be filled later.

We have emphasized development of management and planning systems in this project, at least partly because the GOCAR personnel involved will change, both during and after the project. The systems we devise should be maintainable by other trained personnel, not only in Ouham, but elsewhere in the country. A probable spinoff benefit of the project will be modification of national training programs to include more management and planning content. The system should be replicable although preoccupation with this objective should not be so great as to distract from the primary goal, which is to make the system work in Ouham.

#### 6. Environmental Assessment

The immediate environmental impact of this project will be minimal but positive, in the sense that both villages and rivers will be cleaner once latrines are constructed and used.

Improved health services may, in the long run, increase population growth and create a scarcity of land and water resources. The Central African Republic is sparsely populated at present, though Ouham Prefecture is somewhat more heavily populated than some other prefectures. Crude population and area data suggest a density of 2.8 to 3.4 persons per square kilometer, but these persons live almost entirely along the roads, where density is consequently much higher. Reduced mortality, especially among infants, will increase land pressure in these limited areas, but it should in the longer run not increase overall pressure on land or other resources.

III. A. 9.

Only minimal physical construction is contemplated, consisting mostly of rebuilding of about 15 small health posts with local materials.

These will have no direct environmental impact. Improved vehicle maintenance will marginally increase road usage and possibilities for general economic development, but the effects of this on the environment cannot be assessed without detailed study.

7. Detailed Costs

1. Contract technical assistance.

Two technicians will be required for this project, one located within the Ministry of Health in Bangui, and the other at the basic health office in Bossangoa. Vehicles (6 in total) will be provided to each technicians and to the Central African counterparts in Bossangoa and Mobaye. These inputs will contribute to the outputs as follows:

- 40% for output NO. 1 (prefectural administrative system)
- 30% for output NO. 2 (health education and sanitation)
- 20% for output NO. 3 (village level health care)
- 10% for output NO. 4 (vehicle maintenance)

We estimate the cost of these services at \$504,000 plus \$72,000 for six vehicles.

The institutional contract will also provide for twelve person months of consultation, at \$7,000 per month for a total of \$84,000. Six of these persons months will be directed at output No. 1 (evaluation and management planning), three at output No. 2 and three at output No. 3;

Total Cost	\$660,000
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2. Office support

This item includes equipment and supplies for the technical offices in Bangui and Bossangoa and Mobaye. These inputs are apportioned to the four outputs in the same proportions as above;

Total Cost	\$ 13,000
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3. Health facility development

Funds provided herein are for a one-time upgrading of existing health facilities and possible creation of several new ones. Expenditures is contingent on a written GOCAR commitment to staff each post. UNICEF



III. A. 11.

<u>Personnel</u>	<u>Total</u>	<u>588,000</u>
A. Contract technicians 2 x 3 years = 72 man months x 7,000		504,000
B. Consultants (12 man months x 7,000)		84,000
<u>Participants</u>	<u>Total</u>	<u>175,000</u>
A. Long Term (124 man months)		109,000
B. Short Term (20 man months)		66,000
<u>Commodities</u>	<u>Total</u>	<u>270,000</u>
A. Vehicles (6 4-wheel drive vehicles \$12,000)		72,000
B. Maintenance, spare parts, tools, POL		25,000
C. Health Equipment and Supplies		50,000
D. Field Office Equipment (audio-visual, typewriters, copier)		13,000
<u>Construction</u>	<u>Total</u>	<u>250,000</u>
A. Construction/Repair of 25 health posts 25 x 7,000		175,000
B. Construction of Five Health Centers 5 x 15,000		75,000
<u>Other costs</u>	<u>Total</u>	<u>110,000</u>
A. In-country training of health, agriculture, and educational staff		60,000
B. In-country training of traditional birth attendants and village level health care agents		50,000
	Total	\$1,393,000
	Inflation	150,000
	Contingency	<u>150,000</u>
	TOTAL	1,693,000

III. A. 12.

Summary Technical Appraisal

Our concluding technical judgments are:

- a. That project represents the most cost effective approach to the health problems of Ouham Prefecture;
- b. That GOCAR will be able to maintain and replicate the project without foreign aid; and
- c. That cost estimates are reasonable.

In further support of the first point, we repeat here the three program priorities suggested by AID's Africa Health Strategy:

A phased approach to the development of an integrated rural health delivery system including elements of disease control, planning, sanitation and nutrition;

The strengthening of the health system infrastructure, including administration, planning, information systems, health education, and manpower development;

Coordination of the activities of the various donors in the health sector.

In August, 1975, specialists from the American Public Health Association spent several weeks in the Central African Republic and concluded that a two phase approach to health delivery was to be preferred over an immediate DEIDS system. This project is a phased in the sense that our immediate purpose is to maximize the effectiveness and efficiency of currently available resources, while a long run goal is to develop and apply additional GOCAR and private sector inputs. Although we propose no formal two phase scheme, we do suggest that current GOCAR and private resources be coordinated and managed optimally before extensive new investments be made.

Preventive activities (health education, sanitation and nutrition) are given a major emphasis in this project, and these activities will be integrated into activities in the agricultural, educational and community development sectors, as well as into the curative work of health staff. Peace Corps Volunteers will provide the link initially by working with government agents in all four sectors, but in the long run they will be

III. A. 13.

replaced by institutionalized coordination.

The project supports infrastructure development by improving management and information systems, by training both village and higher level manpower, and by developing health education. The project coordinates inputs from Peace Corps, UNICEF, AID and the World Health Organization (the latter being technical only). In short, the project (1) meets all of the Africa Health Strategy priorities (2) at a reasonable cost, (3) with a strong possibility of self maintenance and replicability.

III. B. 1.

Financial Analysis and Plan

Recurrent Budget Analysis of Implementing Agency

This project is explicitly designed to have extremely low recurring costs beyond those which are already supported by GOCAR. Additional recurring costs will include the salaries of 3 MPHs and 4 health education specialists, plus two garage mechanics. It also seems likely that at least two of the vehicles (one each in Bangui and Bossangoa) will have to be replaced by the GOCAR soon after the close of project. As noted in the Implementation Plan, Part IV. B. training will not be approved until GOCAR has committed itself in writing to establishment of the seven positions. All of these costs are considered to be within GOCAR's capacity.

Cost Effectiveness Analysis

The cost effectiveness of this project design was a major factor in its selection, as detailed in the Economic Analysis. A quantitative cost effectiveness analysis is only possible for a few project elements, however, because the project's most important outputs will be managerial and technical, rather than quantitative.

The costs are exaggerated, though, in the sense that routine costs after the initial start-up will be somewhat lower. Since virtually all project funds will be administered by AID and the contractor, the financial management competence of GOCAR is of concern only with relation to recurring costs. Analysis of financial effect on project participants will be necessary for the propharmacy program, but it appears premature at this time.

Long term	57	52	--	---	109
Short term	22	22	22	---	66
In country	30	30	50	---	110
Commodities	202	22	46	---	270
Construction	100	100	50	---	250
Inflation and Contingency	--	20	280	---	300
<b>TOTAL</b>	<b>600</b>	<b>435</b>	<b>658</b>	<b>---</b>	<b>1,693</b>

4/12/20

BUDGET TABLES

I. Summary Cost Estimate and Financial Plan

(US \$ 000)

SOURCE	AID		GOCAR		PEACE CORPS		TOTAL	
	FX	LC	FX	LC	FX	LC	FX	LC
Long-term Advisory Services	378	126		99	115	115	493	340
Short-term Advisory Services	70	14					70	14
Training	123	162		24			123	186
Commodities	270			439			270	439
Construction		250						250
Basic Health Services				161				161
Sub-Total	(841)	(552)		(723)	(115)	(115)	(1006)	(1440)
Inflation	100	50		108	25	25	125	183
Contingency	50	100		100	25	25	75	225
<b>TOTAL</b>	<b>991</b>	<b>702</b>		<b>931</b>	<b>165</b>	<b>165</b>	<b>1156</b>	<b>1156</b>
<b>TOTAL FX + LC</b>	<b>1,693</b>			<b>931</b>	<b>330</b>		<b>2,954</b>	

Assumptions

1. All GOCAR expenditures are estimated to rise at 5% per year above the 1975 figures.
2. An estimated \$30,000 per year for the offices in Bangui and Bossangoa is allocated to long term advisory services.
3. Since Ouham's population is approximately 10% of the nation's, a comparable portion of the INEMS budget is allocated to training. Drugs are similarly allocated ( to "commodities").
4. Peace Corps contributions are based on a worldwide average of \$11,000 per volunteer per year. Costs within the CAR exceed world average, however.
5. The Peace Corps contribution is arbitrarily split between local currency and foreign exchange costs.
6. UNICEF may contribute commodities valued at up to \$100,000. The UNDP may contribute volunteers. These possible contributions are not shown because they have not yet been assured.
7. The value of potential contributions by agricultural, educational, and community development agents has not been estimated.

- No. 1: Management System
- No. 2: Health Education and Sanitation
- No. 3: Village Level Health Care
- No. 4: Vehicle Maintenance

### III. Costing of Project Outputs/Inputs

(US \$000)

Project Inputs	No. 1		No. 2		No. 3		No. 4		TOTAL
	\$	%	\$	%	\$	%	\$	%	
Long Term Advisory Services	201.6	40	151.2	30	100.8	20	50.4	10	\$ 504
Short Term Advisory Services	42.0	50	21.0	25	21.8	25	--	--	84
Training	94.0	33	119.0	42	72.0	25	--	--	285
Commodities	162.0	60	54.0	20	27.0	10	27.0	10	270
Construction	--	--	--	--	250.0	100	--	--	250
Inflation and Contingency	75.0	25	75.0	25	75.0	25	75.0	25	300
Costs									
Subtotal	574.0		420.0		545.8		152.4		1,693
<b>PEACE CORPS</b>									
Two Mechanics							66.0	100	66
Eight Village Health PCV	--	--	132.0	50	132.0	50	--	--	264
Subtotal			132.0	40	132.0	40	66.0	20	330
<b>GOCAR</b>									
Basic Health Office, Bangui	39.6	40	29.7	30	19.8	20	9.9	10	99
Liaison									
Clinical Services	--	--	--	--	161.0	100	--	--	161
Training	--	--	12.0	50	12.0	50	--	--	24
Drugs	--	--	--	--	439.0	100	--	--	439
Other	11.4	5	12.0	6	181.8	87	2.8	2	208
Subtotal	51.0	5	53.7	6	813.6	87	12.7	2	931
<b>TOTAL</b>	<b>625.6</b>	<b>20%</b>	<b>605.9</b>	<b>22%</b>	<b>1,491.4</b>	<b>50%</b>	<b>231.1</b>	<b>8%</b>	<b>2,954</b>

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Worksheet for calculations - Participant training costs

Short Term Training

40 round trips, Bangui - Yaounde 40 x \$891.20	\$ 35,648
20 man months 20 x 30 x 50	\$ 30,000
	<hr/>
	\$ 65,648

Long Term Training

3 Round trips, Bangui - Montreal 3 x 1,590.40	\$ 4,671.20
4 Round trips, Bangui - Paris 4 x 1,167.40	\$ 4,669.60
124 Man months 124 x 800	<u>\$ 99,200.00</u>
	\$108,540.80

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III. C. 1.

Social Soundness Analysis

The rural villagers of Ouham prefecture want to be healthier. The demand for improved and extended health care services is clear, explicit, and strong. The influence of the missions, of formal education, and other exposure to western ideas and attitudes have led to a considerable decline in faith in traditional services, and hence, to decreased utilization of a declining number of traditional practitioner. The young are particularly skeptical, so that traditional knowledge is not always being passed on to the next generation. At the same time, the availability of modern (western) medical care has been reduced by the current lack of doctors, and of related resources. Health posts once active have fallen into dispair and been abandoned, while prolonged hospital stay has been rendered impractical by the elimination of food supplies to inpatients.

Thus, traditional expectations and the experience with western medical care both contribute to the dissatisfaction villagers express today with regard to available health care.

Villagers consistently complain of the distances which must be traveled to reach health facilities, of the lack of drugs at these facilities, and of the quality of service provided by them. Thus, there is every indication of a need for and a readiness to accept improved and expanded health services.

At the same time, those responsible for providing modern medical care are aware of and readily acknowledge the inadequacies of the present health care system and are eager to provide better care. They want material and technical assistance, support and training. In sum, the existing health staff want the means to provide the improved health care demanded by the rural population.

Existing Health Problems

When asked what their most significant health problems are, villagers in Ouham are remarkably consistant. The conditions usually among the first are:

- Filaria of eyes
- Malaria
- Rhamatism
- Skin infections and tropical ulcers
- Chest pains
- Hernias
- Conjunctivitis
- Colds and flu

III. C. 2.

Also usually mentioned, but lower on the list, are:

- Lower back pains
- Abscesses
- TB
- Bilharzia

A number of other conditions are often added:

- Fever
- Headache
- Chickenpox
- General Malaise and weakness
- Coughs and bronchitis
- Filaria of the skin (itches)
- Dizziness
- Abortions
- Jaundice

(It should be noted that although we encouraged women to indicate their health problems, they were frequently reluctant to do so to the male team member and translator, so that their concerns in regard to health problems are under represented in these lists.)

The diagnoses of modern health practitioners in rural posts and subcenter are generally parallel to these complaints with the following conditions being listed most often (in order of frequency):

- Diarrhea and intestinal parasites
- Conjunctivitis
- Coughs
- Skin infections and tropical ulcers
- Malaria

(Malaria would probably have been higher on the list at any other time of year than that of our visit, which was at the end of the dry season.)

Patterns of Consumption of Health Care Services

When they get sick, rural villagers in Ouham usually turn first to home remedies. These are usually drunk as potions made by mixing pounded roots in water, or they may be made from bark of leaves; lotions, washes, plasters and steam baths are also used. Adults of both sexes have learned these remedies from their parents, and provide them to their families as the need arises. Aspirin (5 CFA per tablet), mentholatum rub and inhalent,

III. C. 3.

and sometimes nivaquine (10 CFA per tablet) are often purchased from village stores. (At current rates, 250 CFA = US \$1.00; 1,000 CFA = US \$4.24)

If the condition persists or is particularly serious, they may go to a traditional herbalist, if one is available. Or, depending on the time, money and transport available to them, they may go to either mission or government medical services. The availability of free time is a function of the agricultural calendar; neither children nor seriously ill adults would go to a hospital alone, so two or three people must be free to make a hospital visit feasible, and food for the stay will have to be taken along. A visit to any government (and some mission) facility requires possession or purchase of a health card (500 CFA per year for adults, 100 CFA per year for children) and often means buying the drugs prescribed, if they are available at all. Mission services may be free or on a fee basis, depending on the mission and on the treatment needed. Transport to these services may be on foot, for those nearby and not seriously ill, but otherwise involves taking a passing vehicle and paying 6 CFA per kilometer per person, which may come to 300 - 500 CFA for patient and guardian together. If they live on a back road (or off the road) or if no vehicles are passing, patients not too seriously ill may be taken to health facilities riding on the handle-bars of a borrowed bicycle. Lacking a bicycle or if the patient is very ill, a single-pole blanket stretcher is used to carry the patient. Very seriously ill patients may be carried as far as 30 or 40 kilometers; ambulatory patients and children in their mothers' arms may come from 12 to 15 kilometers to get medical attention, and 5 kilometers' walk is quite usual for relatively minor complaints.

