

EVALUATION OF
RURAL HEALTH DELIVERY SERVICES
PROJECT II/CHILD SURVIVAL
(685-0242)

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ACRONYMS AND ABBREVIATIONS

AID	Agency for International Development
ASC	Agent Sanitaire Communautaire, CHW
BNI	Budget National d'Investissement
CDC	Center for Disease Control/Atlanta
CFA	African francs, rate May 1, 1991 (289 = \$1.00 U.S.)
CESAG	Centre d'Etudes Superieures d'Administration et de Gestion
CESSI	Centre d'Etudes Superieures en Soins Infirmiers Nursing School
CHW	Community Health Worker, ASC
CM	Circonscription Medicale (Medical District)
CR	Communaute Rurale, Rural Community
CS	Child Survival Health Center (Centre de Sante)
DAGE	Direction de l'Administration Generale
DAS	Direction de l'Action Sociale
DRPF	Direction de Recherche, Planification et Formation (Research, Planning and Training)
DSP	Division de Sante Publique
EPI	Expanded Program of Immunization (PEV)
EPS	Education pour la Sante, Health Education
GOS	Government of Senegal
HIS	Health Information System
HPN	Health Post Nurse
HPNO	Health, Population and Nutrition Office
IEC	Information, Education and Communications
IHD	Institute of Health and Development (ISED)
ISED	Institut de Sante et de Developpement, M'Bour, de l'Universite Cheikh Anta Diop a Dakar,
ISTI	International Science and Technology Institute
KAP	Knowledge, Attitudes and Practices
MOHSA	Ministry of Health and Social Action
MPH	Master of Public Health
NGO	Non-governmental organization
ONG	Organisation non-gouvernementale

OMS	Organisation Mondiale de Sante, WHO
OR	Operational Research
ORS	Oral Rehydration Salts
ORT	Oral Rehydration Therapy (RVO)
PDDS	Plan Departemental de Developpement Sanitaire Departmental Plan of Health Development
PEV	Programme Elargi de Vaccination (EPI)
PHC	Primary Health Care
PNA	Pharmacie Nationale d'Approvisionnement
PPNS	Programme de Protection Nutritionnelle et Sanitaire
PRA	Pharmacie Regionale d'Approvisionnement
PRDS	Plan Regional de Developpement Sanitaire, Regional Plan of Health Development
PRICOR	Primary Health Care Organization Research Project
PRITECH	Primary Health Care Technologies
REDS	Rural Health Delivery Services
RM	Region Medicale
RVO	Rehydratation par Voie Orale (ORT)
SANAS	Service d'Alimentation et de Nutritionnelle au Senegal
SGE	Service des Grandes Endemies
SIS	Systeme d'Information Sanitaire
SOW	Scope of Work
TA	Technical Assistance
TBA	Traditional Birth Attendant
TOT	Trainer of Trainers
UNDP	United Nations Development Project
UNFPA	United Nations Family Planning Agency
USAID	United States Agency for International Development
WHO	World Health Organization

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EXECUTIVE SUMMARY

A. Background

The Rural Health Delivery Services II/Child Survival (RHDS II/CS) Project was signed in April 1984 for a five-year period and for the amount of \$8.0 million. Subsequent amendments and extension brought the total budget to \$12.1 million and the project completion date to September 30, 1991. Under consideration is a further extension of RHDS II to September 1992.

This report constitutes the final evaluation of RHDS II/CS, from April 1984 to the present. It gives special emphasis to the period following the mid-term evaluation in 1986.

The Project being evaluated, RHDS II/CS, is a follow-on or second phase of an earlier rural health project (the first phase, or RHDS I) funded by USAID/Senegal. The first RHDS Project was a \$3.3 million grant which was initially proposed for five years beginning in August 1977 but was then extended to 31 December 1983. The intent of RHDS I was to improve the health of rural Senegalese and to establish a prototype health care delivery system appropriate to the social and economic environment. By 1982, it was recognized that five years was an insufficient period of time in which to demonstrate a self-sustaining, self-financing village-level primary health care (PHC) system; thus a second phase was proposed and agreed upon.

RHDS II was to provide access to rural health care for more than 50 percent of the population in the ex-Region of Sine Saloum (now the Regions of Fatick and Kaolack), or 700,000 people living in six departments. The PHC system was to build on the basic rural health care structure provided in RHDS I, and was to have as one of its primary objectives the introduction of preventive health measures including immunizations, malaria and tuberculosis control, oral rehydration therapy (ORT) and growth monitoring (GM). The second objective was to integrate the interventions and assure their affordability in the context of Senegal's resources. The Project's purpose continued to be that of increasing agricultural productivity by reducing days lost due to illness. In August 1989, RHDS II was extended for an additional two years (to 30 September 1991). This extension gave primary emphasis to continued integration of the Project within the national public health care network, to promoting systemic management improvements, decentralization and implementation of technical components in four selected regions.

During the first two years of RHDS II/CS, from 1984 to 1986, technical interventions were to be introduced into 16 health posts and 32 village health huts. By mid-term evaluation in 1986, the interventions were found to have been sufficiently tested for earliest extension to all of the departments in the two Regions. Further, the 1986 evaluation urged more rapid integration of the Project into the health system, especially the parallel Project systems of supervision, information and pharmaceutical supply. The 1986 evaluators

recognized that sustainability was a problem, noting that the recurrent Project costs up to that time were too high to be assumed by the host country.

B. Team Composition and Methodology

The 1991 final evaluation team was comprised of two key Health Ministry officials: the Director of PHC, Associate at the School of Public Health at Dakar University, and ex-Medecin-Chef of Fatick Region; and the Head of the Statistics Service and a prime designer of the Health Information System (HIS). Three American consultants included a team leader with extensive maternal child health (MCH) design and evaluation experience in Africa, a medical epidemiologist with knowledge of Senegalese and other Third World health problems and management information systems, and a health economist with a strong background in health financing systems in Africa.

The team leader arrived in Senegal a few days early to work with the Ministry of Health and Social Affairs (MOHSA) team members and USAID in the development of a methodology and work plan for carrying out the evaluation. The methods agreed upon for obtaining information included: an extensive review and synthesis of the numerous documents written about the Project; field interviews at all levels of the health system but with special focus on the peripheral health post and village hut staff and the village beneficiaries, committee members, tribal chiefs, religious leaders (marabouts), health and women's committees.

The Scope of Work (SOW) and USAID evaluation objectives did not prescribe a random sampling of health huts, but rather an informal survey to learn what had worked and not worked under the Project, and the extent of beneficiary interest in the Primary Health Care (PHC). Nevertheless, the team during 11 field days visited eight of the nine departments in the two Project Regions. They visited 12 health posts and two huts under each health post's jurisdiction, relying on the health post nurses to select for team visiting, according to their own criteria, "a good hut and a bad one". The team had recruited and trained facilitators to carry out focus groups among villagers with open-ended, then probing, questioning on perceived health and other benefits from the PHC health hut system. A third means of gathering data was through observation based on checklists noting the condition of health structures, available equipment, use of the information system, and effect of training on job performance, etc.

In Dakar, the team interviewed relevant international health community officials. Insights were also gained from the participation of Health Ministry and related services staff in the debriefing sessions. American and Senegalese team members worked closely throughout the field work and final work sessions in which findings and recommendations were written. The team leader at all times gave priority to the collaborative process, which all members accepted and worked to make successful.

C. RHDS II: Findings, Conclusions and Recommendations

1. Project design: achievement of purpose

The general purpose of the Project is to reduce days lost to illness, particularly malaria, among the work force, and to increase agricultural productivity--proved difficult to measure. Constraints were not included as part of the design so that even if macroeconomic data were to show increased production in the Project area, attributing these results to the Project would be problematic.

Achievement of the purpose of the RHDS II/CS cannot be verified scientifically. However, during the field work in April 1991, it was the perception of all actors and beneficiaries seen, that the Project's purpose had been attained, due not only to decreased family illness but also due to reduced travel time and costs, and availability of lower-cost drug supply at the village level.

2. Project design: extension covenant

Seriously affecting the timeliness of Project achievements was a covenant in the Project Extension requiring that the Regions prepare health planning and development documents (PRDSs), which was interpreted strictly to mean that no activities should occur until the PRDSs were received and deemed acceptable by a review team. Thus, other decentralization advances and unrelated systemic improvements foreseen in the Project, such as moving forward with steps to establish a health information system, have not been completed. Project implementation is at least a full year behind schedule.

It was recommended that RHDS II/CS be extended through September 30, 1992 to permit the completion of the health system improvements envisaged by the Project. These activities can occur simultaneously with the development of a new USAID health project to integrate the primary health care components with family planning. The extension would also permit time for the management training and pilot efforts/operations research expected to give Project sustainability a better mooring.

3. Sustainability: particularly supervision

Principal flaws were in sustainability assumptions with respect to the time and economic setting needed for achieving sustainability and for ensuring or transferring responsibility for recurrent cost obligations from the Project to the host country. Possibilities for sustainability were greatly undermined by the difficult economic period which the Project spanned.

Institutionalization of a sustainable supervision system down to the village level has not been achieved. Communautés rurales (CRs) have not picked up the costs of replacement of mobyettes for nurse supervisors, nor are many committees paying for mobyette repairs and maintenance. In Kaoiack, local government organizations were spending about five

percent on health care, only slightly more than was spent on sport and youth center equipment. The problem seems to be one of legal/regulatory constraints and unwillingness to pay rather than lack of resources.

Factors which favorably influence sustainability include Government policies regarding cost-sharing and decentralization, as well as population willingness and ability to manage and finance village-based care. Central problems include lack of skills in managing resources, and poorly allocated resources. Additional training should be provided to nurses and health committees regarding budgeting and disbursement of user-fee revenues, to increase spending on supervision-related costs. It is recommended that necessary training in resource management be carried out (through the Kaolack Training Center) and be made a priority in the remaining Project time.

It is recommended that the Project Management Unit (UGP), in collaboration with staff from the Ministry of the Interior, disseminate recently promulgated laws regarding the budget allocation process of CRs (which allow them greater flexibility to finance health care costs). The UGP and MOHSA should also begin educating senior Regional medical officials on how to lobby effectively for increased local government spending on health care. If needed and appropriate, A.I.D. legal assistance should be sought.

4. Health hut functioning and community participation

The evaluation team found that more health huts were functioning than was thought by officials at post, department and regional levels. The team based this finding on criteria of functioning which they thought to be more indicative of actual village health delivery--huts providing basic curative and preventive health care--than the criteria set forth in the RHDS Project plan, which were: hut in place, community health workers (CHWs) providing services, drugs in stock, and a positive cash balance. Of 24 health huts visited during the field work, most were functioning according to the definition adopted by the team. The technical components in place are examined in the next section.

The team concluded that, in the economic and social context of Senegal, the health hut system as implemented in Kaolack and Fatick Regions, is an appropriate strategy for providing basic primary and curative health care, and should be supported and expanded nationwide. This conclusion was based on village observations and focus group discussions. It was evident that the spirit of village-based PHC continues to this day in the beneficiary attitudes of self-reliance. It might even be true that the minimal support of the Project to the huts, in later Project years, provided the necessary impetus for self-initiated action on the part of communities and staff. The team saw many examples where health committees and health personnel had gone beyond what was foreseen by the Project and had developed creative solutions for organizing themselves and meeting their needs. The team did not visit other Regions where health huts are also functioning and, therefore, cannot make judgment about implementation of the national strategy to promote such a network nationwide. Anecdotal information is that the Project, especially in the 1984-1986 period of rapid build up of health hut demand and construction within the Project Regions of Fatick and Kaolack, also

intensified interest in PHC in the other regions. However, about 50 percent of all health huts built during the period were in Fatick and Kaclak Regions.

5. Technical interventions

More than 75 percent of huts visited were organizing mobile vaccination sessions, seasonal malaria prophylaxis campaigns, and were teaching mothers to use ORT. Fifty percent of huts were performing growth monitoring, although this seems to be the weakest element of the child survival package (explained in part by its slow start-up). The team noted that the different activities were mutually reinforcing: for example, CHWs often charged for GM (performed year-round) to amass funds for the purchase of chloroquine (needed during the season when families had less funds available). Vaccination receipts at the health post level were used to support costs for supervision of CHWs in all activities. Having several interventions seems to give health personnel flexibility in combining services and pricing, thus providing a needed cross-subsidy to support those services less in demand. CHWs and villagers queried noted that the incidence of malaria and other vaccine-preventable diseases had plummeted dramatically. It can be speculated but not verified that the stronger health hut system will assure continuity in vaccination and preventive health care in the absence of special national campaigns whereas dropoff is more likely where PHC is lacking.

The requests for family planning noted in some villages led the team to suggest that family planning be integrated with the other technical components since it too has the objective of improved MCH and that family planning be provided in the rural areas as well. Inasmuch as the team considers the support of a limited number of child survival interventions to be less effective in terms of both health impact and management than an integrated delivery, it recommends that USAID include all of the related technical interventions in regions where it supports PRDs. Combining several interventions at the health post and hut levels has proved to be an effective way to deliver services to rural populations and as a promising means toward financial sustainability.

6. Decentralization

Despite delays in hiring a health planner, the still inadequate numbers of trained public health cadres, and difficulties in getting the regional and district health development plans written, the process has moved inexorably forward with increasing evidence of regional and department capability for health planning. The team observed in its field visits an emphasis on health targets and achievements, ascertaining vulnerable population coverage, available resources for health needs at the department and regional levels, and on preventive health and dedication to outreach programs by health post nurses. Some team members, in comparing the two Project Regions with other regions visited two years ago, observed that the health post nurses were far more oriented to preventive health care, to attaining wider coverage and better equipped to manage resources and find creative solutions. Scarcity of funds makes planning all the more essential but is also a psychological impediment to would-be health planners and activity initiators.

It is recommended that the Government of Senegal (GOS), USAID and other donors continue to support decentralized planning and extend the model into all regions of the country to accelerate achievement of the social objective of "health for all". USAID should provide all the necessary support to further the educational process in health planning through reviews of health plans such as those that were held in M'bour in May 1991. USAID should also hire its health planner as soon as possible and carefully decide with the GOS the most effective base of operations, making sure that direct channels to the Project Regions are clearly specified.

At the national level, the MOHSA needs to clarify lines of authority that have become increasingly diffused as parallel offices and new staff are added without assuring that the persons responsible for undertaking activities also control the resources, and vice versa. This makes it nearly impossible to monitor efficiency and effectiveness in use of resources on an ongoing basis, a basic management task. If corrections are not made, management structures of the MOHSA may create serious difficulties for the Regions as more responsibilities are decentralized. USAID could sponsor operations research to try out a better organizational plan, task definitions, and linkages to the Regions. Technical Assistance (TA) could advance the process being conceived at the time of the Evaluation to interview personnel, write/rewrite task descriptions in preparation for final transfer of authority to the field.

7. Information system

Much more work must take place before Senegal's Health Information System (HIS) provides manageable, relevant and accurate data, standardized reports and analyses of epidemiological and management information. Also lacking is an effective feedback system. The Project's objectives in this regard were not met. The Project provided TA from an epidemiologist whose role was to work with central level personnel to develop a more useful HIS. The team was unable to ascertain any concrete contributions provided by this specialist. While progress has been made in developing consolidated data reporting forms, the practice in use of multiple forms for the different donors reporting requirements. A training seminar for health post nurses was planned as the next step in moving forward with the HIS, but approval has been withheld pending receipt of acceptable PRDSs. It is recommended that the development workshops planned to reach consensus on national HIS design (indicators, standardized reports, instruction manuals and guides) not be further delayed. Since the purpose of the workshops is of national scale, implementation of these efforts should not be linked to completion of the regional planning process.

The workshop should also address recommendations for computerizing the system. The assistance of an epidemiological HIS expert would be useful in setting up the workshop and carrying out its recommendations. To ensure an effective and responsive system, the team recommends that the Statistics Office have regular counsel from field decision-makers and from data users (doctors, service heads) so that appropriate analyses are made. The team further recommends development of a sentinel site system to follow health indicators in a selected number of zones to evaluate the impact of prevention and child survival activities. Finally, it is recommended that health post nurses and other health agents be trained in the analysis and use of data, as well as in its collection.

8. Operations research

The Operations Research (OR) component, intended to improve program delivery and outcomes, never served the Project, but got mired in overly stringent criteria, alleged self-interested scientists, and an apparent lack of understanding and Project staff guidance about the purpose of OR.

Noting the multitude of problem-solving opportunities for OR, the team recommends that USAID and UGP decide on a strategy for the remaining Project life, using TA to advance the use of this resource. It is suggested that the two offices take the lead in proposing new criteria and procedures for using OR and in suggesting specific priority areas in which OR could serve the Project. In addition to modifying the current practice of inviting proposals which depend on researchers' areas of interest, the recommendation is to change the emphasis from research to operations, in the direction of simplicity and practicality. For example, it is suggested that OR could be used to carry out a feasibility study for running a pilot-test in a new project area to try out an alternative method of implementing the principles of cost recovery through user fees (the Bamako Initiative). At least two problem-solving activities should be completed before the end of the Project with the objective of demonstrating the appropriate use of OR as well as the problem-solving itself.

9. Pharmaceutical supply system

The start-up supply of capital provided to the Regions is still intact, and the Regional Pharmacy and Depot in Kaolack continue to function. Contrary to the objectives of the Project, these two systems have not been integrated. In addition, only four out of nine department depots now function, and most community depots are moribund. The drug distribution system is hampered by non-existent supervision and a lack of resources to support transportation costs.

The team recommends that the MOHSA re-establish the supervised depot system that was in place at the Project's beginning and that the stock management system with stockcards and accounting registers be reinstated. It is also recommended that the depot system be revitalized under the direction of the Regional Medical team, until the two pharmaceutical supply systems can be integrated. Such integration is expected to have a better chance than when first proposed in 1983 in light of current possibilities for receiving Swiss medicines and

essential medicines from The World Bank as "initial stocks" for the health centers and posts, just as USAID stocked the health huts at the outset. To reactivate the Regional Pharmacy, the team recommends an operational budget and access to a vehicle. UGP and the Director of PHC in the MOHSA should brief the Regional Medical Chief (RMC) about his responsibilities vis-a-vis the Regional Depot. The team recommends that USAID provide a technical assistant experienced in pharmacy management and pharmaceutical cost recovery programs to assist in a thorough analysis of the current status of the depot system. It is further recommended that the Project undertake OR to test the feasibility of a full drug cost recovery system, following the principles of the Bamako Initiative.

10. Training

a) Training of health-staff in the region

Training in the Project area was initially quite successful, but slowed early in the Project. During the team visit, many health post nurses expressed the need for refresher training and newly-assigned nurses had no training at all. In the instance of new health hut workers, the nurses, often but not always, took responsibility for their training. In April 1991, the evaluation team was unable to assemble records of training sessions, attendees, and curricula. In evidence were unused and dusty rooms, non-functioning and neglected toilets and kitchen, and unofficial boarders. The team also found that the current Center's budget of 10 million CFA for basic operating costs is excessive, given the lack of services offered, and the poor quality of maintenance and management.

The Kaolack Training Center (KTC), intended to meet training needs of the two Project regions, began to lose momentum early in the Project with the poorly-managed departure for overseas training (without replacement) of a very dynamic center trainer/community motivator. Other activities did not come to full realization, particularly with respect to the audiovisual laboratory, which was conceived with more ambitious goals to serve other African countries. In retrospect, it appears that the KTC, built and opened in 1985 to specifications of the Project Office in Kaolack, which disbanded in 1987, never assumed its own identity. Training needs had been generated by the Kaolack Project Office. Direction during the subsequent period, instead of being decentralized to the medical regions, was placed in the UGP in Dakar. The medical regions, still in the process of writing plans with training components, failed to assume ownership of the facility. Thus, while USAID continued to provide inputs for per diem (through 1989), training activities were continued, but at a progressively declining rate.

In 1985, year of optimum utilization, the center staff provided 108 training days, by 1987, the number was 63, in 1988, 51 and 1989, 20. The training activities came to a complete halt when USAID inputs terminated in 1989, despite the fully furnished and equipped facility with dormitories, sophisticated audiovisual equipment and classrooms. Inactivity is due principally to lack of clear direction and re-centralizing the center in the UGP, rather than in the intended direction of decentralization. Inactivity is also due to the void in regional leadership and lack of self-starting on the part of the center staff. It is

recommended that the training center be placed under the Regional Medical Office and, while awaiting specific regional plans for training, that available resources be used for carrying out needed refresher training and orientation for new health post and hut staff.

It was expected that the center should become autonomous and thereby self-sustaining. However, though a study was commissioned in 1990 to recommend a course of action to assure the optimal marketability of Center assets, no action has been taken. The 1986 recommendation remains outstanding: "establish a legal statute for the Center--and-- make its services available to other agencies and administrations at a charge that would help finance operations." It is recommended that the UGP and the Medical Region collaborate on a plan for resolving the legal problems obstructing autonomy and that A.I.D. legal assistance be obtained if necessary.

b) Short- and long-term training

Despite considerable short-term and long term training in public health, few have returned to work in the Project area. Only two of the 13 long-term trainees are currently working in the regions. However, four occupy posts in the MOHSA, two with a direct effect on the Project; they are the PHC Director and the Technical Adviser for MCH. Between 1984 and 1990, some one hundred short-term technical training programs were provided to doctors, nurses, midwives and others. Only 19 currently work in the Project zones of Fatick and Raolack. Another 11 work in the Ministry of Health, six in the MOH Cabinet (six of the nine). Overall, potential impact is greater at the central level than in the Project areas.

Much of the training, especially the long-term, came too late in the Project to have a direct impact on its implementation. This was due to delayed contract signing with the Harvard Institute of International Development (HIID), the US training backstop. Only praise was heard for the latter's role in the training program. During the field visit, many health staff queried expressed the opinion that the Project training was the most important component because of its innate continuity. Others thought that key Project staff were absent at crucial moments. While training returns were diluted for Project zones, as noted above, there appeared to be a difference in orientation with respect to public health and preventive medicine from that observed in other regions of Senegal two years earlier.

c) Preparation of public health cadres

A national health manpower training plan is still incomplete. The Ministry of Health professes to be unclear about what USAID requirements for an acceptable plan. USAID states it has expressed its needs in writing and considers the matter bogged down. Nevertheless, USAID and the UGP have gone forward with a program for training physicians in collaboration with the Public Health Institute (PHI), Tulane and Morehouse Universities. The program can potentially train 15 doctors a year, has already graduated a class of seven from the two-year, in-country, environment-adapted program of applied public health training equivalent to the U.S. Masters in Public Health (MPH) course.

It is recommended that USAID reopen discussions on the national training plan, proposing TA for helping to elaborate global health manpower objectives, rationale and priorities within time frames, specific training requirements by area of expertise and current and planned function of trainees, including public health cadres below the physician level. The MOHSA and USAID should discuss the TA needed and proceed with recruitment. It is suggested that, subject to the recommendations of an evaluation of the PHI program in progress at this time, that the PHI program is a desirable solution to many of the long-term training problems encountered--Project disruption, vacated posts, extended absences from the country, unrecognized foreign health degrees.

11. Management

There have been serious problems in providing effective TA. The alleged inadequacies of the management specialists and epidemiologists recruited by the Project contractor (HIID) were difficult to assess fairly given the lack of documented achievements. A major current TA problem is the long delayed hiring of a health planner, crucial to the Project's implementation of decentralization steps which might have helped other activities to proceed in a more timely manner. There is reticence on the part of the Senegalese partners to take on TA and lack of appreciation for the potential value of this resource. TA is expensive and its use has posed problems to both USAID and the MOHSA.