If the remedies provided by traditional herbalists and/or modern practitioners fail to clear up the complaint in what seems to the patient like a reasonable period of time, he or she begins to suspect poisoning or sorcery as the real cause of the illness. Persistent illness not cured by ordinary means, a string of illnesses in a family, an epidemic, or unexplained consistent misfortunes in hunting or with livestock are indicators of foul play. Equally, if a neighbor has made threatening remarks about impending death, people will be on the lookout for poisoning or sorcery. Conspicuous good fortune, in the form of many births and surviving children, especially good crops and hunting success, or the construction of a house flaunting one's wealth, would be expected to provoke the envy and jealousy of neighbors and goad them to poisoning or sorcery.

If this sort of foul play comes to be suspected, a traditional diagnostician (Ng'anga) would usually be consulted. With the aid of a set of sticks counted out and laid on the ground in pairs or singly, the Ng'anga

### III. C. 4.

determines the culprit and the reason for his or her ill-will (both sexes may engage in either sorcery or poisoning). The culprit will be accused, possibly arrested, and forced to withdraw the spell or stop the action of the poison; usually there is no other remedy possible other than the confession and retraction of the malefactor.

If the culprit cannot be identified, the Ng'ango or some other knowledgeable specialist may construct counter fetishes which will seek out and attack the unknown culprit. Falling ill and himself seeking a diagnosis, the culprit would then be discovered and obliged to withdraw the spell or poison. Such fetishes have the danger of back-firing on their creators if the illness was not in fact humanly caused, but they are believed to have wide and general preventive and retaliatory efficacy by those who use them. Some people no longer believe in these practices, but many take them seriously.

There are probably at most 10 or 20 widely respected diagnosticians in Ouham, so visiting one often involves some travel. The diagnostic fee is typically 200 CFA, but the fee for the curative measures from the same practitioner may be 500 to 2000 CFA. Herbalists, of whom there may be 30 to 100 of wide repute, normally charge in the vicinity of 100 to 500 CFA. Services rendered to family members would be free, and to fellow villagers or distant relatives at a reduced rate. The vengeance magic of the Ng'anga against a poisoner or sorcerer would not necessarily be expected to act immediately, but when it did his (or her) services would ordinarily be required to undo it.

Preventive, or rather retaliatory, fetishes are also produced to prevent theft, particularly of crops, and to stop and revenge adultery. Thieves and adulterers are reportedly deterred by their fear of such devices when they have been constructed for a family or village. Possibly this traditional set of ideas could be used as a basis for health education about disease prevention in this program, including perhaps venereal disease prevention. Poison is believed to be added to beer or food and not ordinarily to water, which is not traditionally perceived as a probable disease source or agent. This may in part explain some of the difficulty reported by mission extension agents who have tried to explain the dangers of water-borne diseases.

#### Beliefs and Practices Related to Birth

In a society in which both traditional and contemporary values emphasize the importance of having many children as the focus of a good life, anything interfering with childbearing is a serious concern. A common complaint of women is an abdominal distress

III. C. 5.

condition attributed to creatures in the abdominal cavity. (Now sometimes assimilated to the modern idea of intestinal parasites). One of the commonest kinds of traditional practitioners is a herbalist or fetisher who specializes in the treatment of this condition.

A woman in labor is typically assisted by about four adult female relatives. The most experienced and senior of these, who may be somewhat of a family specialist as a birth attendant, receives the baby, while another knowledgeable woman holds the mother's arms above her head. A couple of others help out at the sides. Particularly if the birth seems difficult or slow, they will massage the mother's abdomen. If the baby is not forthcoming, an infusion or potion made from a root will probably be given orally. Meanwhile the husband needs to be outside loudly exhorting the infant to come out.

If the labor continues to be difficult and the delivery does not proceed as it should, one possibility is that the mother may have annoyed and been disobedient to her mother, or, more likely, her mother-in-law. If so, she must admit to this if the delivery is to proceed. However, the more likely and more serious attribution which is generally made in such a case is that she has committed adultery. If so, her only recourse is to confess her sins loudly and publically, whereupon the delivery is expected to be successful. Failing this, mother and/or child will probably die. The confession does not end the matter, which will have to be settled subsequently as arbitrated by the village elders, usually with the payment of a fine by the adulterer.

In any case, the umbilical cord, once cut, must be secretly buried beside the hut, where it cannot be found, since in powdered form it is considered the most potent of poisons.

Traditional birth attendants would not ordinarily assist at the labor of a woman from a different clan, since in case of complications they would be certain to be blamed. One of the common reasons for coming to a maternity center to give birth is reportedly the lack of a knowledgeable senior woman in the family to supervise the delivery in the village.

To recapitulate briefly from another perspective, diseases are traditionally classed into natural, on the one hand, and socially caused, on the other. Some syndromes, including wasting diseases like TB which do not respond to the usual treatments, are more readily attributed to social causes than others. But the attribution of sorcery or poisoning as an ultimate cause is usually made on the basis not so much

III. C. 6.

of the symptom as of the inefficacy of herbal or strictly "medical" measures to effect a cure, especially in the context of a pattern of illness and misfortune of otherwise inexplicable nature. Some nurses will refer cases they are unable to treat effectively, or that they otherwise suspect of being socially caused, to the Ng'anga for diagnosis, while these traditional practitioners apparently sometimes refer patients to modern practitioners (or for that matter to other traditional specialists) if that seems to be called for.

This attention to the social, interpersonal, psychosomatic significance of illness and the social validation of the cures (effected with the participation of relatives and the community), fill a gap in the usual western medical procedures. Particularly in the form they take in a cross-cultural setting, western medical practices tend to neglect the psychiatric, social and community aspects of health and health problems. Moreover, someone who suffers major misfortune, including serious illness, needs to be able to label the problem, find something to do about it, and above all make sense of why it befell him (or her), that is, what the moral or social significance of the misfortune is. This traditional practitioners deal with much more effectively than those trained in western medical practice. The two are complementary in their role in dealing with restoring health, and are neither inherently mutually exclusive nor, necessarily, competing alternatives.

Socio-Cultural Feasibility Background

The principal cultural-linguistic groups living in Ouham are the Baya (Gbaya, Bava) who predominate in the south west, the Manja, concentrated in the southeast, the Sara in the north, and the widely scattered Banda. During the dry season some nomadic pastoral Bororo (peul) migrate into the area. As is true elsewhere in the country, the Oubanguian cultural groups are heavily represented in the administration. The Ngama and the Mbai, subgroup of the Sara, the Dagba, Mberé, Boudigiri, and various other subgroups are also locally represented. The Baya, Mandja, and Banda speak languages in the Niger-Congo family (Adamawa-Eastern sub-family) while the Sara speak a Chari-Nile language in the Macro-Sudanic sub-family; all of these languages are related and would be generally classed as Sudanic. Many people in Ouham speak more than one of these languages, and all but a few of the older people in more isolated villages speak Sango, the national trade and contact language. In most villages there are a few people, particularly among the young, who speak passable French. French is the official language of instruction in all schools.

III. C. 7.

The rural people of Ouham are hoe cultivators who clear fields out of the open, bushy forest with fire and axe where they can grow their crops for two, three or occasionally more years before the soil is exhausted and new patches must be cleared. Manioc (cassava) is the staple food, with millet, some maize (corn), beans and peanuts also widely eaten. Manioc and other leaves also contribute to their diet. Peanuts are often sold on the market, but the principal cash crop is cotton, particularly in the north. Sesame is grown for oil, and cooking oil is also made from the nuts of a local tree. Mangos are abundant in season, while bananas and pineapples are also available.

With the exception of the Bororo, few cattle are kept either for meat, plowing or hauling. Goats are abundant, as are pigs in some areas. Many people have a few chickens and there is an occasional duck. Bee-keeping, that is, setting hives in trees to attract wild bees, is widespread. People hunt extensively in the dry season and often fish.

Few people are salaried; for those who are, the basic minimum wage for unskilled labor is 157 CFA per day. An infirmier (nurse) makes roughly five to ten times that amount.

The rural population lives in villages of one or two to 50 or more huts, averaging about 150 to 200 persons per village. As it has long been government policy to group people in villages along the road, almost all are now in fact on some sort of road. Villages may be as little as two kilometers apart, or may be ten or more kilometers from the next nearest village. The majority of villages (but not all) are ethnically homogeneous, with a principal core clan composed of related extended families. Other clans may be included in the same village. A village chief, ordinarily selected from among the adult males in a patrilineal line of succession, is the representative of the government in the village and of the village to the outside world. Other people may be very influential, however; often another old man is the one who must signal when to begin clearing, planting, and harvesting, and to begin before he did would be considered offensive and very dangerous. Respected heads of families are counsellors to the village chief.

The Village Development Committees to be developed in this project are quite compatible with this consultative leadership, in which decisions are worked out through developing a consensus among influential and respected leaders. The experience of other extension

III. C. 8.

projects in the area with similar committees, on which both men and women are usually represented, has been quite encouraging.

Traditionally, there was little effective political integration above the village level, although villages might band together in time of war. During the colonial period there were "Chefs de Canton" sitting over ten or twenty villages; they have now become "technical advisors" to the mayors of the communes.

The location of a village is not permanent. As the surrounding soil becomes exhausted it moves as a unit to a new site, after having first planted crops at the new location. How soon they move is traditionally a function of the effectiveness of the chief in combatting sorcery, so that a string of deaths at the old site would be seen as reason to move to a new one. Villages rarely move within the first two or three years after building at a site, but 10 to 15 years would be considered a long stay.

The majority of houses are of unfired mud brick, but some are wattle and daub. Nearly all are grass thatched. The traditional round house have been largely supplanted by ones of rectangular design. Some houses have wooden doors and may have locks; few have any windows. Wall-less roofed structures to provide shade for village activities are not uncommon. Each step in house building is strictly assigned to either men or women.

The villagers of Ouham were traditionally polygamous. In order to marry, a man had to pay to his bride's family a substantial sum of money or goods, whereupon she came to live in his village. A person's spouse would not ordinarily be from the same clan or village, so that the women marrying in were outsiders to the patrilineally linked community in which they came to live. The men in a village would be bonded into a cohesive group by the common experience of initiation at or near puberty. A man who acquired sufficient wealth would marry additional wives, who would each have their own hut. In Ouham as elsewhere in Africa, these traditional patters are now disappearing despite their significance to most of the oldest generation.

Allocation of Time

Although the variation from year to year is considerable, on the average there is very little rain from November through February, and heavy rainfall typically builds from May through a peak in August, after which it rapidly diminishes. Some diseases, including gastro-intestinal problems and malaria, are affected by the cycle of rains, but its greatest impact

III. C. 9.

is of course on the agricultural cycle. Men clear the fields, beginning March for manioc, millet, maize and peanuts, and in May and early June for cotton and sesame. Both men and women hoe. Planting, primarily an activity of women and children (though men may be involved for cash crops) begins with peanuts and then maize in April and May, followed by manioc in May, then millet, cotton and sesame, being completed by June or early July. Children help women with the thinning, while women alone do most of the weeding. The whole family works on harvesting, beginning with peanuts and maize in July, cotton in November and, last, sesame and millet in December. Manioc takes a couple of years to mature but can be harvested thereafter at any time, or left in the ground until needed.

During the dry season men often go off to hunt and may be absent from their villages for considerable periods. Women are busy carrying water, pounding manioc into flour, cooking and tending children throughout the year.

This means that for extension work, although villagers might be initially contacted between harvests in October, November, or December, they have little spare energy or time available during the day until the first of the year. Thus, the season for (non-agricultural) extension work is primarily from January through April, and such activities are impractical from June through September. At any time of the year, people are most likely to be free and in the village during the hours just before and after sunset, although they will wait in the village for a let-up if it is raining hard at the beginning of the day.

According to estimates prepared for the CAR Seed Production Center Project Paper (Project 676-0001), about 110 person-days of labor are required for a one hectare farm in CAR.

The time necessary for the meetings of village development committees, particularly if the most intensive activities are concentrated during the dry season, will not be a hardship or even a major inconvenience for the participants. During the first third of the year village health education efforts and training efforts, including stages which require full time participation for one or two weeks or even more, will generally be readily accepted, as indicated by the experience of other extension agents. At most other times, short evening sessions will be feasible. Water source protection and similar construction projects will not face serious time availability constraints during this season either. For government (or mission) health care personnel, on the other hand, the best time for in-service training will be the June through September season of intensive agricultural work, when time constraints on the rural cultivators greatly reduce demand on health care services, often by a factor of two or more.

### III. C. 10.

Increasing the availability and quality of curative services and progress toward disease prevention will both increase the time and energy available to the rural population to pursue productive agricultural and development efforts. Neither the saving in person-days nor the increased energy-availability resulting from decreased morbidity can be accurately predicted, but they should ultimately be substantial. For health personnel, time spent in retraining will be more than compensated for by increased efficiency and effectiveness, and improved morale on the job.

#### Motivation

As indicated at the beginning of this section, the motivation needed for effective participation in this project by the various beneficiaries is clearly present. Curative services are in great demand by the rural population. Health personnel want support, guidance, and upgrading, not to mention equipment and medicines. Their prestige and status in the community depend on the quality and comprehensiveness at the services they can provide. Fertility and the survival of children are the central, dominant concerns in village life, and both traditional birth attendants and mothers are concerned about the existing problems with delivery and child health (Two traditional birth attendants, when asked if they would be interested in help in dealing with their problems immediately volunteered that clean scissors, alcohol, and knowledge of what steps to take when the baby is tangled in the umbilical cord were needed.). Asked to consider the possibility of nominating someone from the village to receive elementary health care training, villagers showed considerable interest. They said they knew each other well, knew who could be trusted to perform such services reliably, and indicated readiness to pay for services and to contribute to the costs of sending someone to training and possibly of buying an initial stock of drugs as well. Rural responsiveness to preventive projects and education will undoubtedly be slower to develop, but if the efficacy of such steps can be demonstrated the motivation to take action is potentially present. Traditional attitudes about protective fetishes can be built upon to orient the existing concerns in the direction of effective action.

#### Minimum Participator Profiles

The initial beneficiaries both the government extension agents and the traditional birth attendants (TBAs) and Village level health care agents (VLHCAs), will be motivated to participate in in-service training, both in workshops and on the job, because: (1) They will be instructed to participate by their peers or superordinates; (2) They will seek to get equal benefits in supervisory support, attention, improved skills, and material

III. C. 11.

resources to do their jobs, when they see their peers receiving such benefits; (3) Their prestige, status and influence in the community is partly a function of the quality and extent of the services they can provide and of the facilities they control; (4) They will take pride in influencing the health practices and development activities of the rural population; (5) They will want to enhance their status as instructors, modernizing leaders, and experts in the community; (6) They will wish to demonstrate to their administrative superiors and their peers their efficacy and their successes. In-service training should be maximally effective because the personnel will be coming from and returning to activities directly connected with the training, and will be knowledgeable about the needs, problems, potentials, and contents of the activities for which they are being retrained. They will be able to contribute to their own and each others' training and able to provide feedback about the applicability and usefulness of the training they receive. Training programs will be developed in part as a response to their needs and problems on the job as they are encouraged to express them, which will maximize the value of the training and their receptivity to it. Literacy will not be necessary in order for TBA's and VLHCA's to benefit from their training.

The ultimate beneficiaries (the rural population whose improved health is the target of the health service capacity to be developed by this project) will be ready to participate to the extent they perceive and are convinced of the benefits of participation. As the starting point in fostering village development activities, this project focuses on needs already perceived and defined by the villagers themselves. When and as they find themselves able to alleviate their health problems, they will develop the confidence and the expectations which will facilitate their taking steps to attack problems in other sectors. Better village maternity and curative care is a felt need in Ouham; interest in undertaking preventive activities and related changes in health connected practices will come about as success in the first two areas boosts self-confidence, and confidence in the advice of the agents of change working with them. To the extent that health education can effectively address the major health concerns of villagers (notably eye problems, skin infections, malaria and probably birth complications) it will be well received and have the potential to be acted on. Water-borne diseases are not now expressed as a major health concern, but it may be possible to motivate action in this regard indirectly, both by promoting the status value of the tangible means to better health (wells latrines, etc.) and by building on the pride and momentum from other successful health improvement efforts.

### III. C. 12.

#### Communication strategies

The national radio station is widely listened to, as practically every village has at least one radio, and since official announcements, convocations, messages, instructions, test results, news, education and entertainment from outside the village come principally through this media. Mission outreach activities and their village organizations provide another significant channel of communication. Urgent messages are often hand carried, including convocations to meetings of village chiefs called on short notice to issue instructions or exhort to action. In Bossangoa, every Friday night all officials are required to attend a cultural lecture given by one of their number. The community development staff in Bangui has developed an excellent set of posters and visual aids, both for health education and as reminders to extension agents about how to conduct their activities. WHO is publishing a manual or curriculum with illustrations for upgrading the skills of VLHCA's and TBA's. All of these means of communication and others as identified will be used to support and cultivate receptivity to project activities.

A major communication need will exist in the requirement of Bossangoa staff for data and feedback on project activities. Channels for effective transmission of this information will be set up in the course of this program, including reporting, conferences, and field supervision checks.

#### Spread Effects and the Diffusion of Innovation

The outputs, purpose, and sub-sector goals of this project are all ongoing, effective systems. Systems by their very nature have a high potential for diffusion. The project will contribute to the development of a health care delivery system, incorporating a management system to produce effective administration, development of local health care, delivery of health education and sanitation services, and vehicle maintenance. All of these are organizational structures which can be applied elsewhere. The project aims to find effective means of improving health service capacities through systems which can be used, with relatively little modification, elsewhere. Diffusion within the prefecture will be coordinated by the Bossangoa rural health office, and should not be difficult in view of the cultural and linguistic similarities of the prefecture's ethnic groups. Inter-village jealousy and "one-up-manship" will facilitate spread locally, once programs show success in any one village.

Diffusion to other prefectures (and other countries) will be a principle responsibility of the AID technician based in Bangui. In the process of seeing to intra-governmental and inter-agency liaison, his major objectives will include dissemination and interpretation of the results of the experiences in Ouham and of their implications for other areas. He will

III. C. 13.

also assist with the application and integration of the systems developed in Ouham with parallel systems in other prefectures and with headquarters operations.

The mobility of CAR government personnel (particularly at middle and upper levels) means that they frequently have the opportunity to meet each other, and to come to Bangui and hear about what is going on elsewhere. The government policies regarding personnel posting and transfer also enables systems developed in one area to spread rapidly to other areas as personnel are shifted between these areas.

The large audience (direct and indirect) fo the national radio and, moreover, the existence of a national language - Sango - spoken throughout the country, in addition to French, will also help ensure the diffusion of project innovations. Furthermore, all of the four major cultural-linguistic groups in Ouham extend beyond the borders of the prefecture through some other parts of the country (as well as into Chad and Cameroun).

It should be remembered that project assistance to Ouham has been planned in coordination with the government's step-by-step plan for the extension of rural health services throughout the country. Thus, not only will the prefectures scheduled to follow Ouham in the expansion of health services benefit through the extension of the systems developed in Ouham, but the two prefectures which preceeded it may well share in the benefits as their health services are progressively extended and improved following the government plan.

Previous Project Design and Execution

This project, and, in fact, the entire extension of health service throughout the country, is based on the experience gained in the Bimbo pilot zone. As both the U.N./UNICEF/GOCAR evaluation of July, 1974, and the APHA Report of August, 1975, indicate, the orientation of efforts at Bimbo toward preventive health, health education and sanitation need to be duplicated elsewhere, but with a greatly reduced cost/benefit ratio. The Bimbo project is heavily staffed with high level personnel, employs large teams (including laborers brought in from outside to dig wells) and is heavily dependent on extensive use of four-wheeled transport. Integration of the work of different teams in the area has been poor. While the results of the efforts at Bimbo have been encouraging, the objective of the Ouham project -- to develop the capacity for a low cost, integrated health delivery system which can continue to operate without external financial technical support, and which is developed, supported and sustained by prefectural planning and management capacity -- these objectives have not yet been achieved in CAR.

III. C. 14.

In the late 1960's the Office of Agricultural Production Development (BPDA), supported by FAC (Fond d'Assistance et Cooperation) and using French technicians, successfully developed a number of village buying-selling cooperatives in Ouham. Villagers capitalized these cooperatives by contributing 1000 CFA per family in three installments, and established village cooperative stores selling kerosene, soap, matches, salt, etc., and a few medicines. Villagers learned to weigh and stock their produce, keep books and inventories, and their committees gradually took over management of the cooperatives. But when the French assistance was suddenly withdrawn in 1970 with the abrupt departure of their technicians, no counterparts were ready to take over their support and advice functions for the cooperatives. Lacking trained and committed counterparts familiar with the nature of the work, and lacking adequate systems for managing and controlling funds, the program was not successfully carried on. However, it did clearly demonstrate the interest and potential of the rural population of Ouham for self-help cooperative development activities. Given the necessary control systems and responsible CAR field workers familiar with the work from the beginning, this kind of program would seem to have every chance of success.

In 1966 and 1967 the Catholic training center for catechists at Gofu in Ouham included elementary health care and dispensing training in its program. Village committees, selected by the villagers, collect 5000 CFA to help defray the cost of one year's catechism training for a catechist named by them, or 750 CFA for a two week stage. These committees, composed of men and women, are able to work well with other village authorities. The committees monitor the activities of the catechist, and the priests responsible for the program feel that it is quite successful, including the health care component which it once included. During 1966 and 1967, the mission sold basic medicines, compatible with village conditions and with the catechists' training, to the catechists, who, in turn, provided them to the people in their villages for a fee. However, the doctor then responsible for the sector asked them to stop this program in the late 1960's. If government health staff are well integrated into such efforts and are supportive, or at least tolerant, it appears that such an approach would succeed. It is notable that eight of the nineteen health posts in Ouham were established by the local communes themselves.

At Bossangoa and elsewhere the Catholics involved in development extension efforts have long had programs involving one to two week training sessions for village-nominated agents. Training varies in different sessions, but has included home improvement, gardening, nutrition, and health care. Village agents who have received this latter training assist mission workers

### III. C. 15.

in their health education and treatment activities when they come to the village.

The Protestant mission at Boguila in Ouham charges 1500 CFA for a comprehensive prenatal, delivery and infant care program which is well received. They insist that participants who want any part of the service participate in all three phases and not consult traditional practitioners. Boguila also has a system of dispensaries which have been built to the request of the local communities concerned. Local committees plan, build and maintain their dispensaries and select the person to be trained as an infirmier at the mission. Treatment is on a fee basis.

All of this indicates that the potential for the kind of project specified in this paper definitely exists and can be realized by the approach and means described herein.

#### Social Consequences and Benefit Incidence

The direct recipients of project assistance will be government personnel in the Ministries of Health, Social Affairs, and Agriculture, but the ultimate beneficiaries will be the rural population to whom better health care and disease prevention is extended. Project personnel will not themselves have primary and direct responsibility for the delivery of health services. Instead, their role will focus on developing and assisting in the implementation of systems which will be progressively extended and whose effective and continued operation will eventually provide coverage of the target population. Thus, the project will design and establish an effective health delivery process which will be the means for improving rural health. Improved rural health will help contribute to the stability of the rural population and counter migration to the cities.

Government personnel will receive (and contribute to the effective utilization of) the technical and material means to do their work more effectively, while they also receive high levels of support, supervision, and outside attention to their activities. Their morale, job-satisfaction, and pride in their accomplishments will be raised, as well as their ability to solve on-the-job problems, and their confidence in their own effectiveness.

In addition to the total of 24 community development agents the government plans to assign to Ouham (8 of whose assignments have already been made) and Ouham's share of the graduates of INEMS, the existing health staff will all receive in-service, on-the-job retraining. This existing staff includes:

III. C. 16.

4 Physicians  
25 Paramedicals  
20 Nurses  
19 Nurse-first aids  
17 Leprosy workers  
3 Maternal and child health sisters  
4 Administrators

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92 Total Existing Staff

At the village level, development committees each composed of four to six persons, one third to one half of whom will be women, will receive organizational assistance, guidance in defining their problems and considering solutions, and advice and support in undertaking preventive projects. About 40 committees will have completed water source protection affecting 8000 people by the end of the project, and about 25% (or 3000 persons) of the population in the 60 villages will have installed latrines. Actual utilization of these latrines will, in large part, depend upon the ability of change agents to motivate the population. It is expected that at least 20 village level health care agents will have received training by the end of the project, substantially reducing many kinds of morbidity, and the working days lost in consequence. Each of these VLHCA's will serve his or her own village and, possibly, two immediately adjacent ones, or a total population for all 20 VLHCA's of about 12,000 people. At least 150 traditional birth attendants in 60 villages will have received training by the end of the project, with increasing numbers passing through the training program each year. These birth attendants will help with roughly 580 births each year (given a 4.8% birth rate) for the foreseeable future. Their training should contribute to a reduction of the approximately 200 or more deaths which would otherwise be expected to occur annually among the mothers and infants and young children in the population they are serving, and will continue to serve indefinitely with the improved techniques developed during their training and follow-up visits.

It needs to be noted that the project purpose is a system of health delivery, including staff training programs, health education and sanitation services. That is, the project will yield an ongoing process continuing to upgrade personnel and to reduce morbidity and mortality, so that the lives saved, and diseases cured and prevented at the end of the project represent indications of the output to date of that system, and not a completed, final, closed-ended impact of the setting in motion of what will be an ongoing system.

### III. C. 17.

One of the principal benefits for the rural participants in this program will be an installation of a sense of efficacy and capacity in the face of the problems, discomforts and hardships of village life. This will concurrently increase, to some extent, the sense of frustration and dissatisfaction of the committee members and other villagers who begin to see development problems not as something merely to be endured, but as something to be remedied. It will contribute to the creation of a demand for services, for assistance, and for participation in the decisions which affect them. While some of the rising expectations encouraged will be met in the short turn, most will not. There is a precarious balance point between aspirations for the unattainable, which merely lead to disillusionment, cynicism and distrust, and aspirations for what is attainable if sustained effort can be mounted motivated by those aspirations. If the project is not to have deepened apathy and alienation as its ultimate result, as implementation proceeds the staff will have to be concerned with encouraging realistic intermediate goals which can be reached in small and sure steps.

#### Women in Development

The role of women in this project will be substantial in every phase. The Minister of Social Affairs in CAR, Madame Zane-Fe Touam-Bona, is responsible for community development and maternal and child services. She is minister of state, thus one of the five highest ranking Ministers in the Government. The Chief of School Health, Madame Doctor Sureau, has been one of the Ministers of Health's chief representatives in the consultations with AID on the planning of the program (both in Bangui and Bossangoa). The Director of the hospital at Bossangoa, Madame Doctor Calen, is and will be centrally involved in staff training. Women were important members of both the APHA feasibility study and the project paper design team.

The community development agents participating in this program include a high proportion of women, and the midwife in Bossangoa will have a primary role in training of traditional birth attendants. These latter are all women and represent more than half of the persons to receive training during the project. It is anticipated that some of the PCV's will be women, and either or both of the AID technicians could as well be women as men. Women will compose a major proportion of the membership of the village development committees and probably some of the VLHCA's. Health education will have a major emphasis on maternal and child nutrition and women will be the recipients of the improved delivery care provided by the TBA's. Thus, it is anticipated that the already significant and growing role of women in the development activities of CAR will be reinforced and accelerated by this program, enhancing their status concurrently with their increased participation.

III. C. 18.

Supplementary information relating to the social soundness of this project can be found in the following sources:

Garth D. Ludwig and Susan E. Porshing, A behavioral Science Health Case Study, Central African Republic. Consultation Report, USAID - University of Pittsburgh (Contract No. AID/APR-756) August, 1972.

A. M. Vergiat, Plantes Magique et Médicinales des Féticheurs de l'Oubangui. Journal d'Agriculture Tropicale et de Botanique Applique 16 84-111 (1969)

Report of a Conference on Traditional Behavior and Health (November 5-6, 1975) USAID, Washington - Office of Health, Technical Assistance Bureau

III. D. 1.

Economic Analysis

This project is eminently justifiable on economic grounds, both in terms of the economic value of good health and in terms of the contribution management and resource development will make to integrated rural health services. In a society where infant mortality is high and life expectancy low, individuals and families may invest more in short-term rewards and quantity of children rather than quality. People may be fatalistic and may see little value in long-term planning. Life (and death) may seem beyond one's control and, therefore, not subject to planned resource investment.