It is recommended that an organizational management assessment be considered to determine the future role of technical assistance. Such an assessment should determine expectations for TA, study past expectations and performance, differences between the two and the reasons for them, provide open discussions with respect to qualifications, salaries and benefits of TA, agreement on future objectives for how recruitment should be carried out with a participatory role for both USAID and the Health Ministry.

Other management problems identified by the team included: (1) lack of continuity in leadership within USAID, the GOS and the MOHSA, and the Project itself; (2) lack of an appropriate management control structure within the MOHSA discussed above (see decentralization); and (3) cumbersome USAID procedures.

With respect to leadership, little is suggested by way of correcting the lack of continuity in leadership (both within MOHSA and USAID), except to be realistic about its potential effect on project implementation as a new project is being designed. Earlier it was suggested that MOHSA is unable to make and assess optimal use of resources whether for central programs or for eventual decentralized programs. Financial control of use of the National Investment Budget (BNI) has been seriously inadequate. External help is needed immediately to put in place basic bookkeeping tools and procedures to ensure appropriate use of funds. Finally, USAID procedures often appear unnecessarily cumbersome and at times incomprehensible to Senegalese partners, causing delays, frustration, and sometimes ill will. Many of the USAID requirements need to be demystified for the Senegalese working on the Project, and might be accomplished through some workshops jointly sponsored by the Health, Population and Nutrition Office (HPNO) and the Program/Controller Offices.

12. Evaluation constraints

It is recommended that the Mission consider an initial desk review phase in future evaluations during which all important documents that should be read or analyzed are furnished to the evaluators prior to arrival in the country. This would be cheaper and allow team members to be better prepared upon arrival. The team could then proceed to do field work, undertaking interviews and writing a draft report in a shorter amount of in-country time.

I. INTRODUCTION

A. Chronology of Project and PHC Components

1. Pre-project

Primary Health Care (PHC) activities in Senegal were probably begun by UNICEF who conceived an "Enfance, Jeunesse, Femmes" Project of village pharmacies and rural maternities as early as 1960 and piloted it Thies in 1972. The 1969 Senegal Administrative Reform had called for the decentralization of power and the enhancement of community mobilization and self-reliance. The Reform established the concept of using tax money for local projects through the Communautés Rurales (CRs). The CRs gave priority to supporting local health centers and prevailed against protests that health was not an appropriate investment. They were supported by the then Minister of Health who made repeated statement that "any action to better human resources is a worthy investment".

According to LoFaye, long-time RHDS Project Manager and most intimate historian, the Reform arrived in Sine Saloum in 1974 and by 1977, the Region had surpassed Thies in health development activities, with the construction of 74 rural maternities and 62 village pharmacies. UNICEF provided well pumps, electrical equipment and training. Alma Ata conferees in 1978 defined and rationalized the PHC concepts. Awareness of the importance of health to attaining national goals became prominent in development circles, and the Senegalese delegation to Alma Ata brought home a message that helped to catalyze support for new directions, concepts and inspirations. Thus in Sine Saloum, donors started PHC schemes in the late 1970s. The Dutch and Canadians supported projects in Fatick and Gossas Departments that would, in varying degrees, become incorporated into the USAID rural health project funded in 1977. The Belgians launched an urban PHC project in the Dakar suburb of Pikine. French volunteers (AFVP) began another project in Tambacounda. An Italian non-governmental organization (NGO) established PHC programs in Ziguinchor and Bignona. Entr'aide Internationale Medicale began work in the Department of Oussouye.

With the launching of these programs throughout the country and the new Senegalese vision of how health needs could be met, the Government adopted a PHC strategy as the base of its health policy. The major initiators of the RHDS Project in the field themselves were among the Senegalese representatives to the Alma Ata Conference in Kazakstan in 1978 which espoused the objective of "Health for All by the Year 2000".

2. Phase One, or RHDS I, 1977-1984.

The first phase, or RHDS I, ran from Project signature in August 1977 for a period of four years, with a budget of \$3.3 million. In April 1980, following an impact evaluation of the Project, which signalled problems to be corrected and delays in fund disbursement, the Government of Senegal (GOS) and USAID agreed to restructure the Project, reprogram the undisbursed funds (\$1.6 million) and extend the Project to 1982. Two

years after restructuring of the Project, a very favorable final evaluation was made in 1982 which with the 1980 evaluation assessed achievements. During this period, the Project constructed 375 health huts in the project area which initially comprised the Departments of Niore, Kaolack, Gossas, and Poudiougne and staffed them with three community health agents: a matrone or traditional birth attendant (TBA); a secouriste or first aid worker to treat infections and lesions and provide presumptive chloroquine treatment; and a sanitation worker to oversee hygiene, sanitation and promotional clean-up activities in the villages, supported in each village by an animatrice (social motivator). These community health workers (CHWs) were supervised by 49 health posts run by a State-paid certified nurse or health agent. In the 115 rural maternities, 2-3 matrones in each village had been trained by the health post nurse (HPN). Training in the first phase alone was given to: 100 Ministry of Health agents in primary health care, 756 CHWs and 378 Health Committee members. These achievements were noted in the project evaluations of 1980 and 1982. At this time, a supervision component was added. By 1982, 63 percent of the HPNs in the Project area went twice a month to each of the health huts to supervise the CHWs. As a result, 90 percent of the villagers were using the huts for preventive and curative services. The money raised by the population in 1980-81 alone came to 27,3 million CFA or more than one quarter of the total amount paid in by beneficiaries for health in the whole country. The CRs in Sine Saloum had between 1981 and 83 provided 245.3 million CFA of their budget to the renovation, repair, construction and equipping of health posts and rural maternities. Compared with the rest of the country where PHC was also being initiated, 50 percent of health huts built were in Sine Saloum, 36 percent of the 115 rural maternities and 67 percent of the 73 health posts that were built were in the Sine Saloum Region. 48 percent of the 782 health committees formed were in Sine Saloum. Nationwide activities were thought to be strongly inspired by the RHDS Project in Sine Saloum. In the country, 38 department level health associations were created, 40 hospital groups were launched, and 400 community health associations were created.

3. Phase II, or RHDS II, 1984-1989

The above outstanding results led to the decision to undertake a second Project phase. It is part of the present evaluation, Rural Health Project Phase II/CS, 685-0242. RHDS II/CS was signed in January 1984 for a five year period ending in 1989, and provided a total of \$10.1 million. Building on the early primary health care components, this phase was to extend the RHDS Project components to Fatick and Kaffrine Departments. It was envisaged that the basic health needs of rural populations would be met through a self-financing system, managed by village committees. With the objective of reducing morbidity and mortality, child survival components were added, namely vaccinations, malaria prevention, diarrheal disease management and, to a lesser degree, growth monitoring. An evaluation in 1986 resulted in several modifications in the Project, the most important of which was to speed integration by breaking up the Project Office. The evaluation also recommended intensified training. The Project Office responded by establishing a training center in Kaolack for Project staff in the area and with a plan for short- and long-term training out of the country in public health areas.

This 1991 evaluation is thus assessing the 1984-89 segment of the Project two years after the direct inputs have ended.

4. Extension of Phase II, 1989-1991

In July 1989, the second Phase was extended by Amendment No.3 to September 1991, (and will further be extended to September, 1992). Amendment No.3 reprogrammed the unexpended balance of \$3.733 million and added \$2.0 million for child survival. The extension was intended to add child survival components in four selected regions, and to focus on continued integration and decentralization, systemic improvements in the overall health system and the institutionalization of public health training. This 1991 evaluation also covers the extension period.

B. Terms of Reference and Methods

1. Terms of reference

The USAID Scope of Work (SOW) and the MOHSA letter responding to the proposed SOW are shown in Annex 1. The terms of reference were agreed in two meetings held between USAID/Senegal and the MOHSA during the last week of March 1991. During a week of discussions between the Senegalese team members and the team leader, methods for carrying out the evaluation were drafted. Essentially, the effort was not to be an impact evaluation attempting to compile data on mortality and morbidity, but rather a process assessment of perceived Project effects in the target Regions. The evaluation team was to assess the extent to which the 1986 mid-term evaluation recommendations were carried out and the progress made in meeting objectives outlined in the Project extension (1989 to present). A central focus was to determine perceptions of gains and failures of the Project on the part of those who implemented or worked in the Project and especially on the part of the beneficiaries in the villages.

2. Methods

a. Approach

It was agreed that findings would be based upon: a review and analysis of documents (a list is shown in Annex 2-1); interviews with principal actors at the national, regional, departmental or district, health post and health hut levels; observation checklists of infrastructure, equipment, pharmaceutical supply network, reporting system, application of training and performance at all levels; and village level focus groups. Following preliminary briefings with Project staff, USAID and Ministry of Health officials and review of documents, the team prepared for and carried out 11 days of field work between April 2 and 14, 1991. The question guides were tested earlier at Keur Soce Health Post and Mbouma Health Hut in Kaolack Department, and modifications made; the guides are shown in Annex 3-1. Prior to, and subsequent to, field interviewing, the team consulted relevant members of the Dakar health community. They then met as a team to achieve a consensus on findings, conclusions

and recommendations. The latter were presented in an oral debriefing on April 29, to which were invited officials of the Ministry of Health, including SANAS, the Director of Training, the Kaolack Training Center Director, the Medical Chiefs of Fatick and Kaolack, as well as the USAID Project Office. Copies of the preliminary conclusions and recommendations in French were made available. In the afternoon, a debriefing was given in English. The draft evaluation report in English was left with the Project Manager for review on May 3. It was specified in the SOW that following the receipt of comments from USAID/Dakar through the contractor Devres, Inc., the team leader would prepare the final English version of the report no later than four weeks after receipt of the USAID comments. A list of persons consulted during the evaluation is provided as Annex 2-3.

b. Field work

A formally structured randomized sample survey was neither desirable nor possible within the time frame. The team, rather, worked with medical staff members in the two Regions to select health posts located in as many of the Project departments as possible in the allotted time. The team was able to visit eight of the nine Departments in Fatick and Kaolack: Kaffrine, Nioro and Kaolack Departments in the Kaolack Region; and Fatick, Foundiougne, Sokone, Guinguineo and Gossas Departments in the Fatick Region. The team asked the Region staffs to select health posts in the Departments considered by them to be either the most or the least effective. In turn, the team asked the health post nurses to select two health huts for visiting, one which HPNs considered to be a well functioning hut and the second a failed or lesser functioning hut. A list of the 13 health posts and 24 health huts visited in the two Regions is shown in Annex 6-2 and Annex 6-3.

In each Region, extensive interviews were held with the Chief Medical Officer (or in his absence which was the case in Fatick, the PHC Supervisor) and as many Regional medical staff as possible. The team also interviewed Department *medecin-chefs* and health center staff to the extent possible. Prime emphasis was placed on interviews with the health post nurses, the community health workers, and the villagers. The latter included the PHC "users", committee members of management, mothers and health groups, as well as tribal chiefs and religious leaders. To carry out the village work, the team had trained selected members of the Regional health staff to serve as facilitators for village focus groups. With the facilitators' participation, the team developed a question guide for use in the focus groups, which would begin with open ended, and then probing, questioning. The facilitators were asked to summarize notes from each focal group. A weakness of this process was that the facilitators were not trained in providing timely translations to the American team members who were then unable to pursue questioning according to their needs, a common failing in such efforts. At each health hut, groups of villagers were interviewed in focus groups which included an average of 12 members sometimes with health hut staff and health post nurse present, with village chiefs, marabouts (Muslim religious leaders), committee members and beneficiaries. The team ensured that women were well represented as participants and respondents. At the end of the field work, one focus group facilitator from each Region met with the core team to discuss and synthesize findings. A grid was established to summarize characteristics of the huts and the health posts and a discussion summary of the Evaluation

team's findings was drawn up before leaving the field as the basis for later discussions. These field syntheses are included in Annex 2-7.

c. Team composition

Serving full time on the evaluation team were Senegalese members with intimate knowledge of the Rural Health Project over many years. Those who served on the core team in the field and throughout the evaluation, Dr. Isaakha Diallo and Mr. El Hadj Malick Dieme, brought to the task not only their experience with the Project, but an understanding of the health system, the Division of Public Health (DPH) and its nine services within the overall Ministry of Health and Social Affairs (MOHSA), institutional history and personnel changes affecting Project operations in its different phases. Dr. Diallo is the Director of Primary Health Care, an Associate in the School of Public Health of Dakar University, and past Medecin-Chef of Fatick. Mr. Malick is a demographer and Head of the Statistics Service of MOHSA and was a prime designer of the Health Information System (HIS) currently being tested and perfected. These Senegalese Health experts provided insights and depth to the work of their American evaluation partners. Mr. Dieme, who is Investigator of Finances in the MOHSA, joined the team in its final meetings and arranged for the compilation of the counterpart funding data. The American team members, with complementary backgrounds included: a team leader with extensive MCH design and evaluation experience in Africa, a medical epidemiologist with knowledge of Senegalese and other Third World health and management information systems, and a health economist with a strong background in health financing problems in Africa. The Senegalese focus group facilitators also brought Project knowledge to the team. Two were Technical Supervisors from Fatick and Kaolack Regions, the third was the Health Education Supervisor from Kaolack and the fourth, Director of Studies in the Kaolack Training Center.

II. PROJECT SETTING

A. Health Problems and Priorities in Senegal

In 1989, the top 10 communicable diseases reported by the Division of Statistics based on data collected through the public health information system were: malaria, upper respiratory infections, influenza, gonorrhea, chicken pox, dysentery, syphilis, measles, neonatal ophthalmologic infections, and bilharzia. The 10 leading causes of death due to communicable diseases were malaria (45 percent), tetanus (18 percent), respiratory tuberculosis (10 percent), purulent meningitis (10 percent), jaundice (7 percent), meningococcal meningitis (6 percent), bacillary dysentery (3 percent), amoebiasis (<1 percent), typhoid fever (<1 percent), and pertussis (<1 percent). It must be noted that the number of deaths reported through the health information system represents only an estimated 0.3 percent of the total deaths in Senegal (Sector Analysis 1991).

Infant mortality was estimated at 86/1,000 in 1988 compared to 112/1,000 live births a decade earlier. Other health statistics have improved as well. Reported cases of measles and tetanus have decreased between 1971 and 1988, particularly after 1986 for measles, and after 1984 for tetanus, although they began to decline in 1978 (see Annex 3-8). Reported cases of malaria and meningitis have also declined from 1971-1988. Malnutrition among young children and pregnant and lactating women continues to be a serious problem in Senegal. Rates of malnutrition among children monitored through the PPNS/Catholic Relief Services growth monitoring project were about 28 percent in 1988. Anemia is common among pregnant women (30-50 percent) and vitamin A deficiency was found among 40 percent of children surveyed in Fatick, Kaolack, and Diourbel.

In its Declaration of the National Health Policy-1989, the Ministry of Public Health (now the MOHSA) set forth six general health objectives: (1) to improve health coverage, particularly in rural areas; (2) to improve the health of mothers and children; (3) to develop preventive and educational activities; (4) to develop a balance between curative and preventive activities; (5) to develop a balance between human, material, and financial resources; and (6) to master the demographic indicators.

The policy proposes a number of strategic objectives and specific strategies to accomplish each objective. Prominent among these are: to improve the health information system at all levels, to integrate programs that focus on mothers and children, and to develop operational research. Many of the objectives and strategies delineated in this document are compatible with those recommended by this evaluation team.

B. Economic and Financial Aspects

The financial and economic setting for the project can be summarized by highlighting two key characteristics: severe macroeconomic constraints (leading to few resources available to the GOS to finance health services, with an especially negative impact on pharmaceutical

supply and other non-personnel expenditures), and a broad experience with and acceptance of cost sharing through participation from the population (user fees in public facilities, drug sales at the health hut level, and health committees managing funds). Other reports have described these two aspects of the financial/economic environment in greater detail (Dumoulin & Lagace 1990; REACH 1986; RHDS II/CS Project Paper 1984). As will be seen in the analysis of Project sustainability, macroeconomic constraints have had a negative impact on the Project, while financial participation of the population has strengthened sustainability of Project outcomes.

Senegal was hard hit by the world economic recession in the 1980s. For the past 30 years, real per capita income has been declining, although there has been some modest economic growth in the last decade. In 1988, per capita income was \$650 (Dumoulin & Lagace, 1990).

At the time the Project Paper was written, agriculture accounted for 30-35 percent of GDP and approximately 50 percent of export value. By 1989, however, the balance had turned, and agriculture now accounts for only 17 percent of GDP, while the economy is increasingly dependent on industry (25 percent) and services (40 percent). (Dumoulin & Lagace)

Resources available to the MOH have been shrinking steadily over the last 20 years; while health accounted for over 9 percent of GOS expenditures in 1970, by 1989 5.5 percent of budgeted and less than 4 percent of actual government expenditures went to health activities. With shrinking funds, cutbacks have affected spending on drugs and other non-personnel items disproportionately. Hospital spending accounts for about half of GOS health expenditures.

Senegal has had a system of user fees in place in public facilities since 1980. These fees are not meant to recover full costs, but are considered as a "participation" of the population toward the cost of health care services. In the PHC system, fees are charged for curative as well as preventive consultations in health centers and posts. Drugs are also provided without additional charge. Health huts generally charge for individual drug items (i.e. pills), but not for consultations. MOHSA guidelines exist, but the system is really quite decentralized, and health committees at each level have responsibility for setting prices, determining payment mechanisms, and spending the revenue. Senegal is planning to implement UNICEF's Bamako Initiative for drug cost recovery, following field testing.

C. USAID Strategy and Priorities

USAID strategy in the 1980s recognized that illness, malnutrition and rapidly rising demographic growth rates were impediments to the attainment of food self-sufficiency in Senegal. Thus, it was hoped that improving the health and productive capacity of the Senegalese rural community through better health coverage and preventive components in which family planning would figure, could result in increased agricultural production. In 1985, for management reasons, USAID separated the family planning part of the RHDS

Project into a separate activity in which urban areas would be emphasized. In 1990, USAID sponsored population and health sector analyses to guide the scope and direction of USAID involvement for the subsequent five years. From these studies, the current USAID health strategy was developed and approved in February 1991: "Population Growth and Natural Resources: Reaching a Balance, 1992-1997."

The Health Sector Analysis made the judgment that although the concept of primary health care has been well accepted by the Government, implementation depends almost entirely on donors. The analysis authors noted that health education service activities have been started by donors, but the operational resources for their continuation or expansion are lacking. The private sector in Senegal has been concerned almost exclusively with curative health, while major responsibility for preventive health has been left to donors. USAID was fourth among donors in the 80s, with two large health programs, one in family planning and the other, in primary health care. The Belgians, UNICEF, UNFPA and UNDP have also been active in the health and population sector. In the years ahead, the World Bank is expected to assume a major role with a structural reform program for the health and population sector. Since 1987, the major donors have met to decide what their respective future roles should be. Essentially it has been agreed that USAID and UNFPA would assume leadership in family planning and UNICEF in immunization and community diarrheal control efforts. The Health Sector Analysis in effect "assessed" the RHDS project, noting that neither sustainability nor impact on the ecology of diseases had been achieved in the Regions of Fatick and Kaolack. A discussion of the measurability of Project impact is included elsewhere, but is noted here only to bring to the reader's attention that the writing and approval of the 1992-97 Strategy preceded final evaluation of the RHDS II Project.

USAID's current Strategy is focused on reduced family size, with emphasis on service delivery in urban areas and developing family planning demand in rural areas. While acknowledging the essential link of family planning with maternal and child health activities, the USAID would like to achieve a focus to health programs which is: 1) considered to be most intimately related to reduced family size, and 2) within management capacity. USAID specifically plans to phase out support for targeted malaria programs and immunization services. In the short- and medium-term, primary emphasis will be on urban areas where health services are more readily available, where 39 percent of the population reside (cities and towns with more than 10,000 population), and which are growing twice as rapidly as rural areas. Health interventions considered strategic are: providing better quality of health care by assuring training and supervision; and decreasing infant mortality from diarrheal disease (through ORT and improved hygiene) and from neonatal tetanus. IEC will be a key component in both urban and rural areas. The USAID plans to prepare a combined family planning and maternal/family health project during CY 1991, which will build on the existing family planning and rural health projects in the manner described above.

D. Special Affecting Factors

1. Unfavorable aspects of setting for the rural health project

- Economic--Project implementation, particularly that from 1984-89, coincided with the world economic crisis of the late 1980s; a crisis which severely affected developing countries and forced them to make structural adjustments with austerity measures which did not spare the health sector. The catastrophic negative repercussions have been especially hard on rural areas, the target population of the RHDS II Project and on which the economy depends for its agricultural production.
- Cyclical drought, soil depletion and encroaching decertification have brought about lessened possibilities for larger scale and improved agricultural production. Foreign exchange pressures have diminished further agricultural productivity since the Government has been unable to provide the needed agricultural inputs to farmers.
- Institutional-- Both the MOHSA and the USAID Health, Population and Nutrition Office (HPNO) underwent a series of changes in leadership, vision, and style which had a direct effect on the quality of support given to the Project. These are discussed in detail under Chapter V., Project Management, along with the role of technical assistance provided by HIID.
- These negative effects on Project implementation are partially balanced by positive influences.

2. Favorable aspects for project implementation

- Political--The country enjoyed political stability throughout the Project life, though the President changed, and strong resistance from opposition parties was present. The same party remained in power and the country was free of political strife.
- Institutional-- The very special advantage enjoyed by the Project is in the national and local Administrative Reform that was, for the most part, put into effect in calendar year 1972. This Reform spelled out most of the fundamental principles of the Rural Health strategy. Specifically, the Reform called for: decentralized services to make them more accessible to the people; decentralized decision-making power to the people; and total and responsible participation of individuals and social

entities in the development activities to be undertaken in their behalf.

- Objectives of the rural health project-- One of the great opportunities of this Project is the relevance of its objectives to the regional setting. Taking into account the difficulties for the population in the targeted villages to have access to modern medicine with their limited means, the difficult economic time in the country, levels of illiteracy and ignorance, the rural health strategy was the best from all points of view to answer efficiently the needs of the people. Taking responsibility for one's own health occurred within the national self-reliance objective set by the country. More particularly, the primary health care strategy formed an integral part of the larger development scheme of Sine Saloum Region, constituting a variable capable of influencing positively increased agricultural production. The validity of investment in human capital to obtain higher production is particularly relevant in the agriculturally strategic Region of Sine Saloum, also known as the Peanut Basin, the main cash crop which constitutes about half of national production, and which along with the Casamance is called the breadbasket of Senegal.
- Evolution of national health policy in Senegal--Implementation of the Rural Health Project coincided with the Government's adoption of a PHC strategy as the base of its health policy. It was particularly opportune that the Project strategy for PHC paralleled that espoused in the Alma Ata objective--Health for All by the Year 2000.
- Specific setting of Sine Saloum--The Project benefitted from familiarity with some of the PHC concepts due to earlier and simultaneous efforts of the Dutch in Fatick and the Canadians in Gossas to put in place village health structures to improve access of rural populations to modern health services. UNICEF had preceded these efforts with the idea of village pharmacies and the development of consultations made by a team of nurses and midwives in order to reach neediest populations. All of these first efforts to reach rural populations with basic health services contributed to creating in the population an awareness of the need for a primary health care system.