Poor health, more specifically, has a direct effect on labor productivity and total national output. Agricultural experts have estimated that Ouham's cotton production per acre could be nearly doubled by employing improved cultivation techniques. These techniques require large labor inputs at specific times, but the available manpower often lack the physical stamina to provide it. Parasites and fevers sap the strength and productivity of the labor force. Good health will make possible the "active participation of the rural population of Ouham in the development of their communities." The first step in achieving good health is to develop integrated rural delivery systems based on efficient management and on mobilization and coordination of all available resources. The Central African Republic is a poor country, heavily dependent on foreign aid in key development sectors, but eager to achieve self-sufficiency and economic momentum. Government officials at all levels voice strong preference for permanent project outputs which will last beyond foreign inputs and which can be easily maintained. Centraficans want to maximize use of local resources and manage their own health systems without foreign aid at the earliest possible moment.

This project should prove to be cost effective because it is built solely on existing resources and seeks management efficiency as the immediate product. It seeks also to mobilize village health resources, personal and monetary, and direct them towards preventive behavior and more effective cures. The APHA team of August 1975 recommended this as the most feasible approach, and the present design team concurs. Ultimately, this is another project to increase the country's capacity to produce: its long term effects are highly economic, but they cannot be quantified because of their interaction with multiple other factors.

III. D. 2.

GOCAR Health Budget

The Ministry of Public Health appears to be one of the most capable in the government and is in a good position to utilize American assistance. Its budget in recent years has been as follows (in billions of francs CFA):

	<u>1976</u>	<u>1975</u>	<u>1974</u>	<u>1973</u>	<u>1972</u>	<u>1971</u>	<u>1970</u>
Total	20.7	18.4	17.8	15.8	13.8	12.5	12.4
Public Health	1.4	1.3	1.5	1.2	1.2	0.9	1.0
% Health	6.9	7.2	8.3	7.5	8.5	7.5	7.0

The projected 1976 expenditures will amount to around \$2.07 per capital (utilizing the base population of three million - 1975 GOCAR census). Given the CAR's greater overall poverty, this compares favorably with Cameroon's \$3.11 per capital and 6.6% of the national budget in 1975. Gabon spent much more (\$8 - 16 per capita in 1974) and Chad much less (the MOH had no operational fund in 1974).

The budget of the CAR for 1976 allocates \$6,380,270 to the Ministry of Public Health for its operations. The largest portion of this sum (\$3,426,670) is for personnel. Within the overall personnel expenditures, \$1,631,000 is devoted to rural health services, where by far the largest numbers of health workers are employed. The 1976 allocation for rural health services is up \$225,000 from 1975, a 32% increase which accurately reflects the expansion of the service to conform with the new development emphasis being placed on this sector. Unfortunately, budgetary constraints imposed by GOCAR authorities have not permitted increases in the purchase of supplies and medicines, where \$1,333,000 is projected in 1976 (the same figure as for 1975). Practically all of the costs associated with the Ministry of Public Health are financed by the ordinary budget. The Ministry's share of project costs will become line items in the ordinary budget and recurring expenses. The development budget will in 1977 reflect the AID inputs for the project.

The CAR has no large financial institutions and, thus, nearly all development financing is from external sources. As the government's financial situation is precarious and its credit rating poor, most development financing is in the form of grants rather than loans. Consequently the opportunity cost of capital is very high, if it can be quantified at all.

III. D. 3.

The additional recurrent costs which this project will impose on the budget of the CAR will be minor, since the project will achieve its purpose by reorienting, upgrading, integrating, coordinating and in other ways making more efficient and cost-effective the utilization of personnel and other resources already committed. No significant new budget items are created or required for the effective implementation and operation of the system planned (see Financial Analysis).

IV. A. 1.

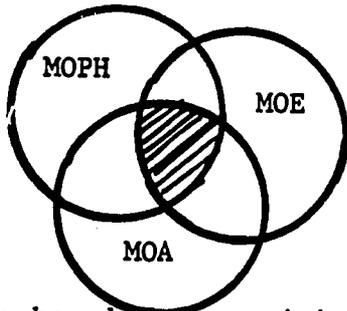
Administrative Arrangements

The key organizations involved in the implementation of this project are:

- The Ministry of Public Health (MOPH)
- The Ministry of Social Affairs (MOSA)
- The Ministry of Agriculture (MOA)
- The Ministry of Education (MOE)

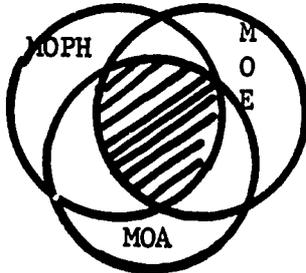
Primary responsibility rests within the MOSA to coordinate the activities of other sector inputs toward community development.

The situation as it presently exists in the rural sector appears as follows:



The shaded area, where the circles coincide represents community development; a direct function of the Ministry of Social Affairs

It is hoped that as ministries coordinate their efforts we will move toward a situation wherein integrated community development takes place:



Integrated community development in the rural sector.

It has already been indicated in this project paper that an inadequate management infrastructure for rural public health in Ouham prefecture is the major impediment to the establishment of an integrated rural health delivery system. Any assessment, therefore, of the recipient's implementation capability must take this into consideration.

IV. A. 2.

The task of this project is to create effective systems for administrative services, health education and sanitation services, village level health care, and transportation. The GOCAR Ministry of Health has indicated its wish to collaborate in this endeavor, and is establishing a new office, the "Bureau de Santé de Base", with professional staff in both Bangui and Bossangoa, as a positive indication of their interest in improving rural public health.

The Ministry of Health intends to incorporate health education activities into the programs of the other ministries with the concurrence and cooperation of all Ministries involved.

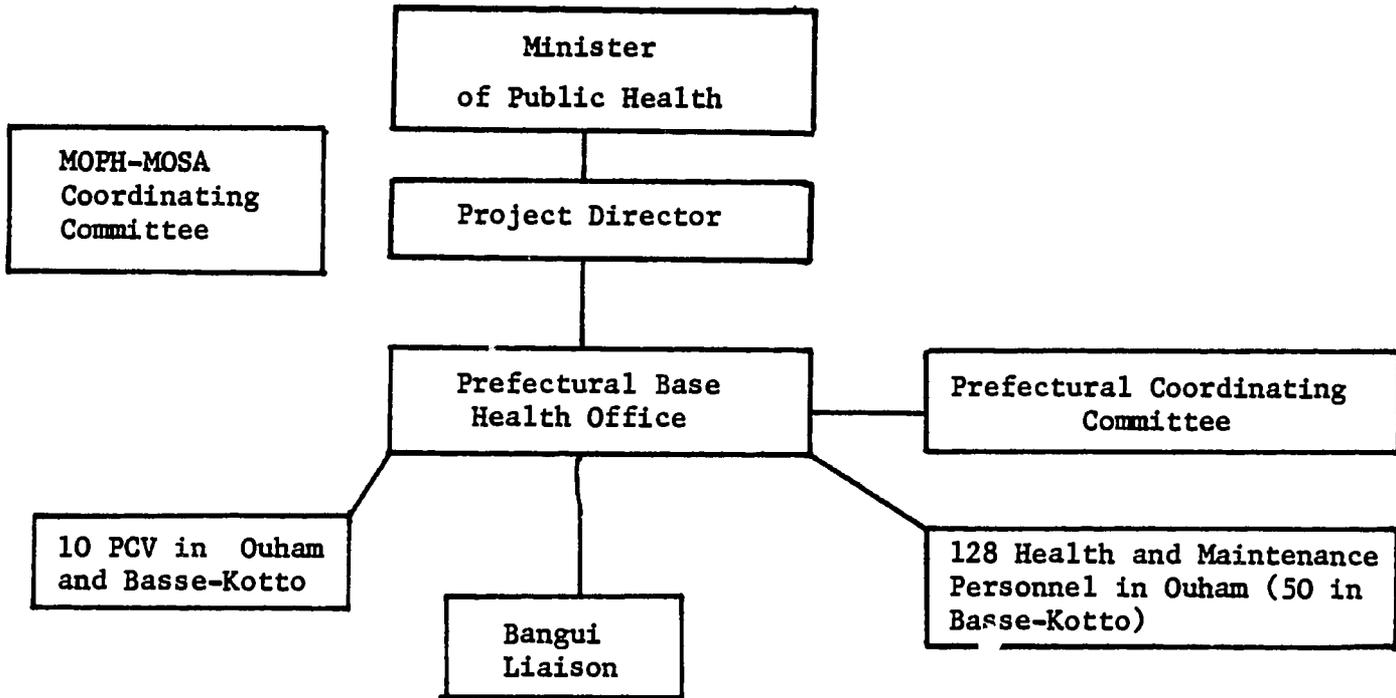
All of the coordinating mechanisms necessary for implementation of this project at various levels are not yet in place. It will be one of the roles of the project technicians (AID on the national and prefectural level, and PCV's on the sub-prefectural and local level) to assist the Ministry of Public Health in establishing and maintaining the practical coordination mechanisms necessary for project management and operations.

At the present time the following coordinating mechanisms exist on the national level: an inter-ministerial committee of the Ministry of Public Health and Ministry of Social Affairs; and annual meeting, "Journées Medicales", for exchange among health professionals working in CAR; and a monthly meeting of Ministry of Public Health officials and assistance agency representatives, organized by the WHO representative. The Ministry of Social Affairs, as part of its Community Development activity, plans to organize coordination committees at the national, prefectural, sous-prefectural, commune and village level.

The role of other Ministries is important to the project because through their agents the Ministry of Public Health will extend its limited local manpower and realize a greater coverage of the rural population with preventive health services. The capabilities of the other Ministries and their commitment to an integrated approach has been established in the course of their successful development projects. The policy of the GOCAR supports integrated development and the expansion of health and community development services is targeted at one additional prefecture per year. It seems reasonable to expect that the Ministries will be able to maintain their training and development schedule to allow implementation of the project. All Ministries will have the continued support of external assistance during this period.

The social soundness analysis (Part III.C.) deals in detail with formal, informal, modern and traditional organizations that bear upon the question of whether activities can become self-sustaining at village levels.

Project Organigram



IV. A. 3.

Project Management

Overview

As indicated in figure 1, Project Organigram, primary responsibility for the Ouham Project will be assumed by the Minister of Public Health of the CAR, acting through a project director whom he will name. The project director will be advised by an existing MOPH - MOSA coordinating committee, which already advises regarding inter-ministerial activities.

The project will be staffed full time by at least one GOCAR technician, based in Bossangoa and by two AID-sponsored technicians. Peace Corps or other international volunteers will also be full time participants. The AID-sponsored technicians will be provided through a contract with a U.S. based university or other contract institution. The AID Chief of Project will be based within the Prefectural Basic Health Office in Bossangoa and will be responsible to AID for the ongoing daily management of all project activities. He or she will serve as a homolog to the director of the Basic Health Office who, in turn, reports directly to the Project Director.

The primary implementing agencies for this project are the Minister of Public Health, AID, Peace Corps, UNICEF, and possible one other international voluntary organization. Each will have a significant responsibility for providing training and personnel resources for the project. Each agency, through a designated project representative, will work directly with the Project Director to coordinate project activities. In addition, WHO has played an important role in project design and will continue to give advise and support to the project, particularly in the areas of training for traditional health workers.

Specific Project Administrative Responsibilities

Minister of Public Health:

The Minister of Public Health or his designated representative will assume overall responsibility for establishing policies regarding project activity.

1. Assuring the coordination and liaison among project participants, including other GOCAR Ministries.
2. Planning, convening meetings of the coordinating committee and serve as staff to the coordinating committee.
3. Assigning a representative of the Ministry of Public Health as Project Director to the Ouham Project.

IV. A. 4.

4. Assigning a technician and a secretary to the prefectural basic health office.
5. Negotiating Project Agreements with relevant participants.
6. Arranging for periodic Ministry of Public Health Project Progress Reports.

Project Director

The Project Director will be a staff person designated by the Minister of Public Health to implement and coordinate the project, and will have direct supervisory responsibility for the project technician staff. Specific responsibilities include:

1. Supervising the implementation of Project activities in a manner consisting with policies established by the Minister of Public Health.
2. Providing leadership to the project staff in planning, designing, and evaluating project activities.
3. Assuring that required MOPH administrative procedures are followed.
4. Providing administrative liaison between the Project and the existing administrative structure in Ouham.
5. Assuring that required MOPH Project records are maintained and that needed project reports are prepared.

MOPH - MOSA Coordinating Committee

The Coordinating Committee will have major responsibility for coordinating health and community development activities, both nationally and within Ouham Prefecture. This committee may be expanded to include representatives of Agriculture and Education, should this appear desirable. Specific responsibilities include:

1. Meeting periodically to assure continued coordination between MOPH and MOSA.
2. Recommending needed policies to the Ministers of Social Affairs and Public Health.
3. Reviewing and evaluating project progress.
4. Providing input for the development of project plans.

IV. A. 5.

5. Assuring that individual committee members are fully informed regarding project activities.
6. Organize sub-committees as needed for the project.

Chief of Project

The Chief of Project will be based in the Ouham Prefectural Basic Health Office and will be one of two AID-financed technicians. His or her nomination must be approved by the Ministry of Public Health and AID. Under the Project Director, the Chief of Project will be responsible for the execution of the project in accordance with the objectives of the Ouham project as stated in the Project Paper. Specific responsibilities include:

1. Assisting the Project Director with the planning, design, and evaluation of project activities.
2. Implementing project activities in accordance with policies established by the Minister of Public Health.
3. Contributing substantial technical expertise to the training and research activities of the project.
4. Providing supervision and administrative support to other project technicians.
5. Providing liaison between the contracting organization and the project.
6. Preparing necessary project reports including those documents required as part of the AID contract process.
7. Assisting his or her counterpart with liaison activities regarding the prefectural Coordinating Committee, by serving as the non-voting committee executive director.

U. S. Contract Institution

The U.S. contract institution in cooperation with the MOPH will assume administrative responsibility for the logistics and support of the AID-sponsored technicians staff and related project training activities. Specific responsibilities include:

1. Recruiting, selection, and dismissal of project technician staff.
2. Providing logistical and technical backstopping for the technician staff.

IV. A. 6.

3. Providing short-term technical assistance to the project when required.
4. Handling the logistical support for participant training activities including payment of travel, per diem and tuition.

Prefectural Coordinating Committee

The Prefectural Coordinating Committee will consist of prefectural representatives from the Ministries of Public Health, Social Affairs, Education, and Agriculture.

Specific responsibilities include:

1. Advising the Basic Health Office regarding training and logistical requirements.
2. Evaluating health activities by community development, education and agricultural extension agents.
3. Preparing periodic reports on the health activities of village development committees and schools.
4. Suggesting policy changes to the Ministries involved.

Bangui Liaison

The second AID-sponsored technician will live in Bangui and will serve as counterpart and advisor to the Director for Planning and Research of the Ministry of Public Health. Specific responsibilities include:

1. Advise MOPH regarding personnel policies, logistic support, and possible replication of methods developed in Ouham.
2. Represent project at WHO-sponsored coordination meetings.
3. Inform the Prefectural Basic Health Office of new technical developments deriving from Bimbo, INEMS and elsewhere.
4. Assist the Director of Planning, when requested, to design improved support systems.
5. Provide, if requested, management and administrative input to the INEMS paramedical training program and to the medical/pharmacy faculty of Bokassa University.

IV. A. 7.

6. Assume primary responsibility for project financial reporting to AID.
7. Provide administrative support to the Basic Health Office.

IV. B. 1.

Implementation Plan (see Annex E for PPT chart)

The implementation plan includes activities to be undertaken by AID RDO/Yaounde; by GOCAR Ministries of Health, Social Affairs, Agriculture and Education, and by the prefect in Bossangoa; by UNICEF; by Peace Corps; and by the AID contract technicians and contract evaluators. WHO, FAO, and FAC (French Fond d'Assistance et Cooperation) and other donors will be kept informed and project activities coordinated with their efforts.

The proposed implementation schedule is based on two primary factors, the agricultural work calendar imposed by the wet/dry seasons and the need to mesh AID recruitment with Peace Corps recruitment. As described in the social soundness analysis, rural people have minimal free time during the planting/weeding/harvest period of May-November. Therefore, most village training and self-help activities must take place during the dry season (January-April). The AID/GOCAR staff should be in place and operational for about six months prior to the initiation of these village activities.

At a minimum, AID/GOCAR staff must be operational prior to assignment of PCVs to the field in May, and it would be advantageous for them to participate in the actual Peace Corps training (scheduled for February - May period). The CAR PC training should not be delayed, because it is scheduled to coincide with a similar in-country health training program for PCVs in Cameroon which is scheduled to begin in February, 1977. Project approval is, therefore, requested for financing during the transitional quarter, rather than FY-77 as was projected in the FY-77 Congressional Presentation.

The project agreement should be signed by August, 1976, following which office space will be made available by GOCAR for both AID technicians. It is estimated that AID recruitment will take no more than four months, permitting arrival of the contract technicians by January, 1977 (or, if French language training is required, by April, 1977). AID will provide funds for the technician's housing; GOCAR will make sure that suitable housing is available for rent. The GOCAR Ministry of Health Director of the Ouham rural basic health office should be posted by January, 1977. Vehicles and parts will be ordered by October, 1976. Drugs will be ordered by June, 1977, and distribution be underway by May, 1978. An administrative manual will be drafted by December, 1977, with a personnel review system and data reporting system both in operation by January, 1978. The entire Ouham Prefecture Rural Health Care Delivery Plan will be completed by December, 1979.

IV. B. 2.

The Peace Corps 104 will be submitted by July 31, 1976; PCV's will begin training in February, 1977 and arrive at their posts by May, 1977, by which date GOCAR will have located suitable housing. (If a second cycle of PCVs is ultimately added, their 104 will be submitted by July, 1978 for training beginning February, 1979). The PCV's, AID technicians, and rural basic health office Director will have collected baseline data by October, 1977. The health education distribution system will be in operation by December, 1977, with materials in use in at least 10 primary schools by December, 1979.

By March, 1977, the three candidates for masters-level in public health planning and administration will have been identified. Their public health training, to take place in Africa, France, Canada or United States, with preference for Francophone programs, will run from September, 1977, through June, 1979. By July 30, 1979, they will be on the job in Ministry Headquarters and in prefectural rural basic health offices. The four candidates for health education training, most of whom will be trained at CUSS (Centre Universitaire des Sciences de Santé) in Yaounde, will have been agreed on by June, 1977, and begin training as soon as they can be enrolled. Prior to the selection of these 9 candidates, GOCAR will indicate (in writing) what posts they will occupy on completion of training.

Eight community development agents will begin work at their posts by February of 1977 (at the latest) and additional numbers by February, 1978 and February, 1979, for a total of 24 by early in 1979.

By November, 1976, the UNICEF participation agreement will have been signed and equipment will have arrived by May, 1977. Both garages will be in operation by June, 1977, and will have completed training for three mechanics by August, 1978, and three more by August, 1979.

By May, 1977, the GOCAR Ministries of Health, Social Services, Agriculture, and Education will have authorized and directed their personnel in Ouham to participate in in-service training programs. Health, Social Affairs, and Agriculture and Education staff retraining will be underway by June, 1977 and the first round of training workers will be completed by November, 1978. By May, 1978, 60 village development committees will be formed, 40 traditional birth attendants will be trained, and five village health care agents will be trained. By May, 1979, 110 more traditional birth attendants (making a total of 150) and at least 15 more health care agents

IV. B. 3.

(minimum total 20) will be trained. By June, 1979, 300 latrines will be built and 40 water sources protected.

The AID Chief of Project will report to the health section of AID RDO/Yaounde, which will be responsible for monitoring project implementation. After the 1978 extension/workshop season, they will carry out together an evaluation in May, 1978, prior to the possible submission of a PID for a follow-on second phase project, if any. By June, 1979, a second, in-depth evaluation using outside personnel will be completed, allowing submission of a second phase PP by July, 1979, if appropriate. These evaluation dates have been selected to coincide with acceptable road conditions yet avoid peak project work periods.

Problems and Waivers

There do not appear to be any major outstanding problems preceeding negotiation of a project agreement.

The only AID waiver required is for local purchase of non-American vehicles and equipment. This waiver is essential because:

- a. Both vehicles and equipment must be on site at the earliest possible date, preferably by January 1, 1977;
- b. Routine maintenance and spare parts are not available for American products in the Central African Republic;
- c. The only four-wheel drive automobile dealership in CAR is a Toyota outlet.

The only way that time schedules can possibly be met is to purchase Toyotas in Bangui. Toyotas are common all over Africa and spare parts and tools are available through the Bangui dealer, while parts and maintenance capability for American vehicles are not available in CAR. Delivery before 1977 is essential, as public transportation and rental vehicles are virtually non-existent in Ouham Prefecture (see Annex R on Vehicle Waiver).

AID Monitoring

This project will be monitored by the AID Regional Development Office in Yaounde, through periodic reports and site visits, as required. As noted in Section IV. C. (Evaluation Arrangements), the RDO will assist in annual evaluation.

IV. B. 4.

Logistic Support

Commodities are to be ordered by the Regional Development Office rather than by the Contractor so that purchase may be initiated at the earliest possible date. Should essential commodities not arrive by January, 1977, the RDO will explore alternative temporary arrangements.

Contracts

Approximately half of the total project expenditure will be via an institutional technical assistance contractor. Preference should be given to bidders with demonstrated operational experience in rural health programs, particularly in Africa.

Beneficiary Participation in Sub-Project Selection

Beneficiaries will participate in sub-project selection and design in several ways, as appropriate. Government staff will help determine the form and content of their in-service training according to the assessment they are encouraged to make of their on-the-job needs and problems. Villages which request help in setting-up development committees will be assisted in doing so, and will themselves decide what projects to undertake and what health education input they would like. From March through October, 1977, project staff will concentrate on exploring and discussing the existing situation. They will be doing formal base-line data collection and contacting the rural population for their views and to develop their awareness of services available from staff. A major aspect of the project will be development of the necessary channels to facilitate and encourage communication about local needs and potential from villagers and field staff to the Bossangoa rural health office, to the Ministry of Health, and to the representatives of donor agencies in Bangui. It is intended thereby to make central planning and resource allocation maximally responsive to local needs and local possibilities for action. At the same time the project will be developing, at the local level, the capacity to define problems, to make and implement decisions, and to utilize effectively the services and resources potentially available.

IV. C. 1.

Evaluation Arrangements for the Project

Evaluation for this project will occur at several different levels. The most fundamental and lasting evaluation system will be that required for routine project maintenance, including personnel supervision, needs assessment and planning, and design of experiments. These systems are more fully described in Part III. A., but are in summary:

- a. A personnel evaluation system (to be developed)
- b. Grandes Endemies sector reports
- c. Periodic facility and behavior surveys of village samples
- d. Collation of reports from agricultural, education, and community development agents
- e. Reports from health facilities on patient visits and drug inventories.

Only b. and e. above are now operational and, therefore, available for baseline evaluation. Special evaluation of local training projects and of the experimental village level health care project will be conducted by the participating parties approximately every twelve months. These reviews will be made jointly by representatives of:

- a. The AID Regional Development Office (Yaoundé)
- b. The Ministry of Health of the CAR
- c. The AID technician and Chef de Bureau de Santé de Base
- d. Peace Corps

Other donors may assist in evaluation of specific components: UNICEF for the two garages and for drug supply and medical equipment; WHO for the training of village level health care workers; and the Ministry of Social Affairs for village development committees. Completion of the first project review will be scheduled for May, 1978. This will be arranged by the Bossangoa technician and counterpart in conjunction with other parties after preparation of a written annual report. Both written documents and site visits will be utilized, and attention will focus on the continued viability of the logical framework as an operational document. Specific budgetary allocations for this evaluation do not appear necessary.

The third type of evaluation will occur in May or June, 1979, and will be directed primarily at previewing possible future AID participation. Questions to be addressed will include:

Effectiveness: has the project provided the intended outputs, and have these contributed in a measurable way to the project purpose?

IV. C. 2.

Efficiency: has the project achieved its overall purpose of making the best possible use of available health resources?

Significance: Does GOCAR continue to view the health sector as a central one in its overall development priorities?

Positive responses to all three questions are desirable if AID is to consider possible additional support either in Ouham or nationally. If results appear inadequate, the problems may be with:

- errors in the cause-effect analysis of the logical framework;
- shortfalls in the magnitude of outputs;
- errors in assumptions, i. e., assumptions which proved unrealistic.

This evaluation should probably be conducted by external consultants after approval by both AID and the technical assistance contractor, if any. Both a PID and a PRP should be prepared beforehand if additional AID support appears feasible, and a project paper should result if that appears desirable. Funds are provided within the consulting budget for this purpose.

Ex-post facto evaluation will be necessary for specific project components (training, village level health care), but not for the project as a whole.

Most of the specific indicators to be used in project evaluation are listed in the Logical Framework.

It is important to note that this project seeks to create a management system and to institutionalize certain processes, so that quantifiable outputs can only be estimated at this time. The ultimate indicators of a successful project will be GOCAR's ability to manage and mobilize all available resources in an efficient and effective manner, and the impact of this will only be observable three to five years after AID technicians have left the scene.

Measurement of change will be possible at all five Logical Framework levels, although only those at the lower three levels will be directly attributed to AID supported activities.

Sectoral Level

1. Reduced prevalence of debilitating diseases

Biannual reports of the Grandes Endemies may be used to measure changes

IV. C. 3.

in the prevalence of leprosy, sleeping sickness, worms, and onchocerciasis. The numbers of cases observed during 1978-1979 may be compared with the numbers observed three years earlier to suggest the percent of change. This measure will not be sensitive to project inputs, however, and will also omit the incidence of important events such as infant mortality, sterility, malaria, and other fevers. Baseline data are available for this indicator.

2. Increased activity of villagers in health and other sector development projects

This may be quantified in terms of the number of village development committees established and active in any development sector. A committee may be considered established if it has at least five members and has met at least four times in the previous twelve months. It may be considered active if it has completed at least one development activity during this time (these definitions will require refinement as the project develops). Effectiveness may be measured in terms of total numbers and in terms of absolute changes from previous years.

- a. Number of committees established during 1977, 1978, 1979
- b. Number of committees active during 1977, 1978, 1979
- c. Proportion of established committees which are active during 1977, 1978, 1979.

Efficiency may be measured by relating a. and b. to the number of man months for which community development agents are assigned to the prefecture during each year; a reasonable goal is that each agent should establish at least ten new committees and maintain at least 75% activity.

Baseline data for these measures are not immediately available, but it appears that there is little or no activity at the present time.

1. Number of Village development committees active in the health sector

This may be measured in the same manner as in No. 2 above, this time counting only health sector activities.

2. Proportion of villagers able to obtain basic health care within 30 minutes walking distance

This is proposed as a measure of access to health care. "Basic health care" is defined under No. 6 below. Measurement can be approximated

IV. C. 4.

by the periodic facility and behavior surveys described in Part III. A. but it is not expected that statistically significant changes will occur during the life of the project. Baseline data will be derived from the first facility survey.

3. Proportion of villagers able to obtain water from protected sources

"Ability" assumes a walking distance of five minutes or less. "Protected" normally implies that the top of the well be at least two feet above ground that any buckets used be arranged so as not to rest on the ground, and that any source of contamination, such as latrines, be at least 50 feet away. Measurement will again be by periodic survey. Significant changes should be observable during the life of the project due largely to the concurrent program. Baseline data will be developed by the Peace Corps during the Planning Phase of its wells program.

4. Proportion of mothers receiving basic MCH education and care

"Education" is defined to include at least one lecture or discussion with someone having minimal MCH training (such as upgraded traditional birth attendants). "Care" assumes delivery by a minimally trained attendant. Measurement will be by periodic survey, and significant changes should occur during the life of the project. Baseline data will be derived from the first facility and behavior survey.

5. Proportion of students receiving at least 30 hours of health education per year

This measure will be obtained from reports of school inspectors, and should show a statistically significant change during the life of the project. The current level is believed to be zero.

6. Number of adequately staffed, equipped and supplied health facilities

One of the weaknesses of existing health systems in Ouham is the mismatch between personnel, facilities, and supplies. Trained personnel may be underutilized for example, because they lack a clinic building, diagnostic equipment, or pharmaceutical supplies. In some places, good structures or equipment may exist without adequately trained personnel. Dispersion of resources in this manner weakens efficiency and probably reduces overall effectiveness.

IV. C. 5.

One of the early outputs of the Prefectural Basic Health Office will be standards for the equipping, staffing and supplying of health posts and centers. The number and proportion of facilities which meet this standard should rise as a direct result of project inputs. The number will rise because of construction and equipment inputs, while the proportion should rise because of these inputs and perhaps through the closing of facilities which cannot function effectively with available resources. Baseline data are not available but should be developed by the prefectural office shortly after standards are approved.

7. Proportion of villagers who regularly use sanitary latrines

This is intended as a measure of health behavior but will require careful definition. Sanitary facilities are those which protect people and water from contamination. Regularity may have to be defined to include only use while the individual is present in the village. This measure will be obtained through periodic survey and should show significant changes. Baseline data will be derived from the first survey.