III. PROJECT DESIGN

A. Project Purpose

The purpose of the RHDS II/CS Project was to reduce the number of work days lost because of infectious disease and malnutrition of the primary work force or their children, and to develop a maternal and child health care infrastructure at the village level which would allow the introduction of family planning services.

The Project included two major components. The first was to establish a sustainable, community-based PHC system. Activities included continued support in the Project area for the start-up of health huts in new departments, health systems support (supervision, pharmaceutical distribution, epidemiological surveillance, continuing education). The second component was the introduction of specific child survival interventions, including immunizations, diarrheal disease, malaria control, and growth monitoring.

B. Project Assumptions

The Project rested on many assumptions, some of which proved accurate over time while others did not hold true. Some of the key assumptions included:

- Implementation of a structural adjustment program for the GOS economy;
- Continued GOS support for the rural PHC strategy;
- Village-level demand for preventive care;
- Ability and willingness of villagers to manage and contribute to PHC services;
- Ministry-level support to program activities, in the form of efforts to provide needed human and material resources (e.g., health post personnel, vaccines and cold chain) and enact policy changes (national pharmaceutical system), as well as financial support to the Project costs; and
- CHWs trained in maternal and child health are necessary before family planning can be introduced at the village level.

Throughout the evaluation report, the team refers to the Project objectives and assumptions, pointing out some areas where failed assumptions or design issues have impacted the Project, and other areas where the various people concerned were able to surmount difficulties to meet and even surpass Project expectations. A final section on sustainability returns to these original assumptions; however, sustainability is an issue which permeated the

thoughts of all the team members during our work, and so it will be found as a theme running throughout the text.

C. Project Covenants

Conditions precedent and covenants played an important part in the RHDS II/CS Project's evolution. Conditions precedent are often seen by project designers as a "last resort" to assure that the grantee performs actions seen as essential in order for the project to achieve its purpose. The effectiveness of these conditions and covenants is discussed in various sections throughout the report. They are listed here for easy reference.

1. Conditions precedent (not official translation)

- Original PP--GOS agrees to evaluation criteria (Section VII.4 of PP, Evaluation Plan). These criteria specify benchmarks for 24-month evaluation. (The final evaluation was to assess health impact using indicators determined at the time of the 24-month evaluation.)
- GOS accepts assignment of two senior level MOH officials to staff Regional Training Center, and agrees to include line item for training center in national budget.
- Amendment 3--GOS will furnish Regional Health Development Plans approved by MOH, before any disbursement to finance support to regions;
- GOS will furnish a definition of an appropriate system of health information management and health statistics, before any disbursement to finance computers;
- GOS will furnish evidence of the reorganization of the operational system of supply and distribution of essential drugs, before any disbursement to renovate and equip regional pharmaceutical supply centers; and
- GOS will furnish a national plan for training, prior to any disbursement to finance overseas short-term training.

2. Covenants

- Original PP (GOS agrees to...)--Assign one HP nurse to AID constructed HPs in Kaffrine, and one sanitation agent in eight selected HPs;

- Assign nutrition coordinator to Kaolack Medical Region;
- Assign a statistician to Kaolack Medical Region;
- Maintain the position of USAID Health Program Coordinator at the national level;
- Progressively finance personnel, support and maintenance costs of the Regional Training Center;
- Allow each department (CM) to provide gasoline from their allotment to the health posts for supervision of village health needs by mobylette;
- Assure that the rural communities provide for the periodic investment of the amortization of the health post motorbikes (mobylettes);
- MOH will allow each HP committee to finance maintenance and repair costs of the health post mobylettes; and
- MOH will provide for maintenance and repair of HPs.
- Amendment 1 (July 31, 1984)--Assign one specialist in ORT and nutrition to each of Senegal's 10 regions.
- Amendment 3 (July 21, 1989)--Continue to maintain a senior level ministry official as coordinator of Project interventions (role: to be permanent interlocutor for USAID, ensure coordination between MOH, USAID, and Regional Medical Offices, and be LTTA's counterpart);
- Maintain remaining counterpart budget (34 million CFA) and reprogram its use in conjunction with AID for the two years following amendment to Grant Agreement and to request additional counterpart funds for the extension period; and
- Appoint a full time Chief of Service at the Service de l'Alimentation et de la Nutrition Applique au Senegal in the MOH by Oct. 31, 1989.

IV. FINDINGS

A. Second Phase, or RHDS II, 1984-1989 and Field Findings, April 1991

1. Material improvement of health infrastructure

a. Health posts

(1) Structures

Project objectives were achieved in that eight health posts and one maternity unit were constructed and equipped in Kaffrine Department. The team was unable to verify whether funds had been disbursed to renovate 11 health posts in Kaffrine. The Fatick Regional Medical Center was completed as planned.

In April 1991 the team noted that health posts (as well as health centers) are highly variable, ranging from being structurally sound and well kept up (especially the centers of Guinguineo and Fatick and the Health Posts of Fayil, Patar Lia, Prokhane, NDoffane and Wack N'Gouna). Others are in poor condition or neglected, notably the Center of Gossas (functional but dilapidated, with cracks in the walls that have gone unpainted for years), Kaffrine (which is in such a poor state that it is scarcely functional with its fissured walls, dysfunctional floors and defective plumbing system with water seeping through here and there) and Sokone (which is also in poor condition, with cracked walls in the medical office building, the laboratory and health care unit).

(2) Furnishings

Most of the structures visited by the team had adequate furniture and either new or good furnishings, especially the Health Centers of Guinguineo and Fatick, and the Health Posts of Fayil, Prokhane, N'Doffane, and Wack N'Gouna.

(3) Equipment

Most of the health centers visited had complete technical equipment in good condition. A few had serious shortcomings, such as dentist chairs which have been broken down for years or have not ever functioned (Gossas and Guinguineo) and lack of laboratory equipment. Most health post nurses considered their equipment adequate with some notable exceptions: M'boss and Birkelane (the latter with an appalling maternity ward and delivery room). Most nurses complained they had an inadequate supply of drugs, needles and syringes.

b. Health huts

(1) Structures

The condition of hut structures also varied a great deal. Some huts are in very good condition, well maintained and clean, while others show neglect, have not yet been rebuilt, or are not receiving the care required. 19 of the 24 visited had functioning buildings. Because the materials most often used have a limited life span, they must be replaced periodically. The most common construction materials are sand-baked bricks covered with straw and sometimes with zinc roofs. Others are made from cement bricks with roofs of tiles or zinc sheeting.

(2) Furnishings

The health hut furnishings most often consisted of one or two benches two meters long, a table and a cupboard of wood or metal. In some special cases, the equipment was equal to that of a health post, with wrought-iron chairs, one or two tables and several beds in the rural maternity. Outstandingly well furnished were the huts in Keur Madieng and Pani Sader.

(3) Equipment

Though the major absence in the functioning huts visited was medicines, the CHWs also expressed the need for new kits or implements, especially scissors and tweezers.

Grids providing profiles of the health posts and huts visited are shown in Appendices 6a and 6b.

c. Kaolack Training Center

The building, furnishings and equipment provided to the Kaolack Center were described in detail in the 1986 Evaluation, including the construction of dormitories which had not yet been officially acknowledged by the Government and have been since that time. As discussed in the Training section, IV.A.4, additional physical improvements including bathrooms have been made. The team noted that all of the audiovisual equipment was in place in a separate secured area which did not prevent, however, an accumulation of dust from disuse.

d. Project office/pricor equipment

In searching for files in the ex-Project office in Kaolack, the team noted that the premises are becoming an eyesore with a proud USAID emblem displayed out in front. One of the rooms could not be opened, and will have to be pried open. Visible were an apparently operating personal computer and copying machine which had belonged to the

PRICOR activity. These too are accumulating dust and in light of the serious equipment shortages in the Regional Medical Office, could be transferred to the PHC Supervisor's office, the center of data compilation. It is recommended that USAID take the necessary steps to transfer this equipment. It is also suggested that USAID sort out key historical files from the Project Office and officially close out the site.

2. Community interest and participation in basic health care

The findings below are organized according to a framework first presented in a study by Gray (1983). Where relevant, the evaluation team's current findings are compared with findings from previous project reviews. Characteristics of health huts visited are also summarized in table format in Annex 6-2.

a. Start-up of health huts

(1) Community awareness campaign

Implantation of the huts in two new departments (Fatick and Kaffrine) during Phase II went faster than expected, as noted by the mid-term (1986) evaluation team. According to some people who were involved at the time, the Project's efforts to gain interest and support of the population were very successful. Both through specifically organized meetings and through word-of-mouth, almost everyone knew about the effort to extend health services to the village level through the health huts. Of particular assistance during this period was an extremely dynamic Senegalese trainer working out of the Kaolack Regional Training Center. Other people interviewed, particularly Regional technical staff, thought the community awareness campaigns had not been adequate in terms of time needed for populations to assume responsibility for their health needs.

Some problems did arise during this phase, however. For example, the health huts were constructed so quickly that it was difficult to keep up with the required training of village health workers and health committee members. In addition, the Project focussed on informing community "leaders," which may have had the unintended effect of allowing village leaders to use the health hut site selection and CHW selection processes for political ends. Finally, several observers have suggested that the Project may have focussed on building community awareness at the expense of educating and changing attitudes of the technical staff of the Health Ministry--the head nurse at the health post especially. The head nurse plays a key role in the promotion of village-level health outreach activities. In fact, several people felt that many problems which were encountered with health hut operations over the life of the Project were due more to misunderstandings about the Project on the part of GOS health personnel, rather than due to a lack of community motivation.

(2) Agreement by village leadership to participate in PHC program and nomination of members of population to be CHWs

Many health personnel interviewed said problems arose in the selection of where to put huts, and that this decision was sometimes based on political motivations rather than health criteria. In addition, "political" selection of community health workers (CHWs) was often blamed for the dissolution of a health hut or for minimal interest in health hut activities and services. When the village population did not choose the CHW, they then did not "own" the hut nor respect the CHW's role. At the other extreme, the complaint was sometimes aired that Project staff made decisions about health hut placement according to rational health planning criteria such as population size and distance from the next closest public facility, without taking into account "traditional" village hierarchies (e.g., a very small or isolated village might be the birthplace of a prince or other notable and have special traditional stature), again causing problems and leading to under-utilization of health hut services.

The evaluation team (especially the Senegalese members) felt that more attention should be paid to "social analysis" when determining placement of health huts and selection of CHWs. This is a recommendation which was made after the first phase of the Project in 1983, and which still holds true eight years later. Also, some technical staff expressed a preference for women CHWs, because they are more likely to stay in the community unlike men, who often leave in search of work, and who many thought from observation of women's clubs were better community organizers.

(3) Initial training of CHWs

The question of whether initial training of CHWs was adequate or not leads very quickly into a discussion of the "role" of the CHWs, and how the community and the CHWs themselves perceived and accepted the role which the Project intended the CHWs to play. Role acceptance was raised as a problem early during RHDS I (including the problem of "familiarity breeds contempt"), and this ambiguity persists at least in some measure to this day.

In the course of our field work, some respondents saw the role of the first aid worker (secouriste) very clearly as a "drug store" where they could purchase essential drugs conveniently and at low prices. Even the secouriste sometimes did not see his role as a care provider, since the population was sufficiently aware of the symptoms of common illnesses to be able to diagnose them themselves, and already knew what drugs to buy. For example, some CHWs said people often came to pick up medications for sick family members without the patient being present.

In many other instances, the evaluation team found that frequently the secouriste's role has not been limited to operating the village pharmacy (whether as a drug seller or care giver), but that CHWs are actively engaged in preventive and promotive health activities which are appreciated by the community.

Some villages still prefer to bypass the secouriste for curative care, however, going directly to the health post level for what they perceive is higher quality care. On the one hand, the evaluation team felt this may show a gap in community awareness of the training of the CHW; yet on the other hand it may reflect rational decision-making of individuals who know their own preferences and are willing to pay the higher costs (i.e., transport, time, consultation fee) to obtain what they feel is better care. The team therefore recommends that health post nurses not try to "force" acceptance of the CHWs, but concentrate instead on influencing community perceptions through education and supportive gestures. For example, the nurses should make a concerted effort to a) make sure the CHW has the skills he or she is supposed to have (by assuring proper initial and refresher training) and that the population is aware of these skills; and b) make special efforts to demonstrate faith in the CHW's abilities and promote the CHW's position in the community by occasionally working alongside the CHW and by praising his or her performance in front of community members. This was seen to work with great success in the health huts supervised by the head nurse of Wack Ngouna Health Post.

For the most part, the team found very little problem with community acceptance of Project-trained traditional birth attendants. The TBAs were actively providing services in most of the areas surveyed, although quality of care was impossible to assess and thought in earlier surveys to be poor. In a few cases, however, the TBA's services were not demanded by the population, in one instance because the TBA had delivered a still-born baby, or due to lack of confidence for other reasons such as youth or unacceptable tribe.

(4) Construction of health huts

While in some communities the physical structure of the health hut has symbolic and practical importance, it was not found to be essential to the delivery of village level primary care services. This finding is similar to those made in previous Project reviews.

The team saw several examples where PHC activities were ongoing without a health hut structure. In fact, in one village PHC activities were actually harmed by excessive focus on hut building maintenance. Having been convinced by Project staff that their building was sub-standard, the population used their cash balance from drug sales to repair the hut, then had no capital with which to purchase more drugs. This opinion was seconded by a Peace Corps Volunteer who worked two years in a village in Louga. He expressed reservations about the health hut structure, stating that while his village was very eager to have a health hut, he felt that preventive and promotive health activities should be implemented first, using village promoters, or animatrices, so that hut construction per se does not preempt community resources and attention.

The team noted that huts are rarely being used for deliveries, since women still prefer to deliver at home.

(5) Provision of initial stock of drugs and medical supplies

A problem dating from the Project's early years is that of expired drugs. Some huts received an initial stock of drugs which contained items near expiration. Project staff came to take away the expired drugs, but never replaced them. This decreased the capitalization of an unknown number of health huts. For some health huts, this unfulfilled commitment was a sore point, even after so many years. It is not feasible for the Project to do anything about this now, but it is a lesson learned.

The evaluation team found several huts where the drug fund had decapitalized for a variety of reasons (excessive free care for friends, relatives and ranking villagers, misappropriated funds), and village collections had been made to replenish the drug stock. Experience with decapitalization and subsequent village-financed restarting of pharmacy operations seemed to be a common and even accepted phase in the evolution of health huts: one of the most successful health huts (Keur Madieng), with a cash balance of over 470,000 CFA, described failures over the initial four or five years during which the health hut had great difficulties in matching revenues and expenses. Health staff should be aware that it takes a lengthy learning process to get systems going, and should find ways to spread the word to other communities about models that work best.

b. Operations and management

(1) Patronage of CHWs by village population

Utilization of health huts for curative care seemed variable, with some CHWs noting high utilization (100-200 visits per month during the rainy season), while others had hardly any utilization (12-13 visits per month in the rainy season). It was difficult to estimate utilization rates (i.e. consultations per person per year) given unreliable data on total population coverage; however, in two huts this rate ranged from 0.75 consult/person/year (Sorome) to 1.04 (Kebe Koude). These rates are slightly above average for pharmaceutical cost recovery systems in general.¹

The team did find that the child survival interventions were being offered in more huts than expected. For example: 23 of 24 huts were sites for mobile vaccination sessions; 18 huts conducted malaria prophylaxis campaigns during rainy season; 20 huts were instructing women in the preparation of ORT and 12 huts did growth monitoring.

The definition of a "functional" hut was problematic. Many health staff had defined functioning in a limited sense, i.e. "huts providing reports" or "huts where the building has continued to exist or has been rebuilt." As such, the definition of "functional" may be highly

¹ For example, a recent unpublished World Bank study on pharmaceutical cost recovery systems in Africa found that in half of the schemes observed, utilization rates were less than 0.60 visits per person per year.

influenced by the values and perhaps prejudices of health post nurses doing the evaluation.² The evaluation team reiterates that the one-dimensional term "functional" or "active" is not helpful for management decision making, and improved standard reporting forms for the national HIS should avoid asking for this data element. Instead, a method of reporting on health resources available (e.g., active community workers, material and drugs on hand) and volume and/or frequency of specific PHC activities (preferably a very short list) should be adopted.

Contrary to the hypothesis put forth by one Regional staff member, the team did not see any evidence that health huts located very close to health posts were less actively involved in PHC activities (due to competition from the post) than health huts located further away. However, this might be a topic for further analysis during the planned health care financing study.

(2) Availability of CHWs to serve population

In 1983, a review of the health hut system in the Project area remarked that "...no issue preoccupies the [Project] supervisory staff more than that of lack of community 'participation' in the form of payments to the VHWs." The 1983 report cited this problem as a major concern for sustainability of the rural PHC delivery system at the village level, noting that village staff becoming disillusioned with meager or nonexistent returns had reportedly caused the failure of a UNICEF village pharmacy/TEA experiment in the early 1980s.

The situation in 1991 is unchanged: lack of compensation is still a major complaint of first aid workers (compensation of TEAs did not seem to pose a problem, since people traditionally give in-kind and cash compensation to TEAs). Populations seem reluctant to give the first aid worker any extra benefits that would make him "better off" than the rest of the community. One focus group of women also questioned why the village needed to reward the first aid worker, when they do not have to "reward" the clerk in a private pharmacy. When the evaluation team asked health committee members if they had ever considered charging a mark-up on the price of drugs, to cover a payment to the CHW, most said they had not considered this option, and many did not seem to understand the concept. In the team's opinion, a mark-up system would be difficult for most village health committee members to manage.

Consequently, the evaluation team was very puzzled. If lack of compensation is such a problem, why does the health hut system still seem viable? Why haven't all the first aid workers quit? When the team asked this question, some CHWs responded that they felt compelled to stay in the job, even without compensation, because they had been chosen, and it was a question of honor. This issue seems to warrant closer study by an interdisciplinary team, including an anthropologist or sociologist, to ascertain the reasons for communities'

² Gray also noted this tendency in 1983.

unwillingness to compensate the first aid worker, and to assess this factor's influence on the long-term sustainability of village-based delivery of PHC in Senegal.

Even in the absence of such a study, the evaluation team suggests that new health huts consider using only a TEA, who would receive polyvalent training as a TEA and first aid worker. Three examples of this were seen among the 24 huts visited, and the arrangement seemed satisfactory for everyone concerned. Literacy training should also be promoted; funding is available through CR budgets for such training for village leaders.

Finally, the team did note one interesting mechanism which a health post implemented to provide motivation to CHWs. The health post had received a supply of drugs from the Communaute Rurale. Given this "bonus" supply, the health post committee elected to use some of the "participation" receipts (i.e., health post user fee revenue) to provide cash payments to community health workers at the health hut level. In other words, the health committee deviated from the recommended 60/20/20 distribution of their budget (60 percent drug purchases; 20 percent CHW payments at post level; and 20 percent other), and spent less on drugs while increasing the "CHW payment" budget category to include health hut workers. This example shows creative problem-solving on the part of community members, but it may not be the most efficient solution to the problem of CHW motivation (especially if it depletes drug supply at the post level).

(3) Resupply of drugs and related products

The team observed that many huts get their supplies directly from the Regional Depot, since drugs were frequently not available in community and district depots. About three-quarters of the huts visited had drugs on hand, while about 60 percent had a positive cash balance (the average being about 20,000 CFA, or \$70).³ The field work was conducted during the dry season when utilization is low; more huts can be expected to be stocked-out during rainy season, given the unreliable supply.

There seems to be confusion among some post nurses and CHWs about the different sources of drug supply in the Project area, i.e. the Regional Depot (started with AID money, serving only the health huts) and the Regional Pharmacy (started by the PNA and serving the health posts, centers and hospitals). For example, during the field work some hut workers said drugs were currently unavailable at the regional level, while others said they had just gotten drugs at the regional level. The Regional Pharmacy Assistant, who also manages the Depot, stated that drugs were always available for the Regional Depot, although there were stockouts for the Regional Pharmacy. Physical inventory at the Regional Depot was valued at over 1 million CFA at the time of the evaluation.

Both the Depot and Pharmacy are located in the same building and are managed by the same staff, which may have confused village health committee members. The procedures to obtain drugs are also cumbersome: the Depot is open only two days per week, and people

³ This excludes Keur Madieng, which had an unusually high cash balance of 471,000.

must make a trip to the Pharmacy, then to the bank (to deposit funds directly into the Depot's bank account), then back to the Pharmacy before being served. Pharmacy operations and problems with the drug supply system are discussed in further detail in a later section of the report.

(4) Physical maintenance of health huts

A health hut structure existed in 19 of the 24 huts visited. Criteria used to evaluate the physical condition of huts seem to be arbitrary; for example, one nurse decried a hut as being in terrible shape although the team thought the hut was perfectly adequate. Again, since the structure does not seem to be an essential ingredient to a sustainable PHC system at the village level, health post nurses should be instructed to be less preoccupied with the physical state of the hut, (except for its exemplary cleanliness), and to try to be responsive to felt needs of the population. Nurses should help identify where village resources might be more productively spent, e.g., increasing the drug fund capital or extending preventive health activities, and should raise these ideas to the health committees. The team suggests that the physical condition of health huts be noted as part of an annual inventory, rather than as a data element in a monthly routine reporting system.

(5) Management of hut income by community representatives

Health committees were in place in 19 of the 24 huts visited, although the overall quality of the committee's work was impossible to assess.

The team found several examples of misappropriation of funds, both by committee members and by the CHW. Most frequently the CHW had slowly used up drug sales money for personal purposes (i.e. mingling personal and hut finances, a problem noted in the 1980 evaluation). The team also heard of several examples of embezzlement at the community depot level. On the other hand, committees (or the CHW in some cases) seem to manage the process of collecting money and distributing drugs for the chloroquinisation campaign without encountering problems of misappropriation of funds.

This evidence seems to suggest that the problem of financial management at the village level is one of timing: where CHWs or committee members hold onto money for long periods of time without having to account for the funds, there seems to be more risk of loss than in cases where funds are quickly transferred to another person or are used for a drug purchase. Thus, problems of misuse of funds will be less frequent if a) health committees receive appropriate training and retraining (this was proven dramatically in Fatick, where health post receipts soared following training of village health committees in management practices); b) the drug supply system works (so that purchases can be made more frequently, leaving less cash on hand); and c) the supervision system works (so that the health committee has a reason for checking stock and cash balances regularly, i.e. to prepare for the health post nurse's visit).

Mother's committees sometimes seemed stronger than the regular health committee. One technical supervisor mentioned that when women were involved in village-based PHC activities, things worked better. In several villages, mother's committees had sometimes branched out into other activities, particularly revenue-generating activities such as community fields. In one health hut, the mothers' committee had collected money to send one member to a sewing course, so that she could return to the village and teach the rest of the group what she had learned.

The spirit of "auto-gestion" and self-reliance seemed prevalent in many health huts. For example, one committee didn't worry about the drug fund decapitalizing (due to free care provided to about a third of cases seen), but went around and collected a contribution from everyone each time a drug supply purchase was needed. Another committee had been reformed three times, following poor management practices, yet the health post nurse was sure that "this time it will work." The current success in Keur Madieng after repeated failures suggests there is wisdom behind this optimism and that more trial-and-error time should be programmed into PHC designs.

(6) Supervision by government health staff, and recording/reporting of service data

These aspects of health hut operations are discussed more thoroughly in separate sections. In brief, while 16 of the 24 huts said they received supervision from government health staff, the evaluation team found variation in the regularity of the supervisory visits; no attempt was made to measure quality. The team could tell, though, where there was enthusiasm and encouragement. For the most part, the quality of health hut functioning was found to be directly related to the health post nurse's interest and regular guidance.