IV. C. 6.

1. Demonstrated competence of prefectural health personnel

The assumption behind use of this indicator is that project inputs can upgrade the skills of existing personnel and can develop supervisory routines to motivate good performance. "Competence" implies personnel standards, and these are to be developed by the Basic Health Office. Measurement techniques will include records and inventory control procedures, and a certain amount of qualitative observation.

2. Integration of health activities with other sectors

Given the importance of good health to education, agriculture, and community development, it is reasonable to seek the full cooperation of personnel working in these areas. Health is important to education, not only because it improved classroom attendance and performance, but because it reduces wastage due to early mortality. Health is important to agriculture because it facilitates more intensive cultivation techniques and encourages longer range planning. The relationship with community development is highlighted in the Logical Framework. The ability of these sectors to contribute to health action is discussed in Part III. A.

The project target is that agricultural agents should spend 10% of their time in health, school teachers 5%, and community development agents 25%. Current levels are believed to be near zero. The distribution of time will be determined from periodic reports submitted by extension workers and reviewed for health content by the Basic Health Office.

3. Replication of Systems

No single index of replication is possible. Measurement will be by periodic observation.

4. Community Health Activity

The best available indices for this are discussed under No. 1 at the sub-sectoral level.

IV. C. 7.

5. Control Systems

Required systems include:

- drug inventory and distribution procedures
- equipment and building maintenance systems
- effective vehicle maintenance

Indices for the first include:

- proportion of health facilities where current drug supply and anticipated requirements are routinely recorded (baseline not known)
- proportion of health facilities with at least a two months supply of ten basic medications (measured periodically throughout the year) (baseline data believed to be zero).

Indices of facility maintenance include:

- proportion of microscopes and other items which are in operable condition (baseline to be developed during first facility survey)
- proportion of physical structures which keep the rain out (and keep the clinician in) (baseline available from Grandes Endemies reports).

The best index of vehicle maintenance is the proportion of vehicles which operate sufficiently well to be driven to the distant areas of Ouham. The denominator includes all MOPH, MOSA, MOE, and Peace Corps vehicles assigned to the prefecture, but excludes those beyond hope of repair (the baseline should be determined by the garage mechanics soon after their arrival).

Magnitude of Outputs

The Logical Framework lists a number of objectively verifiable events of varying degrees of importance to the overall plan. Certain of these are critical indicators, as shown on the PPTN chart (Part IV. B. ). No composite indices are possible in this area.

# Organogram of Health Administrative Structure

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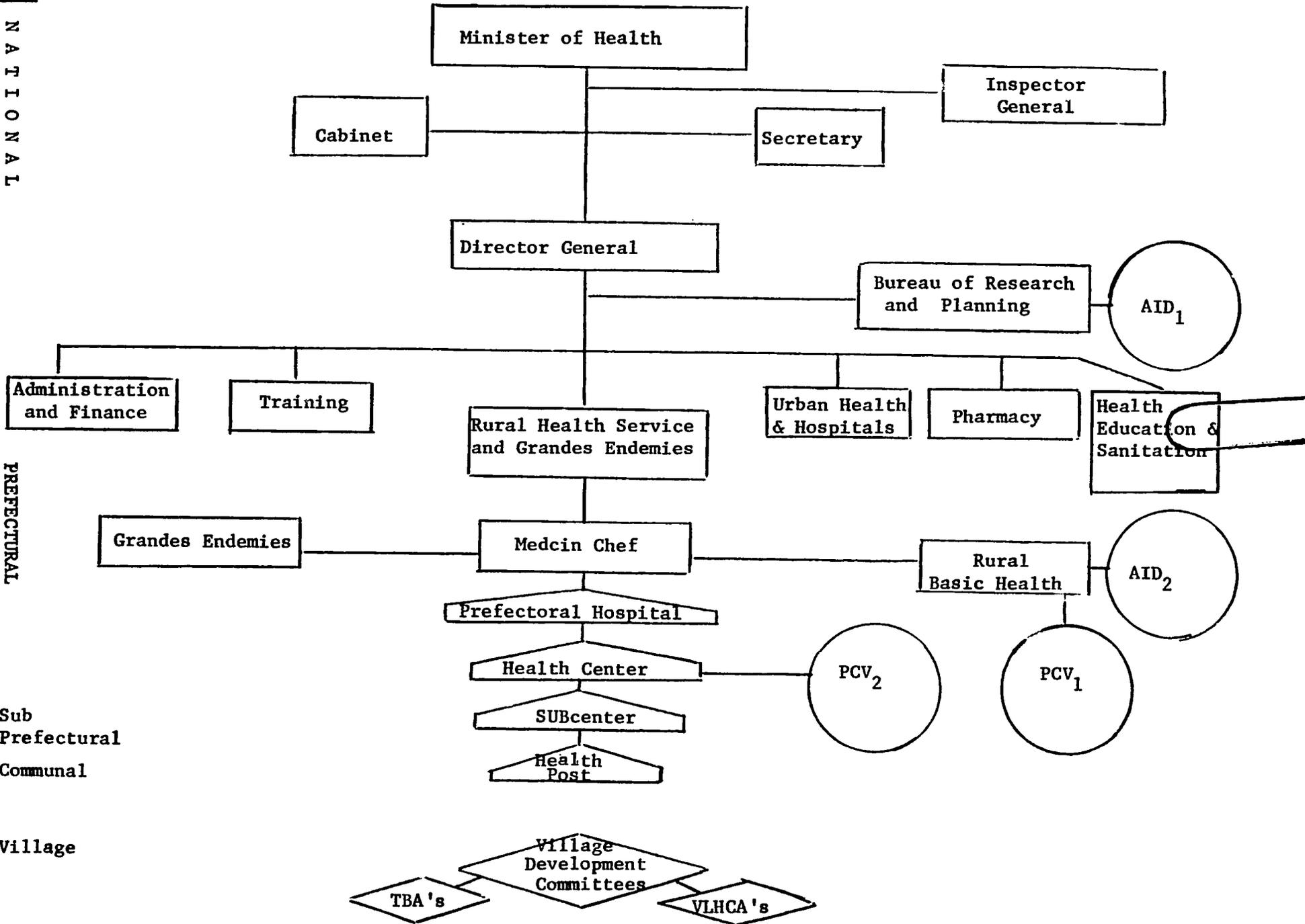
Levels

NATIONAL

PREFECTURAL

Sub Prefectural  
Communal

Village



IV. D. 1.

Conditions, Covenants, and Negotiating Status

There are no special host country actions which must be taken prior to the execution of the Project Agreement. Moreover, there are no special conditions or covenants proposed for the Project Agreement.

PROJECT DESIGN SUMMARY  
LOGICAL FRAMEWORK

Life of Project:  
From FY 77 to FY 80  
Total U. S. Funding 1,693,000  
Date Prepared: July, 1976

Project Title & Number: OUHAM PROVINCE RURAL HEALTH PROJECT

MS

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS																										
<p>Program or Sector Goal: The broader objective to which this project contributes:</p> <p>A. <u>Sector Goals:</u> Active Participation of the rural population of Ouham in Development of their communities</p> <p>B. <u>Sub-Sector Goals:</u> An integrated health care delivery system in Ouham Province</p>	<p>Measures of Goal Achievement:</p> <ol style="list-style-type: none"> <li>1. Reduced prevalence of debilitating disease.</li> <li>2. Increased activity of villagers in health and other development activities</li> <li>3. Amelioration of the village environment</li> <li>4. Village health committees active in community development</li> </ol>	<ol style="list-style-type: none"> <li>1. Annual Reports of Grandes Endemies (sector 3)</li> <li>2. Periodic Reports by health community development and agricultural agents.</li> <li>3. Reports and Visual Inspection</li> </ol>	<p>Assumptions for achieving goal targets:</p> <ol style="list-style-type: none"> <li>1. Health is a limiting factor to social, economic and community development</li> <li>2. Villages will take advantage of the opportunity to participate in health and development activities</li> </ol>																										
<p><u>Project Purpose:</u></p> <p>To develop a management system, maximizing effectiveness of available public and private health resources</p>	<p>Conditions that will indicate purpose has been achieved: End of project status.</p> <ol style="list-style-type: none"> <li>1. Health activities integrated with those of other sectors</li> <li>2. OPMOH Personnel demonstrating competency in performing functions</li> <li>3. MOH decides to replicate this management system in other provinces</li> <li>4. Village Communities are engaged in addressing their own priority health problems</li> </ol>	<ol style="list-style-type: none"> <li>1. Annual Evaluation</li> <li>2. MOH Directives</li> <li>3. Annual Health Status and Behavior survey</li> </ol>	<p>Assumptions for achieving purpose:</p> <ol style="list-style-type: none"> <li>1. Rural villagers accept the innovations provided</li> <li>2. Villagers understand the relationships between various development activities</li> <li>3. GOCAR will continue to support project and utilize funding for national plan</li> </ol>																										
<p><u>Outputs:</u></p> <ol style="list-style-type: none"> <li>1. A prefectural administration system for support and supervision of rural health planning and evaluation</li> <li>2. A system for the delivery of village level health education and rural sanitation</li> <li>3. A system for delivery of village health care services.</li> <li>4. A system for vehicle maintenance.</li> </ol>	<p>Magnitude of Outputs:</p> <ol style="list-style-type: none"> <li>1. Administrative manuals, data and collection systems, health plan for Ouham developed.</li> <li>2. a. 60 active village health committees</li> <li>   b. 50 primary schools w/health education</li> <li>   c. distribution system for health ed. materials</li> <li>3. a. 1000 birth attendants and trad. healers attended MCH workshop</li> <li>   b. 20 village health care agents identified by community, trained in prototype training program.</li> <li>4. 10 mechanics trained</li> </ol>	<ol style="list-style-type: none"> <li>1. Copies available on request</li> <li>2. Visual inspection and reports</li> <li>3. Workshop Records</li> <li>4. Training Records</li> </ol>	<p>Assumptions for achieving outputs:</p> <ol style="list-style-type: none"> <li>1. Inputs implemented in a timely manner</li> <li>2. Continued cooperation and support of GOCAR and all donors</li> <li>3. Project technicians will have adequate and relevant skills.</li> </ol>																										
<p><u>Inputs:</u></p> <ul style="list-style-type: none"> <li>-Long-term technical assistance</li> <li>-Short-term technical assistance</li> <li>-Training (participant, short-+ long-term)</li> <li>-Commodities (vehicles, medical equipment, POL)</li> <li>-Construction (health posts, health centers)</li> </ul> <p>2. <u>PEACE CORPS</u></p> <ul style="list-style-type: none"> <li>-10 Volunteers (2 mechanics, 8 health workers)</li> </ul> <p>3. <u>GOCAR</u></p> <ul style="list-style-type: none"> <li>-Basic Health Office (clinical services, training, drugs and other commodities)</li> <li>-Other (inflation and contingency)</li> </ul>	<p>Implementation Target (Type and Quantity)</p> <table border="0"> <tr> <td>AID</td> <td></td> </tr> <tr> <td>LT technical assist. contract</td> <td>504,000</td> </tr> <tr> <td>ST technical assist. contract</td> <td>84,000</td> </tr> <tr> <td>Training (all types)</td> <td>285,000</td> </tr> <tr> <td>Commodities</td> <td>270,000</td> </tr> <tr> <td>Construction</td> <td>470,000</td> </tr> <tr> <td>PEACE CORPS Volunteers</td> <td>330,000</td> </tr> <tr> <td>GOCAR</td> <td></td> </tr> <tr> <td>Base Health Office</td> <td>99,000</td> </tr> <tr> <td>Clinical Services</td> <td>161,000</td> </tr> <tr> <td>Training</td> <td>26,000</td> </tr> <tr> <td>Drugs, commodities</td> <td>439,000</td> </tr> <tr> <td>Other (inflation, contingency)</td> <td>208,000</td> </tr> </table> <p style="text-align: center;">9</p>	AID		LT technical assist. contract	504,000	ST technical assist. contract	84,000	Training (all types)	285,000	Commodities	270,000	Construction	470,000	PEACE CORPS Volunteers	330,000	GOCAR		Base Health Office	99,000	Clinical Services	161,000	Training	26,000	Drugs, commodities	439,000	Other (inflation, contingency)	208,000	<ol style="list-style-type: none"> <li>1. AID Contracts</li> <li>2. Project documents</li> </ol>	<p>Assumptions for providing inputs:</p> <ol style="list-style-type: none"> <li>1. Continued availability of funds</li> <li>2. Suitable contractor identified and</li> <li>3. Suitable candidates identified for training</li> </ol>
AID																													
LT technical assist. contract	504,000																												
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ANNEX E

PPT - CPI Description

1)	PC 104 submitted	7-76	
*2)	Project agreement signed	8-76	<u>FY77</u>
3)	Vehicles and parts ordered	10-76	
4)	UNICEF participation agreement signed	11-76	
<hr/>			
5)	GOCAR Ouham Basic Health Office Chief posted	1-77	
*6)	Contract technicians arrive	1-77(4-77)	
7)	PCV's arrive, start training	2-77	
8)	Eight Community Development Agents posted	2-77	
*9)	MPH training candidates selected	3-77	
*10)	PCV's complete training, posted	5-77	
11)	GOCAR Ministries authorize in-service training	5-77	
12)	UNICEF equipment arrives	5-77	
13)	Garages in operation	6-77	
14)	Drugs ordered	6-77	
15)	MPH candidates start training	6-77	
*16)	CUSS/HE candidates selected	6-77	
*17)	GOCAR Ouham staff retraining started	6-77	
*18)	Base-line data collected	10-77	<u>FY77</u> <u>FY78</u>
*19)	Health education materials in distribution	12-77	
*20)	Administrative manual drafted and distributed	12-77	

21)	Personnel review and data collection operating	1-78
22)	8 more Community Development Agents posted	2-78
*23)	60 Village Development Committees formed	5-78
24)	40 TBA's trained	5-78
*25)	5 VLHCA's trained	5-78
26)	Drug and supply distribution to TBA's and VLHCA's underway	5-78
27)	First evaluation completed	5-78
28)	PID submitted for follow-on phase, if any	6-78
29)	PC 104 submitted for second cycle, if any	7-78
30)	First CUSS HE training over and first graduates posted	7-78
31)	Health centers and posts built/rebuilt	7-78
32)	3 garage mechanics trained	8-78
33)	GOCAR Ouham staff retraining first cycle completed	11-78

FY78  
FY79

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34)	Final 8 Community Development Agents posted	2-79
35)	PCV second cycle training started, if any	2-79
*36)	PCV training completed, PCV's posted	5-79
*37)	110 more TBA's complete training	5-79
38)	15 more VLHCA's complete training	5-79
*39)	300 latrines built	6-79
*40)	40 water sources protected	6-79
41)	US/MPH trainees returned and posted	6-79
42)	In-depth evaluation completed	6-79

43)	Second phase PP submitted, if any	7-79	
44)	3 more garage mechanics trained	8-79	<u>FY79</u>
45)	10 primary schools using HE materials	12-79	<u>FY80</u>
46)	Rural Basic Health Care Delivery Plan completed	12-79	
47)	End of Project	12-79	

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ANNEX K

Job Description for AID Technicians

1. Bossangoa Technician

The Bossangoa based technician will be the Chief of Project or titular Project Director. He will be the counterpart and advisor to the Central African Director of the Prefecture Base Public Health Office (PBO).

Together, they will be responsible for:

1. Development and coordination of programs and/or workshops for
  - a. upgrading of existing MOH and other sector personnel in health education and sanitation;
  - b. the training of traditional birth attendants;
  - c. the training of village level health care agents;
  - d. informal training of MOH employees in administrative functions, e. g. record keeping, reporting, purchasing, etc.
2. The coordination and allocation of resources for construction or modification of physical facilities.
3. Establishment of a health data collection and analysis system.
4. The general coordination of MOH resources (including PCVs) toward an integration of activities that relate to the health sector.
5. The establishment of an effective drug distribution system.
6. Implementation of Health Education and Sanitation curricula for primary schools (in collaboration with Ministry of Education).
7. General Public Health planning toward the ultimate goal of establishing an integrated rural health care system for Ouham.
8. Supervision and evaluation of all prefectural health staff.
9. The integration of all PBO activities with those of other health offices, i. e. Grandes Endemies.

It should be noted that all of the above functions will be performed with the emphasis upon creating institutionalized for future implementation thereof.

## Qualifications

It is anticipated that the PBO Project Director will be an MD with an MPH in Public Health Education or an MD with a background in para professional training, and relevant experience in developing countries, preferably Africa. If none of the above can be found, an MPH with broad experience in Public Health Education and Administration with relevant African experience will suffice. A minimum FSI rating of 2+ in French is required before field placement.

It is important to note that Bossangoa is a rural post with few amenities requiring the services of an individual with exceptional professional interest in this type of work.

## 2. Bangui

The Bangui based technician will be subordinate to the Prefectural Director. He will serve as counterpart and assistant to the Director of the Planning and Research Office of the MOPH with special emphasis upon administrative counsel.

### Rationale

One of the pervasive and recurrent themes of this project is to develop management/support systems that will ultimately stand on their own with a minimum of external financing. As has been suggested in the social analysis, there is no surer way to effect increased support than to communicate a sufficiently increased demand and level of expectation of service.

It is fruitless for external donors to furnish human and/or mechanical technical assistance if the service thus created ceases to function when the assistance is withdrawn. It would, therefore, be wasteful, and indeed, counter-productive for this project to build in its own logistics support unit to ensure speedy ordering and expedition of material. Conversely, it is most sensible to place our assistance where it will have its greatest impact upon developing MOPH planning capacity for support not only for Ouham, but for other prefecture, through improved management systems at the national level.

Thus; Ouham, through the development of improved systems for training, drug distribution, vehicle maintenance and village level health care, will communicate an increasing demand for service upon the MOH in matters such as procurement, transport of goods, assignment of personnel and training of staff. The role of the Bangui technician will be to assist the Bureau of Planning and Research to make all of the directorates within the MOPH more effective and more responsive in satisfying that demand (see Organogram at end of this section).

The Bangui technician will work within the MOPH in conjunction with other donors (WHO, UNICEF, FAC, etc.) and will address his role toward the following functions:

1. Provide liaison with regard to project communication with MOPH on personnel planning and other needs.
2. Represent project at all WHO coordination meetings.
3. Inform the PBO of new developments in techniques, materials, visual aids, development in Bangui (INEMS) or elsewhere.
4. Assist, when requested, the Director of Planning to design improve support systems.

5. Provide, if requested, management and administrative input to the INEMS paramedical training program and the medical/pharmacy faculty of Bokassa University.
6. Assume primary responsibility for project financial reporting to United States AID.
7. Provide PBO with status reports of activities of other donors in the health sector.
8. Provide administrative support to Bossangoa office - budgeting financial planning-.

#### Qualifications

Bangui technician: MPH/Public Health Administration with at least five year professional experience in either management or national health planning. The successful candidate should have experience in living and working in a developing country, preferably in Africa. He/She should speak French at the FSI 2+ level or better.

Rural Health Development Agents: 7

These volunteers will be stationed one or two in each sub-prefecture (two each in Bossangoa and Bouca, one each in Bantangafo, Dabo and Markounda), to assist, advise, and coordinate the health development activities of community development, health, agriculture and education staff. Their role would be one of coordination, liaison, integrating the efforts of the various ministries, developing joint planning and assessment of projects involving complementary efforts by the various personnel. They will not have line responsibilities or direct personal charge of any of the activities.

With health staff they will help develop and deliver health education lessons at workshops and in the villages; follow-up the traditional birth attendants and village level health care agents; encourage the undertaking of water source protection and sanitation projects, and advise village development committees on health problems and the resources available to them for the solution of such problems.

With community development agents, they will survey the expressed needs of the villagers, develop awareness of problems and possible solutions, advise in the establishment of development committees and in the selection of birth attendants and health care agents to attend workshops, and help to conduct these and other workshops.

With agricultural agents they will help villagers take nutritional considerations into account in decisions about what to cultivate, and will encourage the production of high-protein foods and their consumption by weaning infants, and by pregnant and lactating mothers.

With teachers they will help to introduce health education materials into the curriculum and advise development committees on education related matters.

Interest in health would be a desirable background for these PCVs. A background in French would greatly facilitate achieving the FSI 2 level necessary in both French and Sango for this job. Training would emphasize both preventive health technical skills and community development approaches.

Medical/Health/Community Development Educator

This PCV will work as an assistant and advisor to the Central African Chief of the Prefectural Base Health Office. The PCV will help in developing, adapting, and facilitating the implementation of curricula for health (and other ministry) staff retraining. This retraining will focus on management and administration, health education, preventive health, sanitation, nutrition, maternal and child health. The PCV will also assist in the development of materials for use in workshops involving traditional birth attendants (TBA's) and village level health care agents (VLHCA's) including the adaptation of the WHO manual on TBA and VLHCA training to conditions in Ouham. The PCV will help efforts to incorporate the community development workshop materials already developed in CAR into the Community Development workshop program, and will help workshop leaders and extension agents with teaching methodology. He will work closely with the Social Assistant who supervises the community development agents.

This PCV will also be responsible for support of the sub-prefectural PCV's and liaison between them, the prefectural base health office, and other sources of technical support in the prefecture.

This volunteer should be someone who has a minimum of one year (preferably two years) experience in extension, development, or (preferably) preventive health work. Experience in rural Africa would be highly desirable. He or she should have an FSI 3 in French before being posted; an extending or re-upping PCV from CAR or elsewhere would be ideal. Sango training would be desirable, but a very high level of competency is not essential.

Mechanic/Shop Supervisors: 2

These volunteers, one in Bossangoa and one in Bangui, would be responsible for supervising the mechanics in the garages, up-grading them, training new mechanics, and instituting a regular maintenance and preventive check-out program for Ministry of Health, Project, Ministry of Social Affairs, and Ministry of Education vehicles. They would also set up parts inventory, ordering, and control systems to ensure the continued availability of the necessary spare parts.

These PCV's should be experienced diesel and gasoline automobile mechanics, preferably with experience on British and Japanese four-wheel drive vehicles and other foreign automobiles. Language learning ability is essential, as their supervisory duties will require high level of competency (FSI 2 or 2+) to be obtained by the end of training in either French or Sango, preferably the latter. Although it is more important for these volunteers to be fluent in Sango, some knowledge of French (1+) will be necessary.

Obstacles

Doctors, nurses and administrators may initially be opposed to integrating their services with those of relatively uneducated villagers and may be jealous of their own prerogatives as diagnosticians, prescribers, and providers of health care. They may resent the encouragement of what they see as the competitive services of illiterate and unreliable agents, and may be disdainful of the capacity and commitment of what they see as backwards and superstitious villagers. This may be overcome by developing a role conception for them as instructors, advisors, leaders, and experts to whom problems can be referred. Demand and respect for the services of government staff should increase as a result of this program, and if they anticipate this, their resistance should be lessened.

To the extent that government health care agents are asked to re-define and extend their job definition to include preventive and education activities away from their offices, they will probably resist this initially as an unreasonable demand on their time and energy. If they see that their peers are undertaking similar activities, that the PCVs are doing so, and that the AID technician and CAR rural health director are all working in the field at these activities, their willingness to do so as well will be increased. Successful efforts in this area will augment their job satisfaction, and such activities should provide variety, stimulation, and interest complementary to their office-based curative activities.

Motivation and morale in general may be low after the project is well under way but before results are apparent. Conferences, visits from Bangui officials, and publicity on the radio at inter-departmental prefectural meetings should help compensate for this, as will close support and frequent visits by the Bossangoa personnel.

Effective allocation and controls over transports, money, materials, and medicines are essential, and are of course a primary responsibility of the prefectural base health office in Bossangoa. As the necessary management systems are being developed, the PCVs can help to provide the necessary communication and monitoring.

Besides those already discussed, a number of potential obstacles exist at the village level. Villagers have to believe that they can effect an improvement in their own health and in the overall quality of their lives. A central purpose of this project is to develop that conviction. At the same time the project is intended to realize and reinforce the villager's capacity to effect such improvements in fact. Village development committees will undoubtedly run into problems of cooperation, coordination, control over funds and medicines, preferential treatment or relatives, jealousies and such, but all of these are potentially resolvable by the villagers themselves with the guidance of the agents of change, the PCVs, and the Bossangoa office.

ANNEX O Coordination and Relevance of GOCAR, Bilateral, and Multilateral Assistance Programs to this Project

A. GOCAR

1. INEMS - Institute for Medico-Social Education. INEMS has grown since its origin in 1967 to the point where it now trains nine levels of paramedical personnel and brings non-credentialed nurses and health aides back for retraining at regular intervals. An additional level of clinician between a doctor and a nurse is to be created and called Superior Health Technician. All levels of paramedical personnel receive their training or recycling at the INEMS Center in Bangui with practical field training being done at the WHO sponsored demonstration zone at Bimbo.

INEMS is receiving its support from the national budget and from German aid and is able to grow as rapidly as teachers can be identified. All INEMS students receive scholarships. Half of them are paid by UNICEF and half by the national budget.

INEMS also provides in-service training for paramedicals, nurses and aides, posted in rural health facilities. Three courses per year of 3 months duration are offered to nurses, (15 in each group). Three courses per year of 2 months duration are offered to health aides (15 in each group);

Although 15% of the INEMS curriculum is involved in Public Health Administration, no general management techniques are included.

2. Medical and Pharmacy faculty of the Bokassa University is planning the training of 20 physicians per year in a 6 year course of study and pharmacists in 5 years.

3. Ministry of Education - Dr. Sureau of the School health program has developed curriculae for health education in primary schools.

4. Grandes Endemies has been functioning for over 30 years and provides mobile coverage of the population, giving immunizations, treating leprosy, T.B., and trypanosomiasis on approximately twice yearly coverage basis.

5. Ministry of Social Affairs - is active in community development programs.

AID and the Peace Corps are contributing to a UNDP-financed community Development Program under the Ministry of Social Affairs. Under this program community development agents are trained at Damara. Between

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FY 76 and FY 78, 24 of these agents will be assigned to work in the Ouham prefecture to prepare the local people to carry out productive activities and community project in their own interest, especially in the areas of agriculture, nutrition, and health. The Ouham Project will work closely with these development agents in the establishment of village health committees, initiation of sanitation projects and teaching of health education in rural communities. In addition, project personnel will provide continuous in-service training in health extension work to the community development agents.

In combination with UNESCO, the Ministry of Education has activated Ecoles de Promotion Collectives (schools for promotion of collective project activities) of which four are now located in Ouham prefecture. One is located in Zere Village (Sumbue Commune) approximately 35 km from Bossangoa. The objective of these schools is to establish curricula that are relevant to the village environment. Two community development agents are currently in Sumbue, promoting home gardens, poultry, animal husbandry and fisheries. Because of this and other activities in Zere, Sumbue commune would be an ideal area to begin development of village level health care agents.

#### B. Other Donor Co-Ordination

The Ministry of Health, because it possesses a small cadre of professionally-trained concerned staff, has received significant assistance from external donors. At the national level, assistance to the health sector from other donors is included in the following summary of relevant sectors included in the UNDP Annual Report on Developmental Assistance to CAR, 1975.

The UNDP Annual Report on Development Assistance to CAR 1975 published April 1976, provides the following information:

## 1. Over-all Assistance

In 1975 the annual budget of CAR was \$86.6 M; external technical assistance was \$23M; budget support \$26.2M and investments in infrastructure \$14.5M.

### Technical Assistance and pre-investment activities

France provided \$13.8M in technical assistance, \$9.4M in personnel, \$4.4M in FAC projects. This assistance was in education (269 cooperants), health (70 cooperants), finance (25 cooperants), public works (24 cooperants), and agriculture (coffee, cotton).

The UN systems provided \$3.9M in technical assistance; \$3.6M in emergency funds; and \$1.1M World Food Program.

Soviet assistance (\$2 to 3M) is oriented toward education (76 cooperants) and health (20 cooperants). U. S. assistance is in medical-social sector. The Federal Republic of Germany, Yugoslavia, Republic of China (Formosa), Korea, Japan and Holland provided equipment, scholarships and experts.

### Investments in capital, loans, subventions and credits

In 1975 France provided financial assistance of \$12.2M in the form of subventions and loans.

FED provided aid of about \$11M essentially for infrastructure: roads (\$5M), abattoir (\$1.3M), water supplies (\$0.4M) others included agriculture and food.

Other sources of financial aid and direct investments included International Monetary Fund, World Bank, UDEAC, Fund for African Development, Funds Arabe, South Africa, Romania, Italy, and private organizations. France, Germany, USSR, Yugoslavia and U.S. are also sources of this kind of aid.

## 2. Health Assistance

The UNDP annual report on developmental assistance to CAR, 1975 lists twenty-two health projects supported by external pre-investment and technical assistance funds. The total for 1975 in equivalent \$US was \$2,880,763. The projects are the following:

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UNDP/WHO Sanitation Project (1969-1977)

A UN volunteer sanitary engineer was posted in the Bimbo Zone to develop an environmental sanitation program including improvement of water supplies, latrines, sewage and refuse disposal. The volunteer is to be replaced by a sanitary engineer in 1976.

The 1975 expenditure: \$ 7,115  
Total project: \$ 196,066

UNDP/WHO Sanitation and Drainage in Bangui (1969-1975)

The government was assisted in installing a sewerage system for Bangui and in training personnel required.