Some huts were keeping records, but the quality of data was not always good since the nurses do not always look at CHW notebooks during their supervision trips and rarely offer guidance.

(7) Retraining of CHWs

In 10 of the 24 huts visited, the CHWs had received some refresher training after their initial training. Since some CHWs were originally trained in 1978, and training is also one of the only forms of motivation provided to the CHW, this record is sorely inadequate. The nurses' understanding of their responsibility for refresher training of CHWs varies. At some posts, the nurse carried on regular retraining for CHWs (e.g. Passy, once a year), whereas at other posts the nurse said he could not retrain CHWs because since the Project ended, per diem for refresher training were cut (Ndoffan). Fatick Region on the whole did a better job of explaining to nurses what their continued responsibilities would be in the post-Project era, regardless of per diem availability.

3. Achievement of child survival project objectives

a. Introduction

One of the objectives of the current evaluation was to determine the degree to which the Project has achieved its child survival indicators. The Sine-Saloum Family Health Survey was conducted in the rural areas of Sine-Saloum from November 1982-January 1983 to provide health information on women and children for the purposes of evaluating Phase I and providing baseline data for later assessment of the RHDS II. Data were collected from 1,894 ever-married women between the ages of 15 and 44, who provided information on the 2,733 children born to them since 1977, in the following areas: socioeconomic and demographic characteristics; health status of young children; mortality and causes of death among young children; knowledge and use of Project services; use of maternal and child health services; fertility; breast-feeding practices; and knowledge, use and potential demand for family planning services. (See the Final Report of the Sine-Saloum Family Health Survey, 1984 for a full description of the methodology used.) Unfortunately, a similar study has not been conducted that provides comparable variables for analysis. Likewise, there are constraints imposed by the limitations of the Health Information system (HIS), i.e., incompleteness of reports (without estimates of the proportion of missing reports) and lack of continual and comparable data. Therefore, several sources are used to evaluate progress made toward the Project's child survival objectives: the Demographic and Health Survey in Senegal-1986, the mid-term evaluation, multiple surveys and studies, program plans, and the Senegal Health and Population Sector Assessment, in addition to selected data from the Fatick and Kaolack Regional Health Statistic Reports. Furthermore, although conclusions to the entire Project area cannot be drawn from the field work completed by the evaluation team, it will supplement the above sources to provide the most up-to-date assessment of activities at the health posts and huts. A national Demographic and Health Survey is planned for 1992 and will hopefully collect comparable data so that the indicators can be further evaluated.

Several aspects need to be considered when evaluating success in meeting the Project objectives related to health indicators. First, how have things changed over the course of the Project, and second, how have they changed in comparison with other regions? Therefore, comparable data from other regions will be provided where available. Furthermore, although reduction of child mortality is the ultimate objective, it is also necessary to examine the extent to which the preventive interventions were implemented. Although this is more easily obtainable than mortality estimates, it still presents some difficulties, again, because of deficiencies in the HIS and lack of a comparable follow-up survey. Determining mortality reduction poses a particular problem, because, as stated above, there is a paucity of data with which to calculate cause-, age- and region-specific mortality. Finally, it is virtually impossible to determine if fewer work days were lost because illness was decreased, except through the interviews we conducted, in which we obtained health workers' and villagers' impressions.

Another and perhaps even more important factor that influences the comparison of results between Fatick and Kaolack and the rest of the country is the fact that the RHDS

II/CS was not an isolated program, but part of a national primary health care strategy. National programs exist or existed for at least part of the Project period to combat malaria, diarrheal diseases (including a USAID-funded national ORT program), malnutrition, and the vaccine-preventable infectious diseases. Some of these programs are currently impaired, so that possible gains made during the stage when they were functioning more optimally may no longer be apparent. In addition, a number of programs funded by PVOs and other donors exist in other areas of Senegal. Therefore, it is very difficult to determine the effectiveness of the RHDS technical components alone in Fatick and Kaolack vis-a-vis other regions.

Another important aspect that was not evaluated in the team's field work was the quality of care given at the post and hut level in relation to these technical components. This would require a greater investment of time and personnel than was available at this time. It is, however, recommended that this aspect be considered in future evaluations of the functioning of the primary health care child survival technical components.

In interpreting the findings from the field, it is important to note that, although in general, the same guidelines were followed for each health site visited, there were variations of emphasis at different sites, and therefore not every "data item" is available for every location.

b. Malaria control

The project purpose related to malaria was a 40 percent reduction in malaria mortality among children under 36 months and 80 percent coverage of children under 36 months and pregnant women with prophylactic chloroquine during the rainy season. The latter corresponds to the official strategy of the GOS National Program of the Fight Against Malaria, with the exception of the latter recommending prophylaxis in children up to age 5.⁴ This strategy is in contrast to that recommended by the WHO, which consists of single-dose chloroquine therapy to all patients with a fever. An initial objective of the Project was to compare the first strategy with two other strategies that involved treatment of fever episodes with either single-dose or multiple-dose therapy; the latter were dropped from the protocol in the test zones.

The 1982 Sine-Saloum Study found that 89 percent of children had a fever during the preceding rainy season, of whom 79 percent were treated with antimalarial drugs. Seven percent of the children receiving antimalarials received them prophylactically. The adjusted rate of malaria mortality in children under 5 years was estimated to be 32/1,000, with the

⁴ There is still some confusion about the intended age for the Project target population. The Project Paper states prophylactic chloroquinization up to age five, but reduction of mortality of children under 3. The 1984 evaluation team used the 5-year cutoff, and this is apparently what was used in the field. Therefore, five years will be used in this document as the intended target age.

greater risk being in the group over 1 year. Nine percent of the deaths to children under 5 were caused by malaria. (Note: the overall infant mortality rate was found to be 72/1,000; the mortality rate for children under 5 was 207/1,000. Because the investigators felt this was an underestimation, the rates were adjusted to account for under-reporting.)

The mid-term evaluation (1986) found that among mothers surveyed, 83 percent said they provide chloroquine to their children and 86 percent said they took it themselves, especially during pregnancy. However, the accuracy of these values is in question, since many mothers did not know the correct dosage or reported that they or their children had had malaria the previous rainy season.

The Pricor supervision study of the Primary Health Care system (1989) in five Regions, including Fatick (F) and Kaolack (K), observed health workers' management of patients with malaria. Health workers, consisting of health post nurses and community health workers, in the Regions of Ziguinchor (Z), Tambacounda (T), and Louga (L) performed slightly better in three aspects of management--history, evaluating fever, and education--than their counterparts in Fatick and Kaolack, whereas the latter did better in correct treatment (45 percent in F/K vs. 32 percent in Z/T/L).

Unfortunately, there are no data available for the rates of malaria mortality for Fatick and Kaolack since the 1982 study. The 1989 Health statistics Report for Fatick estimated that about 10-15 percent of pregnant women and 20-25 percent of children 0-5 years were regularly followed by medical agents and CHWs for chloroquinization, but this is most probably a large underestimation, given that reporting is incomplete.

Based on the evaluation team's field work, 79 percent of visited health huts reported that chloroquinization had taken place during the last rainy season, although some of the huts had inadequate stocks to cover the entire period. Even in villages where the huts were minimally functioning, this activity was often supported. CHWs, health committees, and villagers felt that cases of malaria and deaths due to malaria had decreased as a result of chloroquinization. One CHW (village of MBouky) reported that there had been no abortions due to malaria since prophylaxis began and he even volunteered (without prompting) that he observed fewer days lost among villagers from working in the fields as a result--2 days lost on average now vs. 10 before. He explained that both parents usually stay home if a child is sick, and if they do go to the fields, they are less productive because they worry about the child. Nurses attending a district meeting in Fatick were asked their impressions about the Project and several remarked that malaria incidence has decreased with the increased use of prophylactic chloroquine.

A not infrequent problem noted by several village CHWs and health committees was the availability of black market chloroquine, especially in those areas close to The Gambian border, across which cheap but often tainted chloroquine comes. CHWs were concerned that the accessibility of chloroquine that is even cheaper than that sold by the hut entices many families to buy it, even though the dose may be wrong. It appears that greater awareness is needed to educate families about this problem.

In conclusion, although no conclusive data are available on mortality due to malaria, either for Fatick and Kaolack or for other Regions, it appears that, given the 1986 evaluation, and the current field work, the target objective of chloroquinization of young children and pregnant women has generally been achieved.

c. Diarrheal Disease Control (DDC)

The Project Purpose related to the second technical component was a 40 percent reduction of child mortality from diarrheal diseases. The DDC program differs from the vaccination program (see below) in that it calls for reduction in mortality from dehydration without calling for a reduction in incidence of diarrhea. A comprehensive program of oral rehydration therapy (ORT) was to be put in place in the two regions (as well as other regions of the Country--Amendment I, 1984) with the specific objective of leading 75 percent of rural mothers to knowledge of how to properly prepare home-based oral rehydration solution consisting of salt, sugar, and water (SSS) and the promotion of sanitary measures to prevent occurrence of diarrhea through posters, brochures, and the media. In the initial Project Paper, four strategies are described for treatment of diarrhea at the health hut level, which were to be tested at the test sites; the objective was that 50 percent of mothers taught to use the salt sugar solution (SSS) would be using it correctly in cases of diarrhea. It does not appear that these different strategies were tested, but that SSS was the only strategy used. Packages of oral rehydration salts (ORS) were intended to be distributed as far as the health post level and SSS was to be recommended at the health hut level, primarily due to economic constraints and lack of local production of ORS packets. A further objective of the Project was to perform a feasibility study for the production of oral rehydration salt (ORS) packets locally. This is discussed in the section on operational research.

The National Program of the Fight Against Diarrheal Diseases, implemented in 1986, has a number of goals consistent with those of the project. The national program, which provided training and educational materials via USAID support, has not been fully operational since about 1987, due to the absence of a director of the Service of Food and Nutrition in Senegal (SANAS). A director has only recently been appointed. In its Plan d'Action 1990-1995, SANAS outlined its specific objectives and strategies. Currently, ORS sachets are distributed as far as the health post level, which is GOS policy. PRITECH continues to provide important technical expertise and support in this area, and recently, UNICEF has made a commitment to more support in this area. In other words, there has been periodic national effort to reduce diarrheal diseases and mortality; and the regions of Fatick and Kaolack were not operating in isolation of these national efforts during the course of the Project period. Furthermore, there have been several other PVO-funded projects around the country at the same time, such as in Tambacounda, Louga, the river basin area, and Casamance, making it difficult to do comparative analyses. Although diarrheal disease incidence was not an objective in the RHDS II, sanitation activities had been introduced in the first Project, and therefore the evaluation team examined the available data related to this. The results of several surveys related to results of DDC efforts in the two Project Regions are summarized in Annex 4-1.

In the current evaluation, the team found that 83 percent of health huts visited reported providing instruction in SSS for treatment of diarrhea. One outstanding example was a CHW who stated that he prepares the SSS with the mothers and observes the child while they administer it (MBouky). It was unusual to find anti-diarrheal medications in the huts; carbon was the most frequent one, when present. When queried about the recipe for SSS, the majority of CHWs and mothers were able to recite correctly the components. Several huts had signs demonstrating the preparation. Sanitation activities were reported by 67 percent of villages and many were found to have latrines. The best sanitation was found in villages where Peace Corps volunteers had worked.

Units of Oral Rehydration (URO) were reported to be functioning at the majority of health posts in the two Regions, but only a small number had adequate equipment and a separate room. Only one was observed to be fully functional at the time of the visit. ORS packets were seen in a minority of posts; fewer posts in Kaolack had ORS than those in Fatik. There had been a stock-out for six months at the Regional Pharmacy in Kaolack because "no fuel was available to go to Dakar to pick up the packets." Fatik gets its ORS packets directly from Dakar, without going through the Kaolack Regional Pharmacy. At a meeting of the Fatik District health post supervisors, some nurses noted a reduction of diarrheal morbidity and mortality since the inception of the Project. They felt that this was because more people were using SSS at the village level and there was better sanitation. Finally, many nurses stated that they rarely used anti-diarrheal and antibiotics (although this does not conform to the findings described in Annex 4-1); the team did not carefully review registers to assess the accuracy of this.

In summary, it is difficult to state with certainty if the target objective has been met. According to the 1986 evaluation, 55 percent of mothers used ORT in cases of diarrhea, but lower rates of home use were found in other surveys. Nonetheless, there has been significant improvement in ORT use during the Project period compared with the almost nonexistent use in 1982. It appears that antibiotics and anti-diarrheal are being used with too much frequency at the level of the health post, particularly in F/K (the results of surveys do not correspond with what health post nurses stated about their practices). F/K do not appear to be significantly different from the other regions on which data are available.

d. Vaccination coverage--the expanded program of immunization (EPI)

The Project purpose was to reduce mortality by 40 percent among children under 3 years due to measles and pertussis in areas where the Project had been fully in place for at least two years. The target indicator was that 80 percent of children under 10 months be fully vaccinated with the following vaccines: BCG, diphtheria-tetanus-pertussis, polio, measles and yellow fever. The GOS also committed itself to achieving this degree of coverage at the Bellagio Conference in 1984 and it has been a particular objective of the President. At that time, less than 20 percent of Senegalese children were vaccinated.

In the early part of the RHDS II, two strategies for vaccination delivery had been planned, one using the health post as the fixed site with mobile teams from that level, the

other using the health center as the storage site, from which health post nurses would collect the vaccines on the days of vaccination. This dual strategy had not been implemented by the time of the 1986 mid-term evaluation, at which time routine EPI activities were taking place under the national program (see below). The original Project Paper set as the objective full immunization in 50 percent of children by the age of 18 months, in rural communities in which immunization reached the health post level.

The nationwide EPI, under the direction of the Service des Grandes Endemies, and with financial, equipment, and technical support from UNICEF, has mounted a massive and successful effort since 1984 to improve vaccination coverage among Senegalese children. A second objective of the EPI is to maximize coverage of tetanus toxoid in pregnant women; this objective has been less successfully met. In the early years of the EPI, the focus was on periodic campaign strategies, which were successful temporarily. Since 1990, there has been increasing emphasis on continual vaccination and a deemphasis on the campaign approach, with greater efforts at decentralization. Seminars for regional and district supervisors were held in 1990 at the Kaolack Training Center to retrain them as trainers. The Guide for the Health Post Supervisors was distributed, providing detailed instructions related to vaccination techniques, cold chain maintenance, determination of target population and calculation of percentage indicate that recuperative efforts were effective, but there are inadequate data to fully assess the achievement of the objective of reducing malnutrition rates in both Project Regions.

The Sine-Saloum Study in 1982 found that only 10 percent of children had received any dose of DPT/polio and only 3 percent had received the recommended three doses. BCG coverage was 12 percent and that for measles was about 32 percent. Likewise, mothers reported low use of tetanus toxoid during pregnancy--13 percent. Women living in a village with a health post or hut were over twice as likely to have received the vaccine than those living in a village without a health facility.

The most recent national vaccination coverage survey was conducted in January 1991 (see Annex 4-2) for detailed results). Table 1 compares vaccination coverage between Fatick, Kaolack, and all Regions combined.

The tetanus toxoid coverage of women delivering in the previous year is shown in Table 2.

Therefore, it is evident that the vaccination coverage in Fatick and Kaolack is similar to that of the country, except for the lower tetanus toxoid coverage among pregnant women in Kaolack.

There has been a dramatic decrease in measles cases reported nationwide since 1980 as the vaccination coverage rates increased (Appendix 4-2). These trend data are unfortunately not available by Region, but there is no reason to think that Fatick and Kaolack would be different.

TABLE 1

Vaccination Coverage Between Fatick, Kaolack, and All Regions Combined

Antigen	Fatick		Kaolack		All 10 Regions	
	<12	12-23 mos	<12	12-23 mos	<12	12-23 mos
BCG	91	94	92	98	92	95
DTP1	87	90	88	96	89	92
DTP2	79	85	80	89	81	86
DTP3	54	62	66	74	60	70
Polio*					66	74
Measles	63	73	58	81	59	75
Yellow F.	63	73	58	81	59	75
Complete	41	51	41	63	45	61

* The rates of polio coverage in Fatick and Kaolack are the same for DTP1, 2, and 3, respectively.

TABLE 2

Tetanus Toxoid Coverage of Women Delivering in the Previous Year

	Fatick	Kaolack	All 10 Regions
VAT1	59	45	59
VAT2	45	32	45

The evaluation team discovered that vaccination activities were the most consistently offered of the four technical components of the Project; 96 percent of villages visited had regularly scheduled on-site vaccination activities. The frequency varied from one to three months, depending on the availability of gasoline to the health post nurse and/or need (i.e., the population size). Between 1985 and 1985, EPI activities in Kaolack and Fatick were jointly funded by USAID and UNICEF and therefore a synergism of donor activities occurred. Many health workers interviewed in these Regions noted that the village health hut and polarized village structure assisted them in their efforts to organize vaccination sessions in the villages and in making sure mothers came. Several CHWs showed us up-to-date vaccination registers and stated that they send for mothers who missed their children's vaccination the previous session. Money generated by charging for vaccination sessions in many villages was then used to finance other activities, most notably chloroquinization. The majority of health posts had functioning refrigerators. Lack of fuel was reported to be the most pressing limiting factor to mobile vaccination efforts. Vehicles supplied by the Project had been withdrawn and UNICEF had provided vehicles to a large number of posts, in addition to fuel. Many health post supervisors stated that they would have been unable to carry out supervisory visits to the CHWs had it not been for combining supervision with vaccination visits.

Interestingly, a report of a rapid evaluation made in 1989 by UNICEF states that rarely do supervision and EPI activities take place simultaneously, and that although a part of primary health care, it remains a vertical program. The results were not described by Region. It is possible, therefore, that F/K were more successful at integrating EPI activities than other Regions. Furthermore, two members of the evaluation team evaluated the PPNS program two years ago, and visited Louga and Tambacounda. They saw very little integration of EPI with PPNS and other child preventive health activities at that time.

Interviewed health post nurses and CHWs consistently stated that the incidence of measles and pertussis cases and deaths' have declined markedly. This would be intuitively supported on the basis of the large increase in vaccination coverage. When the rare cases of measles did present to the health post, they were usually older children or nomads from other areas of the country. This decrease in disease incidence, they observed, is the reason that mothers so willingly come to vaccination sessions (during one of our visits in a village, several mothers came with their children and vaccination cards thinking that the car meant the presence of the vaccination team). The health workers were concerned about the lower success with vaccinating women against tetanus. They explained that many women keep their pregnancies hidden as long as possible so as not to "jinx" them, and therefore are unwilling to request vaccination, as this would reveal their pregnancy. Nonetheless, health workers remarked that they had seen fewer cases of neonatal tetanus. Therefore, although target objectives have not been successfully met in relation to vaccination coverage, there has nonetheless been significant improvement.

e. Nutrition monitoring and surveillance system

The final technical component of the Project related to child survival is growth monitoring. The Project purpose was to decrease severe malnutrition (<70 percent of ideal weight) by 40 percent, through a childhood nutrition monitoring and surveillance system operating at the level of the village health hut. By the end of the Project period, at least 75 percent of newborns were to be monitored for growth. By the time of the mid-term evaluation, monitoring had not yet been put in place by the Project, although some monitoring was being done through the PPNS/Catholic Relief Services Food and Nutrition Program. Unfortunately, CRS ended its involvement in the program in December 1988 and with their exit ended the provision of Title II food inputs. Since that time, the PPNS has been seriously hampered. The National Nutrition Program Plan of Action was prepared in 1990 and sets forth specific nutrition objectives. It had not received final approval from the new Director of SANAS by the time this report was prepared.

At the end of 1987, SANAS initiated a pilot program of growth monitoring and nutrition education in the rural community of Gniby, Kaffrine Department, Kaolack. This was to determine the feasibility of using a village-based approach to growth monitoring within the context of the primary health care program. This site was chosen to benefit from the presence of the village health hut structure already in place through the RHDS II. The target groups are children to age three, and pregnant and lactating women.

An evaluation by Dr. Coly compared a sample of mothers in Gniby with a sample of mothers in a neighboring village and found that Gniby mothers had attended nutrition education sessions in greater numbers and with greater frequency, and better recognized the signs of malnutrition. A later evaluation of the program (Diene 1989) found that two of the seven initial huts were no longer functioning, due to the departure of the CHWs. Surveillance activities were "more or less" continuing. Some mothers stopped coming after being disappointed about not receiving food. There was also a problem in financing purchase of a nutritional supplement (milk-sugar-oil mix). Vaccination and weighing activities had not been totally integrated because the health post nurse judged it impossible; furthermore, supervision of the village workers had been weak. The CHWs demonstrated good skills in weighing techniques, education of mothers, and administration of ORT. The information system was noted to be too complicated to be followed properly.

The Sine-Saloum Study of 1982 found the following rates of malnutrition among surveyed children:

Degree of Malnutrition	Rate (Percent)
Acute (weight-for-height <80 percent of median)	4.4
Severe acute (weight-for-height <70 percent of median)	0.5
Chronic (height-for-age <90 percent of median)	26.1
Moderate (weight-for-age <75 percent of median)	22.7

Based on data from the PPNS/CRS growth monitoring program, rates of malnutrition (<80 percent of median, Harvard standard) were 25 percent in Fatick and 32 percent in Kaolack in the first half of 1988. (Note: the target indicator does not match the cut-off for defining malnutrition from the data available.) The Annual Report of Nutritional Surveillance for the Gniby Health Post and satellite health huts for the period June to December 1989 showed that 2,828 children were measured, of which 9.3 percent had weight-for-age between 60 percent and 80 percent of standard, and 3.8 percent were <60 percent weight-for-age. Seventy-one percent of the moderately malnourished children and 68 percent of the severely malnourished children had recuperated to the next better weight category through the program's efforts. It was noted that three of the seven CHWs were absent during this period. Among the children monitored in Gniby, the rate of moderate malnutrition was over 40 percent less than the rate found in the Sine-Saloum Study.

Given this background, the evaluation team was surprised to discover that 50 percent of huts visited were conducting regular growth monitoring with the assistance of supervising health post nurses. They usually conducted them in conjunction with immunization sessions; several collected money for these activities, which were then used to buy chloroquine. Monitoring was done throughout the year, and the money saved up for the rainy season when the chloroquine was needed (and people's funds were lowest). One village mothers' committee loaned money from this fund to those in need during the rainy season, to be paid back after the harvest. The CHWs who conducted the growth monitoring were very much interested in continuing. Several kept excellent records and provided reports to the supervising nurse. They also knew the appropriate management for malnutrition and one particularly resourceful CHW convinced the primary school to donate the milk and oil, while he bought the sugar, for the supplemental milk formula (once again, MBouky). Literacy was an important element to carrying out this activity successfully. The villages with growth monitoring were also more likely to have received extra support from Peace Corps volunteers or Catholic sisters. Furthermore, the villages visited in Kaffrine District benefited from their proximity to the Gniby project. The villages performing growth monitoring demonstrated good integration of primary health care services at the village level. In summary, the Project objective related to growth monitoring coverage has not been achieved. Data from Gniby indicate that recuperative efforts were effective, but there are inadequate data to fully assess the achievement of the objective of reducing malnutrition rates in both Project Regions

f. Summary and discussion

The evaluation team found that the technical components were in place to the following degree: malaria control (chloroquinization) - 79 percent; diarrheal disease control - 83 percent; vaccination coverage - 96 percent; and growth monitoring - 50 percent. Although the health huts the team visited were selected on the basis of approximately 50 percent "functioning" and 50 percent "not functioning", it was apparent that different health post supervisors had different criteria to define functional status. In fact, a large proportion of huts were performing these activities. Of course, it is not known to what extent the visited huts represent the remaining non-visited huts, since the sample was not collected randomly. It is also possible that post nurses selected the best examples to show the team. However, it is

thought that this was not the case, as many nurses gave valid reasons for their determination of "non-functional", such as no existing hut structure. It did not seem that they were trying to "stack the deck." Although CHWs and health committees may have reported certain activities, it was impossible to determine, for example, the true extent and accuracy with which 555 was appropriately used. It was easier to confirm other activities, as the health post nurses and many CHWs kept records of immunizations, and CHWs usually kept records related to chloroquine distribution and purchases, and growth monitoring.