The 1975 expenditure: \$ 52,727  
Total project: \$ 524,188

WHO Health Service Development Project (1975-1981)

An advisor in public health was provided to assist the government in developing the infrastructure for rural health services in the Bimbo Zone. These services are to integrate preventive and curative measures including vaccinations, maternal and child health services, sanitation and health education.

The 1975 expenditure: \$ 39,110

WHO Study Grants (1973 - 1975)

Fellowships were provided for four M.D.s to study abroad in public health specialities.

The 1975 expenditure: \$ 28,000

World Food Program (1970-1976)

Assistance was provided for pre-school children, 0 to 5 years in Bangui and provinces.

The 1975 expenditure: \$ 224,733  
Total project: \$1,348,600

UNICEF Ministry of Health and Education 1975

Equipment and maintenance of a garage service in Bangui

The 1975 expenditure: \$ 250,600

UNICEF Basic Health Service Project (1975)

Furnishings and equipment were provided to the Bimbo Zone Health Centers, sub-centers and to INEMS (\$125,800) and for stipends at INEMS (\$124,800).

The 1975 expenditure: \$ 250,000

France Direct Medical Personnel (indefinite)

Seventy cooperants with health specialities of which 34 were physicians, were posted in Bangui and provinces.

The 1975 expenditure \$ 1,400,000

FAC Rural Health Service and Endemic disease control (one year)

Funds were provided for vaccines, equipment and management of this program.

The 1975 expenditure: \$ 100,000

USSR Medical Personnel (1975)

Twenty physicians were provided, 18 in Bangui, two in provinces.

The 1975 expenditure: not indicated

AID/OCEAC Regional Training Project (7/74-6/75)

Two technicians and material for health education in Bimbo Zone (\$115,000) and vaccines (\$3,000).

The 1975 expenditure: \$ 118,000

AID Health Equipment (7/74-6/75)

Refrigeration and other medical equipment was provided for dispensaries.

The 1975 expenditure: \$ 5,200

AID Health Fellowship (7/74-6/75)

A delegate from the CAR was sent to the 17th annual conference of midwives in Geneva.

The Expenditure: \$ 2,000

The Federal Republic of Germany Medical Equipment Gift (1975)

The Berberati Hospital was given radiological equipment.

The 1975 expenditure: \$ 50,500

Korea Health Equipment Project (1975)

Medical equipment was provided for Bangui and provinces.

The 1975 expenditure: \$ 50,000

Koreau Technical Assistance

Three cooperant physicians were provided in Bangui.

The 1975 expenditure: \$ 35,000

Japan Study Missions on Parasitic Diseases (1975-1976)

Six medical professors participated in this six weeks study.

The 1975 expenditure: \$ 27,323

Egypt Health Assistance Project

Three pharmacists and one physician were provided in Bangui.

The 1975 expenditure: \$ 120,000

CEBEMO (Holland) Health Infrastructure Project

This project financed the construction of an operating block and two maternal and child health centers at Bakouma and Obo.

The 1975 expenditure: \$ 38,670

Red Cross of USSR gift to CAR Red Cross

Medical equipment and medicines were provided for flood disaster victims.

The 1975 expenditure; \$ 20,000

Caritas International SOS France - Aid to Handicapped

Education for handicapped persons was provided at Alindoa.

The 1975 expenditure: \$ 1,185

Pasteur Institute Research Personnel Project

Three experts were provided

The 1975 expenditure: \$ 60,000

Capital investments, loans, credits and subvention for health are as follows:

African Development funds

Sanitation Development in Bangui \$5M

FED

Southwest health installation construction, wells, training center: 1966-1975, total \$744,088; 1975 \$1,549.

Bouar and Bambarie water supply: 1970-1976 total \$733,503; 1975, \$104,202

Bangui water supply: 1974-1976 total \$7,734,700; 1975, \$326,952

FAC

Development of Castors maternity, gyno-obstetrical bloc and surgery bloc: 1975-1976, \$355,550.

United States

Kauango maternity \$50,000  
Bobangui maternity \$21,000  
Sickle-Cell Center \$40,000  
Construction of wells: 1975-1978, \$70,000 per year, 7 PCVs and materials

The Federal Republic of Germany

INEMS Construction \$1.8M

Misercos (Holland)

INCEMS Construction \$1,095,238

3. Assistance to other sectors

Technical assistance projects in other sectors which are related to the Project are the following:

UN Community development project -1972-1976

Six experts and one U.N. volunteer are assisting MOSA to train personnel and launch community development programs in Bangui, Damara, and rural areas.

The 1975 expenditure:	\$367,830
1974 plus 1975	\$568,730

UNICEF Assistance to MOSA (1975)

Furniture and equipment for community development program in Damara, (\$6,800) and stipends (\$4,000)

United States Damara Rural Development Center 1975

Expansion of Center

The 1975 expenditure \$ 9,000

Caritas International Community Development

Expenses for cooperants, salaries for CAR animatours, and equipment for 47 centers.

UNDP/UNESCO National Institute of Pedagogy. 1974-1976

A multidisciplinary team is developing functional literacy programs and school programs relevant to community life.

The 1975 expenditure: \$ 435,851  
Total project \$1,071,986

UNDP/FAO Agriculture Extension 1973-1976

Establishing agriculture extension service in Bossangoa, Damara, M'baiki and Bangui

The 1975 expenditure: \$ 236,669  
The project \$832,636

Republic of China Rice Culture Project (1/75 - 12/75)

Thirty-two experts in 10 localities including Batangofo

The 1975 expenditure \$1,052,800

UNDP/FAO Applied Research 1974-1978

Research to improve qualitative and quantitative production of nutrients in four localities including Bossangoa.

The 1975 expenditure: 213,550

In addition, significant health activities are carried out by various missionary groups in rural areas.

WHO has stated that they would, upon request from GOCAR train and place in Bossangoa, CAR technicians' electro-medical repairs.

WHO has also stated marked interest in the training and development of traditional health workers to provide primary health care to villages. To this end they will provide a manual, developed in Chad for the training of illiterate/literate village level health workers.

UNICEF has tentatively agreed to provide

1. Funds for the retraining of health workers
2. Material support for projects developed by village health/Development committees (wells, latrine, etc.)
3. Initial stocks of medicine for establishment of pharmacies
4. 20 motorcycles for PCV's and itinerant agents - They will also provide some parts, but no gas/oil/maintenance.
5. Equipment and parts for a satellite garage for Bossangoa. (Personnel will be provided by Peace Corps)
6. Microscopes, slides and other materials to equip health posts and sub centers.

UNICEF generally provides scholarships, and vaccine.

Following the recommendation of the recent WHO Regional Donor Meeting, coordination of donor activities is handled in two separate but complementary ways. The Ministry of Health provides basic co-ordination to assure that donor activities are in accord with the government's priorities in the health sector. At the programming level, the WHO representative under the auspices of the Ministry of Health has established a monthly meeting of all active health donors to assure that specific programs and activities are known by all donors. This meeting provides the opportunity for parallel programming and avoidance of overlapping or duplication of efforts.

### Well Drilling

Villages in Ouham, as well as in other districts bordering on Chad, have long suffered from a lack of water in the dry seasons. A well-drilling program being initiated by AID and Peace Corps will help alleviate this situation in about 50 villages in Ouham. The Ouham project will complement the creation of wells through its health education program directed at the value of uncontaminated, potable, water and through its sanitation program directed at well maintenance and other forms of water source protection.

## Fisheries

FAO maintains a fish station in Bouar which, with the heavy involvement of Peace Corps, will be largely expanded throughout the populated areas of CAR including Ouham. The health education element of the Ouham project will enhance the impact of the availability of new sources of fish protein upon the nutritional status of the people.

## Seed Mutliplication

AID and UNDP are undertaking a joint seed stock production project to help GOCAR efforts to increase food production. In Ouham agricultural extension agents, community development agents and project health educators will work together to maximize the acceptance and utilization of the new seed types.

ANNEX P

GOCAR 3rd Five Year Plan Objectives

- I. Development of Health Services
- II. Policy of Main Transportation Arteries (Policy de Grande Axes)
- III. Training

I. The Development of Health Services

- A. The essential activities of the Bimbo Demo. Zone are to be progressively extended through the country beginning with Ombella-M'Poko

Basse-Koto  
Ouham  
Lobaye.

- B. To include:

- 1) Family Health - Generalization of MCH
  - Polyvalence of personnel at peripheral levels
  - 25% reduction in infant mortality and 25-50% reduction in mortality in the following 3 years of life.
- 2) Nutrition
  - Constant attention to the needs of vulnerable groups
  - Prevention of deficiency diseases through education of the communes, and early identification and treatment.
- 3) Environmental Hygiene
  - Waste disposal
  - Control of various pollutants
  - Fight against vectors
- 4) Transmissible diseases
  - Anti-malaria campaign
  - Parasites
  - Trypanosomiasis
  - Onchocercosis
  - Shistosomiasis, 10% reduction of incidence

## II. Policy of Man Transportation Arteries (Politique des Axes Routiers)

Consists of renovating the construction of certain Urban Centers and improvement of their equipment in such a manner that there be rapid and efficacious handling of traffic accidents.

## III. Training of Qualified Personnel

- A. Medical Training with annual formation of 20 medical students and 6 pharmacy students beginning October 1976.

The first Doctors of Medicine will graduate July 1982 after 6 years training. The first pharmacists will graduate July 1981.

- B. Paramedical Training - Each year the National Institute for Medico Social Training (INEMS) will produce 20 technicians superieurs de Sante (Superior Health Technicians); 40 Infirmiers, diplomes d'Etat (nurses, State diploma); 30 sages-femmes, diplomes d'Etat (midwife, State diploma); 20 Assistants-sociaux, diplomes d'Etat (Social Assistants, State diploma); 10 Assistants d'assainissement, diplomes d'Etat (Sanitation Assistants, State diploma) as well as the training of health aides, birth attendants, and aides d'hygiene.

### Operations in order to attain these objectives:

#### I. Bangui

- a) The second block of work from INEMS will begin in the first year of this 5 year plan
- b) Modernization of the surgical bloc of the National Central Hospital at Bangui
- c) Improvement and joining of 5 existing structures at the National Hospital
- d) Construction of maternities of 20 beds at Boy-Rabe, Labouanga and Ngaraba

- e) Construction of the Faculty of Medicine and Pharmacy of the Jean Bedel Bokassa University for national training of students in line with the realities of the country.
- f) Construction of a 250-bed Community Hospital integrated with the Faculty of Medicine for training and application during the first year of study
- g) National Public Health Laboratory
- h) State Clinic of 200 beds --

II. In the Interim -

- a) Progressive extension of the activities exercised in Bimbo and carried over 4 years. To attain this objective a series of operations of construction and renovation are necessary in view of the inventory of existing facilities in order to insure that the needs of the population be met satisfactorily by this adapted cadre;

1st year - concerns Cumbella-M'Poko (for purposes of this report the list of projected modernization of Health Centers, Sub-centers and posts will be deleted).

2nd year - Basse-Koto - as above but include new construction

3rd year - Ouham

- Revision of water and electricity for Health Center at Bouar-Bokangala
- Construction of a Technical Hospital Maternity Block at Markounda
- Modernization of 6 sub-centers
- Construction of 19 Health Posts

Plan of Development of Basic Rural Health Objectives:

1. Inventory of the national health infrastructure
2. Integrate the 5 year plan with the global national plan

3. Organize a demonstration zone at Bimbo.
4. Reinforce structure and development of activities in different sectors of Public Health, in particular those concerning Rural Health Services.
5. Promotion of coordination of activities of curative and preventive services.
6. Transformation of the 5 existing sectors of the Grandes Endemies into integrated zones of activity utilizing methods from the Bimbo demonstration zone.
7. Promotion and elaboration of a program of training of nursing personnel with emphasis on activities in rural milieu.
8. Retraining of auxillary health aides.
9. Coordination of medico-social activities in the training of sanitation workers.
10. Promotion and development of activities in Maternal and Child Health.
11. Elaboration of a program of Environmental Health in suburban and rural zones in order to provide inhabitants with minimal hygiene facilities which are indispensable to all further action in the area of public health.

This program is to be a work of open collaboration with the various organizations and state bodies for technical assistance and will call upon the voluntary and effective participation of the concerned population.

ANNEX Q

Request for interim quarter funding

Interim quarter funding is requested so that both technicians may establish their posts before Peace Corps Volunteers arrive. The technicians will assist in final program design for the PCV's, including site selection and refinement of job descriptions. They may also assist in the training program.

Peace Corps training for this group will occur largely in Cameroon in conjunction with a health education program there. Health education training is not possible in CAR because there are no health educators available. The Cameroon training has already been scheduled for February to April, so the most effective training at the 8 CAR PCV's could be carried out at that time.

In order to ensure essential coordination between Peace Corps and AID inputs, we recommend that this project be approved for interim quarter funding.

## ANNEX R

### Waiver for Vehicle Purchase

We recommend that AID/Washington waive U.S. procurement requirements for four-wheel drive vehicles. The reasons are as follows:

1. Need for early delivery: At least two of the vehicles, and preferably all four, must be available immediately when the AID technicians arrive. There are presently fewer than 100 vehicles in use in the entire prefecture of Ouham, and none of these is available for even temporary use by AID. Rental vehicles cost \$ 35-40 per day, plus mileage charges, and they are inadequately maintained for use outside Bangui. U.S. made vehicles would have to be transhipped twice in route to Bangui and would not arrive for at least 12 - 18 months after order.

2. Lack of Support Facilities: It appears that 500 to 1000 miles of impenetrable bush and jungle separate Bangui from the nearest American dealership. Very few American vehicles are either sold or used in the CAR at the present time, so neither spare parts nor knowledgeable mechanics are available. Peace Corps mechanics for the two garages will not be trained to service American vehicles because no one here uses them

The vehicles we propose be bought are Toyota Land Cruisers. The only four-wheel drive dealership in CAR is the Bangui/Toyota dealer, and vehicles may be purchased there with very little time delay. Spare parts and mechanical expertise are readily available (though not extensive service facilities). GOCAR plans to buy primarily Toyotas in the future because of their good maintenance record. The Peace Corps has already purchased six and ordered three more as they have been very pleased with their service record. The Peace Corps wells program in Ouham will use Toyotas, and the two garage mechanics will be trained for this make vehicle.

At the present time, the American Embassy in Bangui owns one Chrysler, one Toyota, two Peugeotts and one International Harvester. Maintenance of the two American vehicles has required periodic air supply of parts and visits by American mechanics. Even faster repair will be essential for the project vehicles because the technicians will not be able to borrow or lease cars for use outside Bangui. In brief, GOCAR and most international agencies are standarizing procurement to facilitate maintenance and reduce costs, and Toyota has been the preferred choice.