Given these conditions, the surveyed health huts achieved the Project objective of 80 percent chloroquinization. The vaccination coverage rate fell short of 80 percent complete vaccination, but there has been significant progress since 1982. The RHDS II appears to have successfully accomplished putting in place an effective team approach to vaccination delivery at the village level. Many of the EPI inputs sustained certain RHDS II activities in Fatick and Kaolack, particularly supervision, after 1989 when USAID inputs had ended. The incidence of diarrhea may have decreased since 1982; rates found in 1989 were lower than those in the baseline study. Fatick also reported fewer cases of diarrhea from 1988 to 1989, although the uncertain accuracy of the reporting system requires cautious interpretation of this finding. ORT use in treating diarrhea, although not achieving target goals, has improved appreciably over the Project period. A large number of mothers continue to believe that ORT stops diarrhea and should be an important focus for educational efforts.

Although Project growth monitoring targets were not achieved, it was present in 50 percent of villages visited. The major factors that appeared to contribute to this activity were: a very motivated health post supervisor, CHW, and/or mothers' committee; the assistance of outside agencies, such as Peace Corps or Catholic sisters; the presence of a scale (naturally--these were supplied from a variety of sources, such as PVOs, or the health post if there was an extra scale); literacy (some villages doing weighing had received arm bands for arm circumference measurements, but they were not being used); and tying the weighing sessions with vaccination sessions and generating money for chloroquinization (women did not object to paying, as they were getting their "money's worth").

It is difficult to assess quantitatively the effects of the technical components on mortality, for the reasons described in preceding sections. However, there was overwhelming consensus among health workers that certain illnesses and deaths due to them had decreased: measles, pertussis, neonatal tetanus, and malaria, as well as fewer abortions due to intrapartum infections.

Mortality reduction would be very difficult to demonstrate, given the lack of any epidemiologically-designed follow-up studies. In retrospect, it would have been advisable to have designated sentinel reporting sites to concentrate efforts for prospective data collection and analysis, or to have conducted a follow-up study similar to that done in the 1982 Sine-Saloum Survey. Furthermore, it may be unreasonable to expect dramatic changes in such a short period of time, i.e., the target indicators may have been set impossibly high.

Rather than focussing exclusively on the attainment of numerical indicators, it is also important to evaluate the achievement of certain process indicators. For example, the overall objective of the primary health care program is to bring integrated, cost-effective, and continuous primary preventive and curative activities (although not specifically addressed here another large service provided by CHWs is wound care) to the population. The system must be put in place first and this has been achieved. Many huts continue to function at acceptable levels. One notable systemic problem identified by the team was that the intensity with which the EPI was implemented overshadowed some of the other efforts that were to be taking place simultaneously (e.g. ORT). For several years, it appears that UNICEF viewed its EPI as a vertical program with little thought to seeing it integrated into other primary health care activities. It is a credit to the Regions of Fatick and Kaolack that they were able to carry out integration to the extent that they did. Fortunately, it appears that this vertical orientation may be changing. Another obstacle during the Project period was the national health workers strike in 1988, when health activities virtually came to a standstill.

Although not specifically charged with evaluating family planning services, the evaluation team inquired about these activities at health posts/rural maternities, and asked post level health providers about demand and their interest in more education. Several nurses who were asked about needs in family planning responded that they would like more education about family planning and felt that they should offer this service, although some were fearful about possible problems with husbands who did not approve. They stated that many women ask about family planning, and that the majority of women using contraception do so to space their children about two years apart. The most common method chosen in this very limited sample was the birth control pill. Only a small number of posts, however, were supplying family planning services. The team was impressed by the extent of interest in family planning methods both among the population as well as by the nurses and midwives. It appears that the structure exists to now bring this service widely to the post level in the rural areas of F/K.

4. Training

a. Background of first phase

During the 1978-1983 RHDS I phase, intensive training of CHWs and committee members occurred with very good results as measured in the 1982 Evaluation. For details, see Annex 5-3.

b. Objectives of second phase, 1984-1989

The Project envisaged for the second phase, 1984-1989, an ambitious, multi-dimensional training component "reaching thousands of people from the village to the national level": health personnel and technical agents; members of community organizations for the management and support of the PHC system, government administrative employees, and staff of health and health-related training institutions. A central objective was to gain understanding and support for primary health care and public health at all levels of the Health

Ministry. More specifically, the training component was intended to enhance the training and supervision of project personnel in community organization, (social development and motivation to help villagers organize to choose hut sites, build the huts, choose the personnel and health committee members), preventive health care, management information systems and analysis, pedagogy, vehicle maintenance and health education. The Project foresaw decentralized training and supervision, hoped to introduce, test and support new preventive medicine components in Project personnel training to strengthen local community structures responsible for the management and support of the PHC system, and improve the PHC training capacity of Senegalese institutions that train health and health-related personnel.

c. Achievements in second phase, including the extension period, or 1984 to the present

The two periods are treated together because they overlap. However, the training is broken out by year of departure for long-term training and by annual segments for the short-term training. These are shown in Annex 5-1 Short and Long-Term Trainees.

(1) Creation of the Yaolack Training Center

Project planners early felt the need for a training locale but had aspirations beyond the Project needs. Looking to a broader horizon, the early planners conceived a training center that would not only answer national needs but also possibly those of neighboring countries. Thus, the Kaolack Training Center was born, (inaugurated in January 1985) intending to meet Project-related training activities for orientation, training of trainers (TOT), technical interventions, strengthening of community structures, as well as for upgrading skills of health personnel, collaboration with health training institutions, center for applied research, site for national and international PHC seminars, and training site for the National Center for Health Development. The physical facility and its equipment and furnishings are described in detail in the 1986 Evaluation. At that time the Center had only an Administrative Director and a Director of Studies, and the evaluators in 1986 noted that this lack of adequate personnel and posts long vacant severely threatened the Center's performance and capability. The evaluation also noted that five persons were being paid by the Project and that the Center still lacked legal statutes. It was suggested that the legal question be resolved as quickly as possible and that the Center become self-financing and autonomous.

(2) Cabinet Tall study

In response to this recommendation, the Project managers arranged to have a study carried out by the Cabinet Mamadou Tall in January 1989. The study was to determine the amount of income the Center would need to generate each year and to recommend a financial management system. When the study was prepared, the Center employed 11 persons: three professionals (a Director, two trainers, one for the library and one for the audiovisual laboratory), three support staff (secretary, accountant, documentation assistant) and five other staff (driver, two guards, two cleaners/helpers). By January 1989, the

Director had been in his position for nearly two years. The trainers (Messrs. Toure and Ndao) had five weeks of training in the US and other specialized training in audiovisuals.

A description of the financial analysis made by Tall is included as Annex 5-2, Training Center Study 1991. The study notes that power is highly centralized which inhibits timely management decisions, and that there are neither written procedures nor good financial record-keeping systems in place. The study recommended a preferred option for future optimal marketing of the training center site: that of improving at a total cost of 9.8 million CFA the classroom furniture and equipment, air conditioners and the food service (specifically not to add bathrooms to sleeping quarters which would make the Center more like a hotel); that these improvements should occur after more basic needs for training areas and support of food services were met.

(3) Team observations, 1991

In our visit to the Center in April 1991, the Director told the Evaluation team that he invested 4 million CFA to add bathrooms in the dormitory, which he somehow was able to get out of the blocked account at the USB. Thus, the Tall recommendations did not guide the selection of options. No further action has been taken on the Tall recommendations for steps toward resolving the legal problems, and the situation remains the same in 1991 as it was in 1989. During the team visit to the Center, only a secretary and guardian were present though there were guests using the bedrooms and recreation area. Maintenance of the library and the toilets in the guest rooms was inadequate and signs of a housekeeper not visible. The audiovisual equipment listed above was in place but accumulating dust despite being locked away in a special room.

(4) Center training records

From the 1986 evaluation, it had been noted that the Training Center functioned 30 percent of work days between the beginning of 1985 and up to April 1986. The team attempted to look at the records but these were incomplete, often with no indication of the numbers trained, but the following data on number of training days shows the pattern of utilization: 1985 was the first and most active year for the Center-generated training, with a subsequent progressive decline in the following years up to non-utilization in 1990 and to April 1991, via:

Year	Number of Days of Training
1984-85	108
1986	86
1987	63
1988	51
1989	20
1990	0

The detailed activity which occurred in the Center between 1984 and 1989 is in Annex 5-4, Kaolack Training Records.

No Center-initiated activities have taken place since USAID stopped paying per diem in March 1989 despite the allotments made to the Regions and the 10 million CFA budget provided by the government to keep the Center "functioning" (this amount does not cover the salaries of the two professionals presently at the Center: Mr. Ousmane Fall, the Director, and Mr. Mamadou Wade, the Director of Studies). The National Investment Budget shows eight additional staff members currently being paid for duties at the Center.

The Center is not autonomous, but it functions in limbo, unconnected to Regional priorities. The Center staff deplore the lack of training requests and support for such training that might come from Regional funds. The team verified that the Chief Medical Officer in Kaolack, for example not only is failing to make use of the Center but has no sense of what the training facility is doing or should be doing. Instead of achieving decentralization as intended, the Center is in fact centralized, co-directed by the Project Unit Office in Dakar and still officially attached to the DRPF which no longer exists.

(5) Training in the region

During the second phase, 1984-1989, there were 3792 village health committee members in the extension zones of Kaffrine and Fatick Departments in 105 sessions; 396 members of 33 management committees and 33 pharmacy depot managers from the same two Departments. The 1986 Evaluation provides detailed lists of trainees in the Project area up to that time. The survey made in 1986 looked at training effectiveness and found that 93 percent of the CHWs in the test zone knew the essentials of oral rehydration and 79 percent of them knew the basics of malaria prevention. 43 percent of the test zone healthworkers had received refresher training compared with 82 percent trained in the Extension zone of Kaffrine and Fatick Departments between 1984-1986. A major failing noted in the 1986 Evaluation was that Comites d'Extension Rurale (CER) members with the exception of personnel at Ministry levels had been excluded from training. From the Center data, listed below, it may be noted that subsequent training in the Region did not include CER members.

The team concluded that while the initial training program prepared the health hut staff quite well, it was not sustained with respect to new staff nor for the continuing needs for refresher training both at the hut and post level. There was some built-in continuity in that health post nurses continued to train new staff or through supervision, provide on-site training for hut staff. The majority of HPNs queried by the team continued to provide such training. However, overall the Project failed to build in or carry out sufficient training in financial management, community organization effort, or provide the follow-up needed to initial efforts to ensure continuity. Those huts that had exceptional community cohesion or resourceful CHWs survived and prospered, but the base was not sufficiently established for sustainable community health management.

(6) Long term training

Up to April 1991, three of the 13 Senegalese selected for long term training in the United States were still there working on advanced degrees though not paid for by the Project. Two who received long-term training are working in the Project area. One is the Health Education Adviser in Fatick and other is the Regional Pharmacist in Kaolack.

Of the five physicians selected for long-term training, one is still in the United States, one returned to the Army, one is Chief Medical Officer in Louga, and two are serving in the MOHSA--one as Technical Adviser of MCH/FP, and one as Director of Primary Health Care.

Four technical supervisors were trained: one is still in the United States working on a Ph.D, one is working as a private consultant, and the other two are in the MOHSA, one in the Training Section of the Cabinet and the other in the Health Education Section. Two social assistants were trained; one has continued training in the Medical Management Training Center in Dakar, CESAC and the other is working as Health Education Supervisor in Fatick Region. Fields of study included health systems management, epidemiology, communications and health education, public administration and health policy and management, and nutrition. Annex 5-1 lists long-term trainees, present position, the type and period of study, and the training institution.

The 1986 evaluation noted that the training in fact was disruptive to project implementation and came late in the RHDS effort. The Kaolack Center e.g., lost a very dynamic trainer in 1986, and never regained its momentum. The Regions and Departments also were deprived of staff who had been sent abroad when Project life was in need of the continuity such presence could have given in the absence of sustained support from the executing institutions and when balance in health service delivery was needed (frequent exclusive emphasis to the vaccination efforts). It must be noted that the delays that occurred in getting the training contract implemented with HIID, seriously affected project implementation, since the first major training activities were not even started until 1986, too far along in the Project which was to terminate in 1989. While other areas, central and other Regions, have shared in the training benefits, effects have on the other hand, been diminished in the Project area itself.

(7) Short-term training

Between 1984 and 1990, about one hundred short term technical training programs were provided to Senegalese doctors, nurses, midwives, administrative cadres, social assistants and some agents from other Ministries such as Social Development (the Ministry in charge of the rural promoter program--animatrices rurales). Most of the courses were in United States universities--Columbia, Chapel Hill, Pittsburgh, Harvard, Boston, Atlanta--and John Snow International. Others were in CESAO, Burkina Faso and in France. Of the Senegalese trained, the Director of PHC has calculated that only 19 of the short-term trainees currently work in the Project zone of Fatick and Kaolack. Others have

been transferred to other Regions, where it can be assumed that similar public health orientation to that observed among interviewees during the field work will be evident. However, impact in the Project Region has been reduced by this dilution. 28 of the trainees are working in Dakar, 11 of whom are in the MOHSA, and six of whom are in the Cabinet (six out of nine Cabinet advisers). Only three of the physicians who had short-term training are currently working in the Project zones, one as Chief Regional Medical Officer of Fatick, a second as Department Medical Officer of Cuingineo in Fatick, and the third Chief Medical Officer in Kaolack Department.

Between 1984 and 1988, an average of 20 health staff were trained annually, and in the two subsequent years, less than 10 each year. Most of the training was in primary health care management, family planning, planning and management of PHC programs in nutrition, community mobilization, group dynamics, pedagogy, supervision and motivation, education and social mobilization, statistics and computer training. (See Annex 5-1, Short-Term Training, for list of short-term trainees with indications of present positions as available and fields of study.)

(8) Conclusions

Returns to the Project on the short-term training are also minimal. Future efforts should follow a health human resources plan which will lay out a calendar of personnel needs, training gaps, areas of specialty and a timetable for carrying out the training. HIID assistance in backstopping past training programs was considered exemplary by those who managed the programs as well as by those who took part in the training itself.

(9) ISED

Though begun in December 1988, the public health training being carried out in the Institut de Sante et Developpement (ISED) is discussed under the Extension Phase, Strengthening of Public Health Training Institutions. The team merely notes here that this in-country plan for preparing public health cadres answers many of the problems described above.

(10) Field interviews

The objectives of the overseas training were to insert public health orientation into the Ministry of Health, and with noticeable failures (the Chief Medical Officer in the Kaolack Region unfortunately has not yet had public health training and its absence is sorely noticeable). Kaolack's Regional Plan includes training for him in the ISED course described elsewhere, the stamp of public health orientation was detectable to the team--specifically in planning language, ability to discern target populations and programs, current progress (often shown through graphs depicting coverage with the different interventions). For two of the evaluation team members who had visited other Regions of

Senegal two years earlier, the enhanced awareness of the need for health planning and the priority of preventive health was very striking.

The perception of actors at all levels was that training was a key component with innate continuity: it was thought that CHWs, even should they leave their posts, would henceforth know how to care for family and neighbors. Others thought that many healthworkers had learned to manage resources and plan.

The revitalization of the Training Center must be priority for the Government. While it is hoped that the Regions directly and through Department-level requests will apply resources to Center training programs, the current staff can also initiate ideas for future training sessions.

(N.B.: a plan for "redynamisation", of the Training Center was delivered at the time of the debriefing by the Center Director, April 29, 1991.)

5. Supervision and its sustainability

The Project included several specific indicators related to supervision. Two were meant to evaluate fulfillment of the Project purpose:

- "40 percent of the Rural Communities have decided to allocate a portion of the rural community budget (8 percent at least on a one time basis) to support the supervision costs of the health post nurse, i.e., the purchase of a mobylette;" and
- "40 percent of the Health Post Committees contribute funds (from user fee revenue) to defray the cost of supervision."

The third indicator (below) was to examine whether the Project had successfully achieved "institutionalization of a system of supervision extended to the village and appropriate to the village and to the financial and human resources of the MOHSA."

- "Health post nurses conduct village based supervision (i.e., visit each health hut) nine out of 12 months."

Although the evaluation team was to assess achievement of these indicators "up to 7/89" or "between April 86 and June 89," it proved impossible to reconstruct what activities were prevalent in 1989, so the discussion which follows focuses on the current situation only (as of April 1991).

a. Supervision of health huts by health post nurses

Current activities show that institutionalization of a sustainable supervision system down to the village level has not been achieved. Regional staff and reports

regularly complain about the inadequacy of the fuel budget for supervision (or problems in how the budget is allocated), as well as the lack of vehicles, molyettes, and funds for repairs of these items. These resource constraints prevent on-site supervision at all levels, including region to department/district and district to post, as well as post to health hut. At the same time, health post nurses are still undertaking supervisory visits in some areas with whatever resources are available. For example, in nine posts out of the 12 visited, nurses reported that they conducted on-site supervision of health huts on a regular basis (Passy, Niakar, Patar Lia, Ndiago, Birkelane, Prokhane, Fayil, Wack Ngouna, Missirah). Not every hut is visited during every supervision trip, however. In many cases, these supervisory visits were made possible only through collaboration with the PEV program, which provided vehicles or molyettes and fuel. When these resources are withdrawn, the supervision system may be seriously endangered. Several nurses used revenue from vaccination fees or prenatal care fees to pay for fuel or to rent a horse and cart to make trips to villages. They then combined supervision activities with mobile vaccination sessions and MCH activities.

The system of regional and department or district-level coordination meetings seems to function well in the Fatick Region (though it is uneven in the Kaolack Region), and provides an important chance for voicing of concerns, sharing of information, and coordination of activities. These regular meetings can provide a more efficient and sustainable supervision system up to a point, but they cannot match the benefits of supervision achieved through on-site observation and one-on-one discussion. Some health post nurses arrange such off-site meetings with CHWs, often on market day. While helpful, one nurse remarked that these meetings do not provide the boost to the CHW's image within his/her community that an on-site visit by the health post nurse can sometimes have.

Supervision was seen by most health post nurses as a key ingredient to successful operation of the health hut system. Problems with financing the recurrent costs of supervision were considered very important. In the time permitted, the evaluation team could not evaluate the quality of supervision, or the extent to which supervision patterns were changed following dissemination of the results of a supervision study co-financed by USAID and PRICOR (Phase I report, 1989). The Director of Studies at the Kaolack Training Center has conducted additional operations research on how to train supervisors (Wade 1990) and has developed a training module and case study for training of supervisors, although neither has been used extensively.

b. Financial contributions of rural communities and the HP Health Committee

(1) Rural communities: overview of role and budget process

To evaluate the Project's success in this area, it is first important to understand the respective roles of the Rural Communities and Health Committees in the Senegalese health system. Many documents exist which provide detailed information on this topic (see for example Dumoulin & Lagace 1990; Region Medicale de Fatick 1989; Project Paper Annex B, Economic and Financial Analysis 1984; Gray 1983).

The "communaute rurale" (CR) in Senegal is a local government organization, below the district level, created by law in 1972 as part of the government decentralization process. These collectivities regroup villages in rural areas, and are the counterpart to "communes" which regroup urban residents by neighborhoods. The CR, led by a popularly elected president and rural council, has the right to impose taxes and is responsible for carrying out public works with these tax revenues. Currently, village chiefs collect a head tax of 1,000 CFA per adult over age 15, and are rewarded with a percentage of receipts (which may vary according to the chief's success in collecting the tax). While the head tax often accounts for over 80 percent of total CR revenue, other revenues are obtained through fees, fines or taxes on economic activities such as local markets and industries.

Incentive payments and various other costs related to tax collection usually amount to 10-18 percent of total revenue and are considered as the operating budget ("budget ordinaire") of the CR.⁵ All other expenditures are considered investment costs ("budget extraordinaire"). Very infrequently, certain public building maintenance costs are also considered in the operating budget, and historically some CRs have included periodic drug supply purchases for health posts as an operating cost (although in Kaolack, this expense is now considered an investment cost in most CRs). But for the most part, the CRs are supposed to be in the business of investing in community development, rather than financing ongoing public service activities. The text of the laws covering the CR budget allocation process are promulgated by the Interior Ministry.

In the past, the laws governing how the CRs can or should spend tax revenues have been interpreted in multiple ways by different interest groups. For example, some health care staff are convinced that the laws do not allow any recurrent expenditures relating to sector activities, and that they prohibit allocations to health from exceeding 8 percent. Officials in the MOHSA gave an alternative interpretation of the rule guiding allocation of CR tax revenue to the health sector: any CR which constructs a health post is supposed to make a further allocation of 8 percent of the initial construction cost, to finance equipment (which might also mean a start-up supply of pharmaceuticals.) According to one source, the 1989 "Declaration de la Politique Nationale de Sante" discussed the need for reform of the text of the laws, to allow CRs to spend at least 8 percent of their budgets on health. Over a series of meetings between Project staff and officials from the Ministry of the Interior, however, the MOI claimed that health officials were misinterpreting the text, and that the law as it stood did not restrict CR spending on health.

The review of laws, decrees and regulations affecting the health sector in Senegal, proposed as part of the USAID-financed health care financing study to take place in 1991, will be extremely helpful in eliminating some of this confusion. In addition, UGP staff told the evaluation team that these laws have been clarified recently by the Ministry of the Interior. What remains to be done is to disseminate the new laws among administrative staff,

⁵ In Kaolack, operating budget was 10% on average in 1990-1991, whereas in Fatick, operating budget was 18% in 1989-1990.

elected CR officials and health staff in the Regions, and ensure everyone is aware of their meaning.

In deciding that the CRs should be called upon to finance costs related to supervision (a strategy pivotal to the Project rationale), the evaluation team feels that the Project Paper underestimated the complexity of the legal environment and the level of readiness of local administrative personnel to accept such a financing arrangement. For example, the Project Paper assumed that 13.8 million CFA per year in incremental health expenditures would be assumed by the CRs, effectively doubling their spending on health (Project Paper Annex B, Economic and Financial Analysis 1984). At the time the PP was written, there was no precedent for CRs to finance operating costs in any sector beyond the relatively small allocations of a start-up drugs for newly constructed health facilities, nor had there been precedent for CRs to finance purchase of any vehicles or means of transportation. (CR tax revenues are most often used for capital investment projects involving construction, mostly water projects and public buildings, or large equipment purchases such as mills for grinding millet.) The PP also took no explicit account of the timetable for how the CRs would be approached and convinced to make this radical departure from standard Procedures. The success or failure of the Project in achieving the objectives related to a self-sustaining supervision system, then, must be viewed with these initial design flaws in mind.

(2) Results of analysis: Fatick

In Fatick, the team evaluated data from the Fatick Medical Region reports concerning financial contributions from the CRs. For Kaolack, the 1990-1991 budgets submitted to the Governor were examined to find the proportion of expenditures allocated to health, and to detail the types of health expenditures planned.

The total Fatick Region budget for 35 communes rurales was about 244 million in FCFA in 1989-1990, of which 202 million CFA were available for sector investments.⁶ CRs in Fatick spent 20-40 percent on water projects, 13 percent on rural development (agriculture, forestry and animal husbandry), and smaller percentages in other sectors.

Records showed that in Fatick, CRs were budgeting about 1-2 percent of total revenue to health in FY 1989 and 1990 (Fatick Medical Region, Statistical Annual for 1989). All these funds were used for the purchase of drugs for health posts and health centers. In no case has a CR in Fatick financed the purchase of a moped or repair maintenance/fuel costs for supervision of health huts.

(3) Results of analysis: Kaolack

In Kaolack, the team reviewed CR budgets for 1990-1991 submitted to the Governor's Office for approval. The budgets anticipate over 355 million

⁶ In Fatick, about 90% of budgeted tax revenues were actually collected and spent in 1989-1990 Governance 1989.

CFA (1.3 million dollars) in local tax revenue, as shown in Table 3. Subtracting the 10 percent of the budget which covers the operating costs of tax collection (mainly incentive payments to the village chiefs), the funds remaining for investment in all sectors amount to 318 million CFA, or about 510 CFA (\$1.81) per capita.⁷ Tables 4 and 5 illustrate how expenditures are allocated among different sectors. The analysis reveals that although budget allocations in the category of "health and social affairs" approached 11 percent, less than 5 percent of these allocations were destined for the health sector (the remaining 6 percent were programmed for social affairs items such as the construction of "foyers des femmes" (women's home economics centers) and purchase of mills to grind millet).

For the Region as a whole, about 15 million CFA (24 CFA per capita, or about nine cents) were budgeted for health care expenditures in 1990-1991, only slightly more than the 13 million budgeted for youth, sports, and cultural events. These expenditures were distributed unevenly across districts (Nioro allocated 6 percent to health, while Kaolack budgeted less than 3 percent) and across CRs (15 out of 40 CRs budgeted nothing at all, while every CR in the Nioro district budgeted 300,000 for drugs). The analysis found that the bulk of local tax revenue is allocated for water and energy projects (41 percent), followed by education (13 percent). A large proportion of the budget (18 percent) is unprogrammed.

In Kaolack, as in Fatick, no health funds are budgeted for the purchase of mobylettes or to pay the operating costs of the supervision system. As shown in Table 6, the most commonly budgeted health item is drugs (35 percent of all CRs), followed by equipment for rural maternity units (20 percent) or maternity unit construction/repairs (10 percent). One CR was planning the construction of a health post, and two others had budgeted funds for public latrines near market areas.

(4) Summary of findings re: CR funding

The Project's lack of success in achieving objectives in this area was partly due to an underestimation of the complexity of the legal environment and potential resistance from local administrative officials (particularly within the Governors' offices). If information reported from UGP staff is correct, this situation has improved very recently, and in 1991 new laws have appeared which will make it much easier for CRs to finance health-related expenditures.

⁷ In three Kaffrine CRS, funds were budgeted for "entretien et reparation" which may have been for drug purchases. The item was inserted under Chapter 363 (health and social affairs) and was listed as chapter or article 363. The amount budgeted was 150,000 in each. In all of the Kaolack CRs, funds for drug purchases which were requested under the operating budget were moved to the investment budget during the review process in the Governor's office. It is unclear whether the reviewer simply missed the three Kaffrine CRs, or whether the CRs in Kaffrine were using the category for other expenses.

TABLE 3
 BUDGET OF "COMMUNAUTES RURALES" (C.R.), KAOLACK REGION
 JULY 1990 - JUNE 1991

(in thousands of CFA)

HEALTH DISTRICT	RURAL POPULATION	TOTAL BUDGET	OPERATING EXPENSES	% TOT	INVESTMENT EXPENSES	% TOT
KAOLACK		93,189	9,695	10%	83,494	90%
NIORO		98,232	9,926	10%	88,306	90%
KAFFRINE		130,189	12,797	10%	117,392	90%
KOUNGHEUL		33,511	4,024	12%	29,486	88%
TOTAL	625,029	355,121	36,443	10%	318,677	90%
PER CAPITA		0.568	0.058		0.510	

(in US dollars, 4/91)

HEALTH DISTRICT	RURAL POPULATION	TOTAL BUDGET	OPERATING EXPENSES	% TOT	INVESTMENT EXPENSES	% TOT
KAOLACK		330,457	34,381	10%	296,077	90%
NIORO		348,339	35,197	10%	313,141	90%
KAFFRINE		461,663	45,381	10%	416,282	90%
KOUNGHEUL		118,833	14,271	12%	104,561	88%
TOTAL	625,029	1,259,293	129,230	10%	1,130,061	90%
PER CAPITA		2.01	0.21		1.81	

BEST AVAILABLE

TABLE 4

BREAKDOWN OF INVESTMENT BUDGET OF COMMUNAUTES RURALES, KAOLACK REGION
 (in thousands of CFA)
 FY 1991

BUDGET CATEGORY	KAOLACK		NIORO		KAFFRINE		KOUNGHEUL		TOTAL	
	AMOUNT	%	AMOUNT	%	AMOUNT	%	AMOUNT	%	AMOUNT	%
HEALTH AND SOCIAL AFFAIRS	5,775	6.9%	15,360	17.4%	10,250	8.7%	3,298	11.2%	34,683	10.9%
HEALTH	2,400	2.9%	5,360	6.1%	5,750	4.9%	1,600	5.4%	15,110	4.7%
SOCIAL AFFAIRS	3,375	4.0%	10,000	11.3%	4,500	3.8%	1,698	5.8%	19,573	6.1%
EDUCATION, YOUTH & SPORT	20,301	24.3%	14,661	16.6%	15,680	13.4%	3,060	10.4%	53,702	16.9%
EDUCATION	16,611	19.9%	10,810	12.2%	11,095	9.5%	1,710	5.8%	40,226	12.6%
YOUTH, SPORT, CULTURE	3,690	4.4%	3,851	4.4%	4,585	3.9%	1,350	4.6%	13,476	4.2%
RURAL DEVELOPMENT	3,100	3.7%	14,100	16.0%	15,500	13.2%	600	2.0%	33,300	10.4%
WATER AND ENERGY	29,390	35.2%	33,487	37.9%	50,037	42.6%	17,995	61.0%	130,909	41.1%
OTHER	4,160	5.0%	3,181	3.6%	1,610	1.4%	200	0.7%	9,151	2.9%
RESERVE FUND	120,767	24.9%	7,517	8.5%	24,315	20.7%	4,333	14.7%	56,932	17.9%
TOTAL	183,494	100.0%	188,306	100.0%	117,392	100.0%	29,486	100.0%	318,677	100.0%

TABLE 5
 BUDGETED PER CAPITA EXPENDITURES BY CATEGORY
 KAOLACK REGION COMMUNAUTES RURALES
 JULY 1990 - JUNE 1991

BUDGET CATEGORY	CFA	DOLLARS
HEALTH AND SOCIAL AFFAIRS	55	0.20
HEALTH	24	0.09
SOCIAL AFFAIRS	31	0.11
EDUCATION, YOUTH & SPORT	86	0.30
EDUCATION	64	0.23
YOUTH, SPORT, CULTURE	22	0.08
RURAL DEVELOPMENT	53	0.19
WATER AND ENERGY	209	0.74
OTHER	15	0.05
RESERVE FUND	91	0.32
TOTAL	510	1.81

US \$1.00 = CFA 282 (April 1991)

TABLE 6
 BUDGETED HEALTH EXPENDITURES BY TYPE
 COMMUNAUTES RURALES, KAOLACK REGION
 JULY 1990 - JUNE 1991 (in thousands of CFA)

TYPE OF EXPENDITURE	CRs		TOTAL ALL CRs	PERCENT
	WHICH BUDGETED THIS ITEM	AVERAGE BUDGETED AMOUNT		
DRUGS	35%	336	4,700	31.1%
RURAL MATERNITY EQUIPMENT	20%	552	4,413	29.2%
RURAL MATERNITY CONSTRUCTION OR REPAIRS	10%	562	2,247	14.9%
HEALTH POST CONSTRUCTION	2.5%	2,750	2,750	18.2%
PUBLIC LATRINES	5%	500	1,000	6.6%
	NA	NA	15,110	100.0%

The task now is to make sure that health care professionals in Fatick and Kaolack are aware of these changes, and begin to pay more attention to the budget allocation process undertaken each year by the governing councils of the CRs. Health care expenditures financed by local taxes in rural areas can most certainly be raised through more active lobbying efforts. Clear evidence of the CRs' ability to pay can be found in the several hundreds of thousand CFAs budgeted in Kaolack for sports equipment, while the health sector is ignored. But if health care professionals would like to obtain more funding from this revenue source, they are going to have to go before administrative officials to ask for it, and to give clear and persuasive evidence of why such expenditures are needed and how they will benefit the population. There have already been a few examples of successful lobbying of this kind (e.g. Wack Nbouna).

More specific recommendations about CR financing of supervision costs may be found at the end of this section.

b. Health post health committees/user fee funding

The Project envisaged "40 percent of Health Post Committees contributing funds to defray the cost of supervision." Discussions with staff from the UGP clarified that the funds contributed were to come from the "participation revenue" (user fees charged at health posts).

The evaluation team found that health posts vary in their ability to finance such costs from user fee receipts. In the health posts visited total revenue generally ranged from around 20,000 CFA per month (\$71; Mboss) to over 120,000 CFA per month (\$427; Passy). Two posts for which financial data were available had revenue of over 1.1 million CFA per year (about \$3,900; Passy and Ndoffan). At the other extreme, one post had only started charging in the last month, after a long period of not charging fees due to a cycle of misappropriated funds, drug stockouts, and community unwillingness to pay (Mboss). The team noted that in Fatick District, user fee revenues more than doubled following a training of health committee members in financial management techniques, so the level of receipts seems to be closely linked to management capacity.

The guidelines from the GOS regarding cost recovery in the health centers/health posts recommend a 60/20/20 division of revenues: 60 percent to finance drug supply; 20 percent to finance motivational payments to volunteer health workers at the health center/health post level; and 20 percent for "other" expenses, which is where supervision falls. In a health post with an annual total revenue of 240,000 CFA (which is at the low end of what we observed in the field), this means that 48,000 CFA are available for spending on supervision and other non-personnel or drug costs (notebooks, supplies, repairs/maintenance, and fuel). According to the Project Paper, the average health post requires about 7 liters of fuel per month for supervision, which in 1984 cost about 26,800 CFA per year. Thus fuel costs might consume up to 56 percent of the "other" budget category. More information is needed about how health committees spend their "other" allocation to see whether this is reasonable, given other budget priorities.

The evaluation team found that health posts often respected these budget allocation rules, but in some cases spent more on personnel and "other" than on drugs. The underspending on drugs was sometimes attributed to stock-outs at the level of the regional pharmacy. Unfortunately, financial records are very rudimentary and it is difficult to verify reported expenditures. The team also noted the tendency of some health committees to accumulate large cash balances: in one case the stated reason was that the committee was saving to accumulate the required minimum balance to open a savings bank account; however, it seemed that more often the "hoarding" of health post receipts did not serve any purpose other than the apparent prestige the large balance seems to accord the committee.⁸ Finally, the evaluation team noted that in some health posts, nurses are not very involved in financial management and budgeting activities; yet it is the head nurse who should have the best idea of resource needs and timing of expenditures throughout the year. Because of deficiencies in budget management, supplies are sometimes ordered too late, or there does not seem to be enough money for supervision when in fact, "other" revenue has been spent on items which are not of priority concern. Certainly, these impressions of the evaluation team must be confirmed through a better analysis of financial data from health posts, which is planned as part of the HCF study.

In several cases nurses have been authorized by the health post committee to use receipts from sales of vaccination or prenatal care tickets to pay for fuel for village visits (e.g. Wack Ngouna), during which the nurse can often conduct supervision of CHWs as well as vaccinating and performing other MCH activities. The evaluation team did not visit any posts where user fee revenues were regularly budgeted for supervision costs, however. In fact, some health post staff and health committee members do not seem to realize that GOS guidelines allow them to spend their revenue for this item.

The team did find several examples of health committees gathering periodic community collections to pay for replenishment of the health post drug supply, or to purchase registers, ticket books, and other operating supplies (e.g. Mbess in Kaffrine District), although there is no specific supervision cost-specific recommendations are contained in Chapter VII.

6. Health/management information system

a. Objectives and findings from previous evaluations

The major objective related to the health/management information system (MIS) in the RHDS II was to build on the framework established in the first phase to

⁸ For example, at the start of 1989 health committees in the Kaolack Region had a cumulative total of 10 million CFA in cash. By the end of 1989, the committees had added an additional 2.7 million to this cash balance, for a total of 12.7 million CFA (about \$45,000). This is the equivalent of about six months' expenses from user fee revenues. The "hoarding" phenomenon was previously noted by Sallet (1990), as well. Of course, given the poor quality of financial data in the Region and weak financial controls, this cash balance may be more on paper than in accounts.

develop a system of data collection from the health hut level to be used to determine achievement of target indicators and Project impact. The Project Paper proposed a system that is "simple enough to be feasible, yet sophisticated and flexible enough to respond to a wide variety of information needs for management, epidemiological surveillance, evaluation, and international comparisons." It also proposed the introduction of computers and a study to determine the effectiveness of their use. The specific aims of the first two years of the RHDS II were to have in place a MIS capable of analyzing and transmitting data to district centers in a timely manner, and to set up a reporting system from the 16 test villages. Further, the MOH was to provide a statistician to the Regional Medical Office of Kaolack. Following the mid-term evaluation, the objective was to disseminate the MIS (after the recommended changes were made) throughout the two Regions simultaneously with the expansion of technical components, so that by the end of the Project the system would be fully functional and serve as a potential model for other regions.

The MIS has been examined by several evaluations through Phases I and II, and the general conclusions have remained unchanged. In his evaluation of the MIS in December 1983, Kelly defined the system as "heavy," a word that is still used by health workers in the field to this day. He listed a number of points concerning the weaknesses of the system:

1. There are too many forms.
2. They are too complicated.
3. The structure is parallel to the national one.
4. Instructions and training concerning use of the forms have not been adequate.
5. Supplies of printed forms sometimes run out.
6. Collection of reports has been irregular.
7. Few analyses have been done.
8. No feedback of results has occurred.
9. When special studies are done, the results are often long in coming.

In his report, he carefully outlined the large number of reports and registers used at the village, health post, department, region, and national levels (Office of Statistics). He also described the parallel system of reports that went from the health post to the USAID Project Office. The majority of reports were of little value, yet consumed a great deal of time. Health post nurses collected data directly from the registries and charts (there were pictorial charts for illiterate CHWs) at the health huts, thereby increasing their already heavy burden. He went on to propose a simpler MIS.

The 1986 mid-term evaluation team found that few changes had been implemented in the MIS, except for its expansion to the Departments of Fatick and Kaffrine. Furthermore, a statistician had yet to be assigned to the Regional Medical Office in Kaolack. Although CHWs had received training, the administrative demands were often overwhelming and the quality of the reports was generally considered poor. Satellite village animatrices were expected also to complete some records and forms. The general quality of record keeping and reporting was judged better at the health post level, but supervisors were often overburdened, particularly in light of the minimal, if any, administrative and statistical training most

received. Little use of the data was made either by the health huts or posts, in that no analysis, processing, or feedback was done.

The parallel data information system had also persisted. The team found that there was a heavy workload of reports at the Project Office, much of it unnecessary for management decisions. There appeared to be review and follow-up of financial information, but not of activity reports. This responsibility was supposedly left to the regular supervisory system. However, interviewed health workers reported that they rarely received feedback from supervisors, or when they did, it was always verbal and related to how to fill out the form, rather than what the results were and how they could be applied. They denied ever receiving a written report of the health status of their Regions.

The RHDS II Project Paper proposed 13 indicators that could be measured from data collected in the villages, among them: infant mortality rate, percentage of low birth weight babies, proportion of active health huts, average expenses per hut, and the proportion of cases represented by fever, severe cough, or diarrhea. As pointed out by both Kelly and the 1986 evaluation, the necessary calculations were not carried out to determine these indicators. Kelly had provided detailed instructions to calculate necessary indicators, but this appears to have not changed anything. In 1985, three microcomputers were distributed, one to the Regional Medical Office in Kaolack, one to the HPNO Project Office, and the third to the national level in the Division of Statistics. The computer was not being used in Kaolack at the time of the mid-term evaluation, as no one had been trained.

The mid-term evaluation made a number of recommendations that in the view of this evaluation team, were right on target, and of which many are still appropriate:

1. Make a serious and urgent effort to simplify and rationalize the system. One change to consider would be the elimination of record-keeping in the satellite villages.
2. Review and eventually revise the existing list of indicators; then put them to use.
3. Review and eventually revise the forms, registers, ledgers, and reports now in use and eliminate any that can be replaced. For this purpose, consult the 1983 report of Patrick Kelly.
4. Organize a seminar-workshop involving all interested parties to reconsider the following aspects of the information system: content, forms, communications, processing, analysis, and use.
5. Establish a regional data exploitation and analysis capacity, using the Project microcomputer and taking advantage of DRPF experience.

6. Train the health post heads and supervisors in calculation and analysis, involving the competence of the DRPF.
7. Review and tighten the supervision of data collection and the reporting from the base to the Ministry.
8. Improve (strengthen) coordination between the Project and the services of the MOHSA at the regional level, particularly as concerns the sharing of information.
9. Initiate a study to identify the most effective way to integrate the Project information system with that of the Ministry to ensure an uninterrupted flow of information when the Project ends.

b. Findings from the Current Evaluation

The current evaluation team member who was the Medecin Chef of Fatick between 1987 and 1990 stated that Project Office forms continued to arrive in his office long after the Project Office closed, which was in 1987; a health post chief provided the team with a health hut summary report form dated May 1989. Little progress had apparently been made in integrating activities between the Project Office and the regular MOHSA reporting system before the former was eliminated.

Considerable efforts have been made by the central level to consolidate data collection forms at the health post and health center levels for all regions. The Division of Statistics has throughout the Project considered the necessity of developing data collection forms that are applicable to the entire country. The Health Post and Health Center Reports of Activities, distributed in 1986, each provide a page for activities occurring at the health hut level; the responsibility for collecting the information from the hut still resides with the health post chief (Annex 6-2 and 6-3). The forms have gone through some revisions since 1986, and the most recent version was the product of modifications made after regional MIS training seminars in 1989. In spite of this effort, the number of forms required at each level has not appeared to diminish. As new programs were instituted, additional forms were added. A good example of this is the EPI, which introduced two additional monthly reports at the health post. Although the Activities Report form provides tables to fill in with parallel information, except for stock information, the other EPI forms are still used. The team regards the collection of parallel data for different "programs" as a major drawback to the efforts to consolidate and streamline the MIS. Donor agencies are particularly demanding of special data to evaluate their individual projects. They need to be aware of the extra burdens these demands make on the system and work with the MOHSA to reduce unnecessary duplication.

The team discovered in the field that some satellite villages are still keeping registers, generally for chloroquinization activities. Fifteen of the 24 health huts visited collect some form of data, although the type, completeness, and quality varied considerably. Huts displayed different versions of the pictorial report displayed. Others, with literate CHWs, naturally did not use them at all. Some kept all the registers described in the Phase II Project Paper. Others

keep even more, including excellent growth monitoring and vaccination registers. In these latter cases, the CHWs were more likely to have gotten excellent supervision from the health post nurse and understood how to use the information at their level. The majority of "functioning" huts keep financial records and a consultation register at the minimum. Although health post chiefs are supposed to collect the data during supervisory visits, some huts send written reports that were developed by the chief. The majority, however, collect the data either in the village; we found that occasionally the CHW will bring the information to the health post. The majority of CHWs who were literate wrote in French, while a few wrote in Wolof in Arabic characters. One health post nurse, troubled by the absence of literate TBAs and animatrices was considering introducing a strategy to pair them with school children. Often ability to read and write was an important factor in selecting a CHW.

At the post level, as noted above, much of the same problem with multiple report forms still existed. In Kaolack Region, several posts were short on printed forms (that come from the national level) and were not filling out the copy to keep for themselves. Similarly, a study done in Kaffrine in 1989 revealed the lack of report forms as one of the major impediments in the MIS reported by health post nurses and district personnel surveyed (Israel, A 1989). Fatick had solved this problem by printing its own cheaper version using mimeograph stencil. About half of the nurses interviewed reported being trained about the Project and having some introduction to the information system. Several newer nurses had not been trained by the Project; some were uncertain about completing reports while others seemed to have no trouble. UNICEF provided training to the majority of interviewed post nurses in 1986 for the EPI, including its data collection forms. The results of this training were evident in the majority of health posts, which displayed up-to-date vaccination coverage graphs and target population numbers on its walls. The Fayil Health Post, (Gossas, Fatick) displayed the most impressive collection of graphs, charts, and tables of all the posts visited, including major health priorities and patient receiving tuberculosis treatment, in addition to the vaccination information. A large number of health posts displayed a diagram of their target villages and population.

The majority of nurses interviewed expressed a strong interest in having more information about the MIS, and how to complete the forms and use the data they collect. Several also expressed an interest in having written reports from their supervisors, so they could compare the situation in their area with those in other areas. All nurses reported going to monthly district level meetings, to which they brought their forms and usually received some form of verbal feedback. Although the majority of this feedback seemed to be related to how to fill out the forms, some nurses did state that they were also receiving actual summary data that was useful. It was noted that two of the best data-keeping nurses had assistance from Peace Corps volunteers.

The evaluation team also discussed MIS issues with district teams and found variation in interest and understanding of the statistics collected. The benefit of the training courses attended in the U.S. was apparent in several district supervisors, including Foundiougne and Kaffrine. The Foundiougne District Supervisor of Primary Health stated that his training in the States helped him be a better supervisor, manager, and planner. He stated that during the

time of the previous Medecin Chef of Fatick, the Regional Medical Office provided feedback reports to the districts; this has not been done since the new MC arrived. The Primary Health Care Supervisor in Kaffrine had also benefited from his training abroad. He had several complaints about the MIS, i.e., it asked too many details that were not used at this or higher levels; because it asked for too many details, much information was left out. He recommended that a seminar be held to determine which data items are the most critical. He also stated that he sends synthesis reports to the Regional office every six months, although his district does monthly syntheses for its own use (many charts and figures were displayed). He denied getting feedback from the Kaolack Regional Office. Finally, this supervisor also stated that he cut back his supervision visits to health post nurses since the project inputs ended in 1989, now to once every two months. He recognized the importance of supervisory visits in giving instruction related to the MIS at the post.

The team discovered that the MIS situation at the Kaolack Regional level continues to be complex and time-consuming. The Technical Team divides the MIS tasks among them, according to the respective bureau that each member supervises. For example, the Supervisor of Maternal and Child Health tabulates all the MCH center and activity reports. The Region receives about 10 monthly reports from the district level. The Supervisor of Primary Health Care knows how to use the computer, but the drive has been broken for several months and therefore everything is done by hand. The walls were covered with useful graphs. A problem highlighted by this supervisor is the lack of consistent reporting from some districts; for example, in 1990, he received Activity Reports from only two of the four districts. He and his team members send in an annual report to the Division of Statistics each year, noting the degree of incomplete records. He denied having any particular guidelines for the annual report; the most recent one prepared was for 1989.

The level of statistical analysis and reporting was found to be higher in Fatick. The Regional Team had prepared two years of annual statistics (1988, 1989) containing a number of graphs, tables, and figures. There was a greater attempt at analysis and interpretation, and comparison from one year to the next. There was also an annual synthesis of MCH activities prepared for 1989. It is clear that the capabilities of Fatick's Regional Medical team and more peripheral levels in using and interpreting data from the MIS improved a great deal during Dr. I. Diallo's time as Medecin-Chef. His public health training in the United States, funded by the Project, was extremely beneficial to this and other public health activities.

Interestingly, the Pricor supervision study in five regions, including Fatick and Kaolack, showed that regional supervisors identified statistics and computer skills as the most frequent need (identified as important by 83 percent of respondents).

At the national level, there are some problems with lack of coordination between various departments that collect and analyze data. Annual reports from the Division of Statistics vary somewhat from year to year, depending on specific needs, so it is difficult to make comparisons. Many of the tables present crude data without much interpretation or overall usefulness. A large part of the problem in lack of complete data at the national level

is dependent, of course, on this lack at more peripheral levels, as the Division relies, for the most part, on reports from regions and other sources.

The Rural Health Project provided epidemiologic technical assistance to the Division of Statistics between 1985-1987 with the purpose of assisting in development of a more functional MIS. The TA given through the HIID contract is described elsewhere in this report. It appears that this epidemiologist was not particularly helpful in the Division's efforts. This is unfortunate, and in contrast with other countries that have been most successful in development of their health information system because of the presence of consistent periodic advice from one technical expert (Waldman et al. 1991). This should not discourage USAID from considering the team's recommendation to provide such technical assistance in the future. It is a lesson learned that even careful selection of technical experts is not always successful.

It is neither the objective of this evaluation to critique all aspects of the MIS at the national level, nor to provide instant solutions to the complex issues related to development of an effective health and management information system. On the other hand, a considerable amount of time was spent in discussing the MIS in its historical context, and possible directions for the future. As described above, there have been efforts at the central level to consolidate data collection. In addition, the Division of Statistics held several seminars throughout the 1980s attended by representative of different programs and regions/districts to determine appropriate health indicators for the country and to train health personnel in completion of the new data collection forms; this training was held in the Regions of Fatick and Kaolack in 1987.

The Division of Statistics appears to recognize a number of current limitations in the MIS and its own abilities to carry out the large number of tasks it has. Furthermore, the team observes that the lack of a medical epidemiologist in the Division and input from other public health experts, as well as clinicians and medical system decision makers, are shortcomings. To address some of these problems, the Division has proposed several measures. The first of these is a multi-disciplinary process involving representatives from all the departments of the MOHSA, the major donor agencies, national hospitals, health service of the Army, and Regional and District medical personnel, whose purpose would be to restructure the HIS to maximize its usefulness and efficiency at each level. There would be a number of subcommittees formed to work on specific issues after which the entire group would meet to reach consensus. This workshop is designed to take place over a four-day period, with some information requested to be collected before the meeting. In addition to this workshop, the Division of Statistics proposes the formation of a National Committee of the HIS, to coordinate and direct research activities related to the HIS, define priorities for collection of health data, and to disseminate statistics generated by the MPHSA. The evaluation team strongly supports these activities and recommends that USAID not delay further in considering this proposal for funding. The team feels, however, that the program schedule to accomplish the formidable number of objectives is probably too brief and recommends that a series of workshops be held instead, to permit all the subcommittees to accomplish their tasks. Furthermore, this would be a good opportunity to solicit the assistance of a HIS specialist

who has experience in other African countries. This specialist should arrive about one month before the first workshop to become thoroughly familiar with the existing MIS, health infrastructure, and country health priorities. He/she would then provide input at the workshop and assist the group in formulating the components of the system. He/she would then return as needed for additional workshops and technical assistance to the Division of Statistics.

The second proposal by the Division of Statistics is to continue the series of statistics seminars it provided in the 1980s by next focussing on the health post nurses, to permit analysis and interpretation of data collected at their level. This proposal was submitted to The World Bank and USAID in January 1990 for consideration for funding. USAID has not acted upon it because it has been waiting for the Regional and District Plans. The evaluation team feels that this activity is very important. However, given the proposal above, it may be more practical to decide on the "new" MIS first, so that training would not have to be repeated, especially if a new reporting form is ultimately decided upon. It would also be the task of the HIS specialist to review the curriculum of this training with the Division of Statistics team. The best approach to training health post personnel, in the opinion of the evaluation team, is to instruct district supervisors in leading practical work sessions for the health post chiefs, based on their own data, in an ongoing manner. The faculty of the ISED could be consulted for TA in this approach.

Other proposals elaborated by the Division of Statistics include:

1. Elaboration of a guide for data collection and analysis for health agents, after indicators and system changes are decided upon by the workshop described above.
2. Study of infant-child mortality (0-5 years) in Dakar.
3. Development of a "Calculation Center" within the Division of Statistics to provide ongoing technical support to regional and district levels in developing computer capacity and data analysis.
4. Computers for the Division of Statistics, as well as for all regional and district medical offices.
5. Development of a sentinel site system for continual surveillance at the peripheral levels of the health system (to the hut) to evaluate the impact of the RHDS II.
6. Development of a system to try to improve the reporting of deaths through the health system by distribution of death certificates to health post nurses. They would receive this information from the village health hut subsystem, and complete the forms themselves.

Each of these proposals has merit, but priorities will need to be determined. For example, there will be another national demographic and health survey in 1992. The planners of the survey should consider a broad range of indicators, and include those that are not only consistent with the ones collected in the first survey, but also other indicators that may serve other program needs. For example, it may be possible to collect special data in Fatick and Kaolack as a follow-up to the Sine-Saloum Study to better evaluate the success of the RHDS II.

The development of a sentinel site system to follow health indicators in a selected number of zones would be an excellent way of providing ongoing evaluation of reaching impact objectives of the RHDS II, and ongoing primary health care/child survival activities. A small number of posts and village health huts could be enlisted to participate, selecting those that appear to be most capable of providing the necessary data. In addition, extra supervision would need to be provided in these sites.

The team supports the development of the capacity of the Division of Statistics to provide statistical and computer support to other levels of the health system. However, it will require serious reflection to determine the specific personnel and logistical needs to accomplish this task. The computer needs of the Division should be determined, anyway, once the MIS is redesigned, to be certain that the resources are adequate to meet the demand. The evaluation team also favors the centralization of management of essential data within the Division of Statistics. All data for all programs should be entered into a central computer network within the Division. Then, staff from other divisions within the MOHSA can come to this data center to do their own analyses, with the assistance of Statistics staff. In this way, other divisions will have access to do the specific analyses they need, and the Division of Statistics will have control over the entire data set to facilitate elaboration of annual and other reports.

Consideration of computers for the regions and districts should wait until the other components are in place, i.e., elaboration of new indicators and systemic changes and development of the technical support capacity of the Division of Statistics.

7. Pharmaceutical supply system

The Project sought to create a system of procurement and distribution of drugs from the regional level down to the villages. The indicator of Project success was a renovated and functional Regional Pharmacy with drugs and vaccines available. While not explicitly stated in the Project Logical Framework, another objective of the Project was that the pharmaceutical supply system for the health huts (hereafter referred to as the "depot system") was to be integrated with that of the health posts and health centers (called the "participation system"). In Kaolack and Fatick, there are actually four drug supply systems currently functioning:

- Depot System: set in place by USAID, to serve the health huts. Drugs go from the regional depot down to district depots (located at health centers and district

offices) and community depots (located at health posts). Funds flow in the opposite direction. The "depots" are metal cabinets, rather than physical structures. Full cost recovery (for the price of repackaged drugs at the regional level) is the goal of pricing for drugs within the depot system. Policies for setting margins at intermediate levels are obscure, but villages are allowed to set prices as they see fit. No credit is allowed; i.e. at each level, full cost is charged for replacement supplies of drugs. Eight drugs and some other medical material (cotton, alcohol) are available through this system.

- Participation System: operated by the Pharmacie Nationale d'Approvisionnement (PNA), through the Regional Pharmacy office. Drugs go from the Regional Pharmacy to health centers or health posts. Funds flow in the opposite direction. Partial cost recovery is the goal of pricing at the facility level. Drugs are not charged separately, but are included in the single "ticket" or "participation" fee paid by the patient, usually per visit. Even though prices are not set to obtain full cost recovery, no credit is allowed, i.e. facilities (through their health committees, which manage the funds) must pay full cost for drugs at the time they obtain their order from the Regional Pharmacy. This system is able to work (at least in theory) because it is subsidized by the third drug supply system described below. The participation system has a longer list of drugs (48 drugs and medical supply items were included on the last Regional Pharmacy order, including x-ray film).
- GOS System: operated by the MOHSA. The MOHSA allocates a pharmaceutical supply budget directly to hospitals and to medical districts. In Kaolack and Fatick, this drug allocation is obtained by the medical chiefs of Kaolack Hospital and the health centers directly from the PNA. It is at the discretion of the district medical chief that supplies are then further allocated to the health posts. Some health posts reported having received drugs from the medical district; most, however, did not. This means that while "ticket" prices are not being set for full pharmaceutical cost recovery at health posts, in fact, most posts are financing their entire drug supply from user fee receipts.
- ORS Supply System: Free supplies of ORS are provided through PRITECH, out of Dakar. The regional nutrition supervisor is responsible for managing supply. The physical stock is kept at the Regional Pharmacy, where the pharmacist fills orders (without charge) and keeps records of stock. When the reorder point is reached, he informs the regional nutrition supervisor, who then requests transportation from the medical region to replenish the supply in Dakar.

It is not possible within the scope of this evaluation to describe and critique the entire pharmaceutical supply system in Senegal, although many of the problems encountered by

Fatick and Kaolack are endemic to the national supply system. The evaluation focuses therefore on several key questions:

- Does the Kaolack Regional Pharmacy function and is it stocked with drugs?
- What seem to be the key problems in assuring a steady supply of drugs to the periphery?
- What are the problems preventing integration of the "depot system" and the "participation system"?
- What should the Project be doing in the area of pharmaceutical supply, given the upcoming Bamako Initiative (UNICEF), and activities programmed in this area by the World Bank Project?
 - a. Does the regional pharmacy function and have drugs?

Both the Regional Pharmacy and Regional Depot are functional. The Regional Pharmacy and Regional Depot are still independent entities. The building that houses both was renovated, as planned through the Project. In addition, a branch office was refurbished and opened in Fatick when Fatick and Kaolack became separate regions. The Fatick branch does not work, however, since funds (approximately 7-8 million CFA) have been blocked by a bank failure.

The "participation system" of drug supply was started in 1987, with an initial shipment of drugs from the PNA. The performance of the Regional Pharmacy could not be determined, since records of sales revenue are not kept at the regional level but are tabulated in Dakar at the PNA (health post and health center committees wishing to purchase drugs must deposit payments into a Dakar bank account by post office mandate.) The Pharmacy Assistant estimates that the volume of sales may be about 14 million CFA per year. A shipment of drugs had just been received when the evaluation team was in Kaolack, but prior to that there had been stockouts of important drugs (e.g., aspirin) for over a month.

The Pharmacy has been stocked out of ORS since the end of January. The Kaolack Nutrition Supervisor said he did not have a vehicle or fuel to get the resupply. It is very possible that there is a misunderstanding about responsibilities regarding transport of drugs, given the complicated drug supply system in Kaolack/Fatick. The evaluation team recommends that the UGP take immediate action to assure ORS to Kaolack is restarted.

The "depot system" does not seem to suffer from stockouts at the regional level. A physical inventory conducted in April 1991 showed drugs worth about 1 million CFA in stock (about \$4,000). Annual sales in 1990 were about 7 million CFA, down from almost 10 million in 1989.

Depot drug sales volume doubled during RHDS II, from 360,000 CFA per month (1981-82) to about 780,000 CFA per month (1989-90). However, per capita expenditures on health hut drugs seem to have dropped from about 12 CFA per resident per year during the Project's early years (1981-82) to about 8.7 CFA per resident per year in 1989, and finally to 6.2 CFA in 1990. (During Phase I, from June 1981 to November 1982, drug purchases in the Project region averaged 360,000 CFA per month from payments collected at huts, or a total of 4.3 million CFA a year (Gray 1983). This equalled about 12 CFA per resident per year. Nearing the end of Phase II, drug purchases averaged about 782,000 per month in the same 18 month long interval from June 1989 to November 1990, or about 9.4 million per year, more than double the average annual expenditures in Phase I. Annual receipts per resident declined to 8.7 CFA per person per year in 1989 and 6.2 CFA in 1990 (using full 1989 and 1990 sales data and rural 1988 population data from census inflated by annual population growth rates by region).

One problem with sales volume analysis is that sometimes health post nurses buy drugs from the Regional Depot under the pretext that the drugs are for health huts, but the drugs are really used at health post level. This means that sales figures for huts (described above) are probably an over-estimate. Unfortunately, there is no way to quantify the magnitude of this problem.

The value of initial drug capital, provided during both phases of the project (1978 through 1989) is estimated to be 33.2 million CFA. Gray (1983) estimates that Phase I huts received 20 million CFA capitalization. Assuming that the new huts built (255, according to the 1986 evaluation) all received the same initial capital of 51,570 each (based on a sample taken during the 1980 evaluation), total capitalization throughout Fatick/Kaolack in Phases I and II is 33.2 million CFA (20 million for first 378 huts, plus 255 times 51,570 for Phase II huts, or 13.15 million = 33.2 million CFA).

It is impossible to estimate the value of drug capital circulating in the system in 1984, at the start of Phase II. Current inventory in stock at the regional level (1,120,340 FCFA in April 1991) plus the cash balance in the Kaolack bank account (8,557,430 FCFA) give a total capital balance of 9,677,770 CFA (\$34,000). Value of inventory circulating within the system is unknown.

Gray calculated that in 1982 the turnover rate was equal to 22 percent (4.3 m. sales/20 m. initial stock) a figure he called "extremely low for pharmaceutical trade." Again, it is not possible to calculate this rate at present, without a good estimate of how much of the initial capital has been lost from the system.

b. What are the key drug supply problems to the periphery?

As discussed in the analysis of health hut operations, the team observed that the district and community depot delivery system is not functioning well. The Pharmacy Assistant estimated that four district depots were working (Nioro, Koungeul, Sokone and

Guineo, the latter two not without problems), out of the nine started. He was unable to estimate the number of community depots functioning.

The key problems with the system are that it is completely without management control or supervision, and that there is no pricing or cost recovery system for supervision and distribution-related costs.

The financial statement for the Kaolack Regional Depot, compiled by the evaluation team (see Table 7), was the first statement compiled since 1989. The regional medical chief (RMC) is not responsible for operation of the Regional Pharmacy, but is supposed to oversee operation of the Regional Depot. Until the two supply systems are integrated, the RMC should take responsibility for supervising and controlling Depot activities and performance. The fact that he has not done so to date is not surprising, given the confusion which everyone seems to have about the three different drug supply systems operating through the one Regional Pharmacy building. In addition, it seems likely that the RMC was not adequately briefed about Project operations upon assuming his post in Kaolack within the last year.

One immediate issue which the RMC should look into is the unexplained drastic drop in purchases which occurred in the three months after November 1990 (down to 15,000 per month, compared to 391,000 per month in the same period of the previous year). The RMC should also request an analysis and explanation of changing trends in sales volume and stock turnover.

The first physical inventory of depot stock in several years was conducted by the Pharmacy Assistant at the request of the evaluation team. Physical inventories should normally not be conducted by the person directly responsible for management of the drug supply system. The RMC should request annual physical inventories, and should provide personnel to perform this activity.

Supervision of district and community depots was conducted very well, it seems, until 1987. The evaluation team reviewed an excellent supervision report from 1986, which gave a summary of the financial performance of each depot (including valuation of physical inventory) and highlighted areas of concern and steps to be taken to remedy problems. According to the Pharmacy Assistant, supervision reports were regularly copied and distributed to the depots as a form of feedback and an "action item list." Once the Project vehicle was no longer available to the Pharmacy personnel, these supervision visits stopped. As the Pharmacy Assistant stated, "nothing can be expected to work without supervision."

The evaluation team believes that the MOHSA must clarify lines of authority regarding the Kaolack Pharmacy Depot immediately, so that the Pharmacy can conduct supervision of peripheral depots using the Medical Region's vehicle. But the problem of fuel still remains, and it does not seem reasonable to expect that Pharmacy Depot supervision costs can also be assumed within the Medical Region budget. The evaluation team believes that an alternative solution to financing these supervision/distribution system costs must be found.

Table 7

 KAOLACK REGIONAL DRUG DEPOT (SERVING DISTRICT & COMMUNITY DEPOTS)
 STATEMENT OF CASH TRANSACTIONS, June 1, 1989 - March 31, 1991

MONTH	DEPOSITS SALES REVENUE	WITHDRAWALS DRUG PURCHASES	BANK FEES	BALANCE END OF MONTH
STARTING BALANCE				7,462,176
JUN 89	589,065	0	0	8,051,241
JUL 89	1,006,860	1,932,890	2,545	7,122,666
AUG 89	1,503,067	2,262,240	0	6,363,493
SEP 89	1,192,691	2,014,500	0	5,541,684
OCT 89	1,720,409	0	3,217	7,258,876
NOV 89	814,957	0	0	8,073,833
DEC 89	215,223	0	0	8,289,056
TOTAL 89	7,042,272	6,209,630	5,762	N/A
MONTHLY AVERAGE	1,006,039	887,090		
HIV. (JUN-OCT)	1,202,418			
N-HIV. (NOV-MAY)	515,090			
JAN 90	142,366	0	3,217	8,428,205
FEB 90	914,598	1,989,930	0	7,352,873
MAR 90	742,529	0	0	8,095,402
APR 90	296,047	0	3,217	8,388,232
MAY 90	193,603	0	0	8,581,835
JUN 90	1,196,503	2,549,510	0	7,228,828
JUL 90	1,189,561	0	3,217	8,415,172
AUG 90	1,104,604	1,521,300	0	7,998,476
SEP 90	1,074,757	0	0	9,073,233
OCT 90	134,050	0	3,217	9,204,066
NOV 90	44,836	0	0	9,248,902
DEC 90	0	0	0	9,248,902
TOTAL 90	7,033,454	6,060,740	12,868	N/A
MONTHLY AVERAGE	586,121	505,062		
HIV. (JUN-OCT)	939,895			
N-HIV. (NOV-MAY)	333,426			
JAN 91	0	0	3,217	9,245,685
FEB 91	228,133	1,048,113	0	8,425,705
MAR 91 (*)	131,725	0	0	8,557,430
TOTAL 91	359,858	1,048,113	3,217	N/A
MON. AVG	119,953	349,371		
HIV. (JUN-OCT)	N/A			
N-HIV. (NOV-MAY)	119,953			
TOTAL 6/89 - 3/91	14,435,584	13,318,483	21,847	
CHANGE IN CASH BALANCE				1,095,254

SOURCE: BANK STATEMENTS, BUREAU DE GESTION, KAOLACK MEDICAL REGION
 (*) March 91 figures from sales records at Regional Pharmacy.

c. How to achieve integration of the two pharmacy systems and work within the Bamako initiative and other national reforms

These questions are complex and require more thorough analysis than the evaluation team was able to conduct in the time permitted. The team wonders why there has not been a consultant or consultants invited in to analyze these questions and, more importantly, assist in implementing specific solutions in the Project area. This is of special concern in as much as integration of the two systems has been recommended since 1983. The team believes that while there are obstacles which make integration difficult, waiting for national level reform is an inadequate solution. Other health community officials believe that the soon-to-be-implemented Bamako Initiative will solve these problems. But the Bamako Initiative will be pilot tested in two departments/districts (not located in the Project regions) for over a year before any national guidelines are promulgated. The regions of Kaolack and Fatick cannot afford to wait this long for a solution.

Specific recommendations are found in Chapter 7.

8. Operational research

Operational research (OR) was to be a major priority of the RHDS II Project. According to the second project amendment in 1985, \$594,000 was allocated for this purpose. It was planned that two methods would be used to conduct OR. "First, USAID and the MOH will develop the research designs, terms of reference for the research, and contract the work to an individual and/or institution. Secondly, to encourage nursing or medical students to conduct research on primary health care for their theses USAID will finance selected studies....The idea would be to encourage competition and excellence in this field" (Project Paper 1984). The OR component was to be coordinated by a research committee under the direction of the Division of Recherche, Planification, and Formation. Persons undertaking this type of research would need to have sound training in epidemiology or the assistance of someone who did throughout the course of the study.

Several topics for possible studies were suggested in the Project Paper, related to malaria prevention, EPI, diarrheal disease control, growth monitoring and nutrition counselling, tuberculosis, management information system, and sociologically oriented studies on primary health care and community participation.

It appears that between 1984 and 1986, little was accomplished towards achieving these goals, despite the presence of technical assistance (epidemiologists) from HIID. In early 1986, potential subjects for OR had been elaborated through discussions between the health personnel of Fatick and Kaolack, the DRPF, and USAID. In addition, early steps had been taken to define the composition of the Committee of Applied Research. In August 1986, a mission was carried out by an epidemiologist with Pricor, to recommend OR studies to examine the system of supervision in the Project, and to propose a plan of support and technical assistance to reinforce the efforts of the DRPF in the domain of OR. By the time this mission was completed, the "Note de Service" was completed relative to the creation of

the Committee of Coordination for Applied Research (hereafter called the Research Committee). The members of the Committee were to be representatives from the following: DHPS/DSSP, SANAS, Service de Grandes Endemies, Medical Regions of Kaolack and Fatick, the Management Unit of the Project, the HPNO at USAID, the Office of Technical Assistance of Harvard University. The PRICOR consultant proposed studies on supervision to be conducted in three phases, the first to consist of a systematic evaluation of the system of supervision and elaboration of an operational definition of supervision. The second phase consisted of defining different strategies of supervision and analyzing the cost-effectiveness of different strategies. Finally, the third phase was to be integration of these solutions into the system of supervision. She also provided general guidelines for conducting OR.

The rules for organizing the work of the Research Committee were outlined in the "Reglement Interieur" from the DRPF in December 1986. Meetings were to take place every three months and the committee reserved the right to approve, modify, or reject research proposals. At least a quarter of the members needed to be present to convene and approval of proposals required at least half of the members agreeing. Criteria for selection of proposals included: only projects relevant to the domain of primary health care, and executed in the regions of Kaolack and Fatick, except studies related to ORT, which could be done anywhere. Research proposals were to be sound scientifically and methodologically. Only agents and units relevant to the MOH were eligible to submit proposals, along with students whose thesis proposals were consistent with the priority research topics. Finally, the maximum amount to be awarded for a proposal was to be 5 million F cfa.

Between 1987 and 1989, about 10 research proposals were submitted to the Research Committee. Of these, only one real OR proposal was approved whose subject was testing different malaria control strategies. Unfortunately, the investigator then moved and the study was never initiated. Aida LoFaye completed a financial summary of the first 10 years of the RHDS experience. Other proposals that had been turned down and were available for review in the HPNO were: 1) a study to examine the sensitivity of Plasmodium falciparum to chloroquine in children 3-14 years in Kaolack, Fatick, Ziguinchor, and Diourbel; 2) influence of social factors on people's perceptions of the primary health care system in Kaolack; and 3) strategies to reinforce participation of the population in primary health care systems, particularly concerning maternal and child health in Louga.

Two other OR studies were carried out, which apparently did not go through this approval process, firstly, the Pricor supervision study. The results from the first phase were discussed in a three-day seminar in October 1989. The second was the Fabricant feasibility study of in country production of ORS packets (1985). Because there was no follow-up of this study over a four-year period, it was proposed in the Project extension amendment (no. 3) that a new study be done to once again look at this issue. This has not yet been carried out.

The team attempted to understand what the barriers were in preventing OR from going forward satisfactorily. It is still not entirely clear. First, some interviewed said there was a problem with the quality of the proposals and that they were not truly OR. Others said that

the process of approval was too cumbersome and critical. Instead of helping potential investigators improve their methodology so that they would have an appropriate and acceptable proposal, they were rejected flat out. Little effort was made in educating potential researchers. There appears to have been little benefit of the technical assistance provided by the consultant epidemiologists; either they were ineffective or DRPH refused their assistance. USAID recommended that a training seminar be provided to instruct medicines-chefs and supervisors about preparing proposals and conducting OR. This seminar was not realized. It is clear, therefore, that this component of the RHDS II was poorly executed and the objectives were not met.

Although not funded by the Project, several small OR studies were carried out during the RHDS II in Fatick by the Regional Medical Team. These studies were supported by regional money. One of these tested the feasibility of providing primary health care at the work site, using employees trained in the same manner as CHWs to provide treatments for minor, but common, conditions among the work force that often cause absenteeism while the employee seeks treatment, such as headaches and minor wounds. This proved to be successful. Unfortunately, the Medecin Chef of the Region felt inhibited in applying for Project OR funding because of the cumbersome and lengthy process.

B. Extension Phase, 1989 to Present

This section merely summarizes progress toward achieving the indicators included in the Extension phase of the Project. In earlier sections of the report, those issues which have continued into the Extension period have been treated fully and are not repeated here, notably the health information system and child survival components. Training has been treated earlier, but a full discussion of the institutional aspects are included in this section. Brief comments are made below and in the following sections to summarize progress to date, but the reader should return to previous sections for historical context and evolution within the Project.

1. Strengthening of organization and management systems within the MOHSA

The extension phase (July 1989 through December 1990) sought to strengthen MOHSA management systems nationally, not just in the Project regions. This was to be accomplished through a series of activities, including:

- development of a training and management plan for human resources;
- development of a public health sector financial plan;
- pharmacy system improvements;
- reorganization of child survival services under one directorate;

- a health financing study;
- completion of an operations research supervision study;
- assistance to the national MIS; and
- development of a communications policy, and conduct of KAP studies nationwide.

Most of the Extension activities did not achieve their objectives because of insufficient Project time and other avoidable delays. The failure was not due to poorly designed activities which did not yield the results expected (although the difficult economic period and assumptions made with respect to funding sources for supervision contributed to them), but due to delays on the part of the GOS in fulfilling covenants or taking a lead role in certain activities (which the GOS had agreed to undertake), combined with delays on the part of USAID in obtaining approvals and funding, or providing adequate technical support, were mostly to blame. In one instance (pharmacy system improvements) USAID deferred to The World Bank Project, which also had objectives in this area. At least two central delaying factors figured prominently. The first was failure to hire a health planner in a timely manner, especially since the HPNO Project Manager must devote most available time to administrative rather than technical Project matters (95 percent). This inevitably limited AID efforts applied to work on "management systems improvement" objectives. In addition, personnel changes within USAID--both in HPNO and elsewhere--resulted in a curious tendency to "link" Project activities. Thus, certain provisions in the grant agreement were interpreted as preventing the Agency from funding assistance to the GOS to meet other "conditions," which in turn were tied to funding, etc., until everything seemed dependent on something else, leaving no one able to act and everyone frustrated.

Extension activities not included elsewhere include:

a. Financial plan

Project management staff did not seem to know this was in the Project amendment. The team assumes the financial plan will follow the health care financing study.

b. Pharmacy system

The World Bank project is investing \$4.8 million in supplying initial stocks of drugs in the periphery and promoting management reforms at the PNA, as well as conducting education campaigns about essential drugs. The PNA is scheduled to be financially autonomous in June 1991. These activities, if effectively implemented, will assure that the district drug supply is steady. The reforms will promote accountability which will allow monitoring of consumption down to the individual facility level.

c. Health financing study

The scope of work has been approved and a request for technical assistance sent for the first two phases of this three-phase study. The first two phases include a legal and regulatory reform review, and a comparative facility cost, utilization and revenue study. The team has made several recommendations for the second phase of the study, to assure maximum transfer of skills and knowledge (see Annex 8-1).

d. Operations research supervision study

The first phase of this study was completed in 1989, and is discussed in section IV.A.8. The second and third phases (development and testing of solutions) were started, but have not been completed. The team saw several interesting documents produced under RHDS II two by the Director of Studies at the Kaolack Training Center in 1990. These included a training manual and case study, and a follow-up evaluation of a supervision course.

e. Development of a communications policy

A long-term TA from the HealthComm Project is already working in the Health Education Service of the MOHSA.

2. Child survival interventions strengthened and increased

The third Project amendment for the extension period re-emphasizes the role of child survival interventions in the RHDS II/CS and expands its objective of reducing mortality and morbidity in children to the age of five years. The specific direct child survival interventions were to have been: studies on malaria, oral rehydration solution, and therapeutic standards, medicine and supplies, village-level directed training, renovation of six Regional pharmacies and 20 rural health structures, a grant to World Vision to continue its child survival program in Louga, and a program to develop school gardens for improved nutrition.

The study planned related to malaria was to determine optimal strategies for malaria control in rural populations. A study was approved by the Research Committee, but the investigator never began the study, as he left the area. The study related to ORS was to be an update on that done in 1985 to determine the feasibility of local production of ORS packets. This, too, has not been achieved. The planned hiring of a short-term pharmaceutical and drug supply specialist to evaluate current practices and to develop therapeutic standards for health structures at all peripheral levels did not occur. The World Bank has been developing a list of essential medications.

Because of lack of receipt of the regional plans, other components planned above were not carried out, with the exception of continued funding of the World Vision Project in Louga. In addition, some CHWs were trained in this period by health post nurses and are working successfully. No school gardens were ever established in Fatick and Kaolack.

Although these components were not carried out, child survival activities continued to be provided during this extension period (see section IV.A.4). However, it does not appear that they were particularly strengthened, with the exception of EPI. This is particularly due to the lack of means available for consistent supervision (some communities were more creative than others in finding solutions to this) and cessation of training from the Kaolack Training Center (except for EPI, which was conducted by UNICEF). These factors are discussed in greater detail elsewhere in this report.

3. Strengthening of Ministry of Health decentralization

a. Importance given to acceptable health plans

The centerpiece of the last two Project years was the decentralization effort of which the Regional and Department Plans became the exclusive symbol. USAID's unconditional insistence on health planning documents before principal Project activities could go forward seems to have been based on the belief that planning must be the first step and that it must alone. However, it appears to be unusually demanding, considering that AID TA (health planner) to promote and assist planning efforts never materialized. The team thought that such a condition should have been accompanied with a plan for interim support to sustain essential Project activities--particularly to keep the HPNs motivated (refresher training and training of trainers (TOT) for new staff--bringing about a smoother culmination to Project activities during the period of transfer/integration of Project Office responsibilities to and within the Health Regions.

As discussed elsewhere, the team deemed harmful to the Project to hold up the very things that could contribute to the overall process of field decentralization: systemic management changes. The team is aware that other donors agreed with this approach but they did not have Project continuity at stake.

b. Confusion about project intentions

As mentioned under Project Management, delays within USAID occurred because of the wording of the Project Amendment number three, (extension of the project from 1989-1991). The Controller of USAID interpreted the document to permit funding to four Regions (who would be selected for project interventions based on submitting the first acceptable PRDSs) while the Program staff had intended funds for document preparation to be provided to all 10 Regions. An Action Memorandum had to be prepared entailing time for its processing and action.

It appeared to the team that program intentions should have been overriding and the way found to accommodate a legal problem with minimal harm to the project implementation.

c. Process of health planning

Breaking new ground in health planning is likely to make Senegal an example in the Third World. The process has had the support of the World Health Organization/Brazzaville and/Bamako, who sent health planners to Senegal to assist Chief Medical Officers of the 10 Regions to prepare development plans (1989) based on a model and set of guidelines. The guidelines were further improved in an AID seminar held in 1990 which enlarged participation to include not only regional chief medical Officers but also hospital directors and supervisors of PHC. Finally recently, in 1991, The World Bank sponsored a seminar for department medical chiefs, emphasizing the importance of preparing written planning documents and demystifying their preparation.

d. National level health planning

Not only are the regions and departments involved in health planning, but the Cabinet Director of Public Health is asking his staff to prepare a national level health plan which will note the objectives, strategies, activities and resources of each central level division and unit, an exercise that might bring about a definition of tasks (and overlapping functions) and lead to the preparation of an organizational chart. An additional output of this process may be decisions of potential benefit to the Project and help clarification of how a decentralized system will work at the national level.

e. Other activities enforcing decentralization

The other activities foreseen during the Project Extension should occur during the added months that may be given the project: namely, developing an IEC program in the selected regions (which will be Fatick, Kaolack and Louga) with the help of a communications specialist who is already on board and will carry out a KAP study once project money is released as the basis for developing IEC materials; renovation of selected rural health facilities; in-country training, procurement of medicines and supplies and procurement of IEC materials in the Regions. The Health Planner still expected to join the project would provide planning and technical assistance to the Medical Regions through MOHSA, which hopefully will utilize his/her services effectively. USAID should do everything possible to assure that it is feasible for the TA to function given the convoluted lines of authority within the Ministry described under Project Management.

f. Conclusions

The team believes that Senegal will be a leader in health planning thanks to perseverance which the donor community has maintained with regard to the preparation of written plans. The team considers that appropriate measures to ensure the availability of local expertise to help move the regions along could have been obtained while awaiting the arrival of the health planner. Health Plans are being reviewed this first week of May 1991 in Mbour at ISED. Regional medical chiefs are participating in this educational

process. Similar future health planning workshops, which constitute an interim form of the "nutrition planner" function should benefit department level participants as well.

4. Strengthening of public health training institutions

a. ISED-Tulane-Morehouse training for physicians

Prior to the Project Extension period, USAID began to provide support for in-country training of doctors through a creative practical public health training program carried out in the Mbour Institut de Sante et Development (ISED). Beginning in December 1988, USAID provided funds to ensure institutional linkages of the ISED with Tulane University and the Morehouse School of Medicine. Following a successful initial period of collaboration, AID has signed a \$1.1 million grant to cover 12 months of TA to ISED, running from July 1, 1989 to June 30, 1991.

Inspired by other country models which have already proven their effectiveness, ISED's objective is to provide country/problem-specific training for Senegal health professionals. Satisfactory completion of the two year course leads to a Certificat d'Etude Speciale (CES) which is equivalent to the Master of Public Health (MPH) degree but better known in Senegal's academic circles because it already exists as a specialized diploma in other fields such as pediatrics, cardiology, etc. The training is intended for physicians--medical doctors, veterinarians, pharmacists, odontologists etc.

The course includes six modules: epidemiology; biostatistics and computer systems; sanitary engineering, environment and nutrition; planning, administration and management of health services; behavioral sciences and applied health education; sociology and health socio-economics; and community health care and development-oriented techniques. Each module comprises two weeks of on-site training followed by two months of supervised desk work (using local data, in itself of direct benefit to health planning efforts) and a subsequent two months respite, with resumption of the subsequent modules.

The ISED program is being evaluated separately and simultaneously with this evaluation. The team has noted to ISED evaluator, Dr. Emile Jeannee, its opinion that the program appears to respond to many of the training problems encountered in the past: absence of key medical officers from their posts; the socially distant environment of the training in many instances; the difficulty of having full recognition of the American MPH degree.

Seven physicians have already completed the program, including the three Regional Medical Officers of Fatick, Diourbel and Tambacounda (three of 10 in the country). It is planned that a group of 14 will begin the course each year. The second group which in fact numbered 15 began in December 1990. Included are 15 doctors, 11 of whom are Department Medical Officers, three are in university hospitals and one in the urban Pikine PJLC Project. The second group would finish in December 1992, while a third group is to be started in December 1991.

Assuming an average 14 new physicians trained each year and an objective of some 120 to include most doctors in Medical Officer positions and in hospitals, total time to saturate the system with a public health orientation would take about eight years. Each year 14-15 candidates can be accommodated. To achieve a critical mass of doctors with public health training, 120 might be trained, which would require eight years.

The per-training-year cost compared with other training was not known by the team, however, though members assumed the training would be cheaper. Even should costs be comparable, the advantage of institution building is a very large one and would merit assessment on other bases than unit cost comparisons. Since the program has gained the respect of the international health community after an initial cool reception, some of the financial support may be forthcoming from non-US sources.

b. Midwifery school

The Director of the School of Nursing at Sheikh Anta Diop University in Dakar has expressed interest in curriculum redesign which would orient the training of paramedical staff more to national health policy objectives emphasizing primary health care. USAID plans to hire a short term training specialist and a public health specialist to assist the faculty in the midwifery and nursing schools to modify their curricula.

V. OTHER FINDINGS

A. Use of Resources and Financial Management Considerations

This section will examine the use of AID funds and SOS counterpart funds provided from the national investment budget ("BNI"). It is not intended to be an audit or external financial control exercise, but rather a review of use of funds to answer two management control questions: a) were resources used efficiently and effectively to achieve project objectives? and b) how can accountability for use of funds be improved in the future? The section is divided into three parts: AID budget, BNI budget, and financial management considerations in the context of decentralization.

1. AID budget

Due to the difficulties in obtaining information on the BNI budget, the AID budget was not analyzed in detail. The team noted that expenditures were incurred at a slower rate than anticipated due to several factors. These included slow approvals by the Controller's Office (due to conflicting interpretations of the Project Agreement), changing priorities regarding the importance of hiring a health planner TA, and changes in financial management procedures as the Project passed through its several different stages (i.e., Project Office, direct funding to regions, assistance at national level and in a regional planning process managed through a local accounting firm).

In June 1989, when direct assistance to the regions stopped, the Project had spent \$6.31 million of the \$10.1 million planned. Despite this problem with the pipeline, additional funds were requested and approved, including 2 million in child survival funds. Thus, \$5.82 million was to be spent during the extension period; however, by March 1991, only \$1.06 million had been spent.

The evaluation team questions why additional funds were sought (or provided) when the Project was having trouble spending the funds it had. The team also notes that administrative procedures at USAID seem unusually cumbersome and approvals through the Controller's office may not be as streamlined as desirable.

2. BNI budget

In the original Project Agreement, the BNI budget allocated to the Project was to be not less than 1 million dollars. The Project was amended in June of 1984, to increase the counterpart funds by \$115,000, which was destined to pay for salaries of four professional staff within the SANAS Directorate (for five years) and 10 Regional Level Staff (one per region), for 2.5 years.

Prior to the evaluation, only one somewhat obscure budget variance report had been prepared (see Appendix 7-1). The budget analysis was undated, although a handwritten note

indicates it may have recorded transactions through June 1989. The categories are unclear, though, and without any explanatory notes the data are virtually unusable. For example, the report gives a cumulative total of funds available after several years, although the Ministry of Finance policy is that unused funds revert back to the Treasury so in fact these funds are not available to the Project. The statement also includes funds budgeted for FY 1987, which were (allegedly) never received by the MOHSA.

The evaluation team met with officials within the PAGE, to try to obtain a clearer picture of how BNI funds had been spent. One team member, Mr. Pieme, is employed within the PAGE and also made efforts to obtain financial data. A meeting was held with the Director of the PAGE, who noted that he was not kept very well informed about the management of the budget and was just asked to sign checks to release funds, without understanding what activities they were financing. This lack of Project knowledge was somewhat surprising, since the Director had been compensated for his involvement in Project management (through a monthly bonus payment system). The Director of the PAGE suggested that there was a lack of effective communication between the regions and his office. The accountant within the PAGE who had managed the counterpart funds until 1990 (Mr. Wade, also compensated through the bonus program) met with the team but was unable to provide any help.

The team finally was able to review the "first book of entry," i.e. the cash journal, for the Project's BNI at the Unite de Gestion de Project. The Director of the UGP was out of town during this time, but the UGP Manager was very helpful throughout the process. The tables in Appendix V.A.1 were compiled, based on this one bookkeeping tool plus additional information provided by the Manager. The tables are unaudited, and therefore should not be cited until a more complete analysis can be done.

The analysis revealed that a total which probably exceeds 181 million CFA (\$641,418) has been expended from the counterpart budget, or about 58 percent of the funds agreed to in the Project Grant agreement amendment No.1. Because accounting for fuel purchases was not recorded in the cash journal prior to May 1990 and the accountant in the PAGE was unable to provide assistance, it is impossible to know how many additional resources have been spent on this item. In addition, the tables were prepared very quickly from sometimes incomplete and unclear base documents, so the accuracy of the statements is unverified.

Despite these limitations, the appended tables provide much information for discussion. The team notes that:

- Many building repair expenses were not Project-related (e.g. 1.8 million CFA to repair the Division of Personnel at the MOHSA and 9.2 million CFA for a Urology Unit and Cobalt Therapy Unit at the Pantec Hospital);
- About 3.7 million CFA was spent on putting bathrooms into the Kaolack Training Center, although the Director was unaware that BNI funds had been used for this (he believed cost-recovery revenue had been used, which he said

he had successfully extracted from the blocked account at the failed USB bank);

- Vehicle repair and maintenance costs are regularly very high (10.6 million CFA in FY 1990), often enough to finance the purchase of new vehicles. In FY 1991 these funds were used to repair four PAGE vehicles, three UGP vehicles, but no vehicles from the Project regions;
- The FY 1991 fuel allowance of 5.56 million CFA is five times higher than the 1990 budget for fuel for the Kaolack Medical Region, and has been used to date exclusively for the three vehicles at the UGP (each of which is accorded 200 liters per month). The budget is sufficient to purchase about 19,860 liters (at an average price of 280 CFA per liter, given equal use of super" and "gasoil"). This is adequate to finance the supervision costs of 236 health posts for one year (at seven liters per month). No records were kept regarding how the fuel budget was spent while it was being managed by the PAGE.
- The amount spent on office supplies and printing in FY 1990 was equal to 24 times the operating budget ("budget fonctionnement") for the Kaolack Medical Region in 1990. Although it is not clear what project activities may have benefited from the BNI spending on office supplies/printing in FY 1990, in FY 1991 the spending which could be directly attributed to the UGP office in this category was seven times the budget for Kaolack Medical Region;
- Only one staff member working at SANAS (a secretary) is paid through the BNI, contrary to the four professional staff at the national level who should have been still receiving salaries. Without a thorough review of historical records, it is impossible to determine whether the eight regional SANAS staff were ever paid through the BNI. They are not on the payroll now;
- An estimated 15 out of 32 staff paid by the BNI (47 percent) are not performing Project-related work. This figure may be as high as 19 (59 percent), since actual functions of staff could not be reviewed. In addition, eight of the Project-related staff are currently employed at the non-operational Kaolack Training Center;
- Financial management and control procedures are absent, and no cost accounting system exists which would allow expenditures to be attributed to activities or service areas; and
- The Ministry of Finance conducts an annual control visit, but no written traces were seen of this.

The evaluation team believes that such a lack of management and financial control is very serious. Both on the GOS side and on the side of AID, managers neglected their

responsibilities to monitor and evaluate performance according to objectives, and to provide accountability regarding the use of resources in pursuing these objectives. While deficiencies on the side of the GOS are easily recognized (since the budget is provided and managed by the GOS), USAID's responsibilities must also be highlighted. A program manager in the HPNO raised the problem of lack of accountability of BNI funds in 1989, in an internal AID document. The team must ask why no interim follow-up was made until this final evaluation. Specific recommendations are provided for how financial management systems can be improved in the future; however, it is regrettable that recommendations to remedy this situation were not requested and implemented by the GOS and USAID earlier.

A final comment on use of GOS funds, though not disbursed through the BNI, is best placed in this section. The budget of the Kaolack Training Center (10 million CFA per year, not including the salaries of two professional civil servant staff and eight employees paid by the BNI) seems to bear no relation to the level of activity of the Center (which is currently zero). For example, the budget for "fonctionnement" is 23 percent of the entire "fonctionnement" budget for the Kaolack Region, all services and CMs included. Its electricity budget is higher than that of all other services and regions except the CS of Koungeul, and its telephone budget is higher than all other regional services combined, and double the next highest CS budget for telephone. The GOS should urgently address the need to strengthen management control over the use of these resources in relation to outputs. In addition, more than four budget categories ("fonctionnement," water, electricity and telephone) should be specified, to facilitate budget review.

3. Financial management in the context of decentralization

Due to the time elapsed since the Project was involved in decentralized budget control (i.e. providing funds directly to the regions), it is difficult for the team to evaluate how successful the Project was in decentralizing these functions after the closing of the Project Office, and before withdrawing financial assistance to the Regions in 1989. Anecdotal evidence suggests that the experience was not entirely successful: Regional officials saw AID regulations as complex, not well explained (and therefore not well understood), and noted that changes in the rules were frequent and seemingly inconsistent. On the part of AID, the Regions seemed to spend the funds very slowly once they were deposited in the Regional accounts. Since the decentralization experience was the first for USAID in Senegal, observations from both sides seem credible and indeed expected. Decentralized budget development and management is not a skill learned overnight, and the Project staff should not be puzzled or disappointed by the problems and results in this area.

To improve decentralized budget management once financial assistance to the Regions is restored (following approval of the Regional Plans), the Project should request assistance from a local accounting firm. Specific recommendations are provided in Chapter VII.

B. Project Management

1. Institutional disruptions caused by personnel changes

a. Introduction

While management at the USAID and the Ministry of Health can be expected to lack continuity given the inevitability of personnel transfers and changes of leadership in the government, it is thought that the RHDS Project had more than its share of management changes with adverse effects for the Project, perhaps because the Project required to some degree a willingness and ability to understand its philosophical base from which the "health for all" conception is derived. In the view of Project staff who witnessed most of the Project life, many of the decision makers failed to understand (or accord priority to carrying out) the Project's objectives and strategy.

b. The Ministry of Health

The Health Ministry has undergone many changes with short spans of leadership at the top levels. According to Project staff on the scene at the time, the Ministerial team which negotiated the Rural Health Project and participated in its launching from 1978 to 1984 was strongly supportive of the Project team's work in the rural areas, steadfastly maintaining the goal of decentralization as the basis of the management strategy of the Project. This early reinforcing Ministerial team was then followed by other teams which did not understand the Project's philosophy, principles and strategies. Subsequent teams had to deal with serious disruptions in the functioning of the national health system including a series of health worker strikes. During the most recent Ministerial change which occurred in 1989, intensive mobilization for vaccination campaigns once more brought other work to a standstill since all available staff time was given to that single activity.

There were also important changes at top levels of the major technical offices of the Ministry of Health which resulted in uninformed direction for the Project's technical objectives. When the Project's technical components were being introduced, only cursory attention could be given to the reinforcement of oral rehydration, growth surveillance and nutritional rehabilitation since there was still preoccupation with the vaccination campaign. The growth surveillance activities particularly suffered since they were introduced during a period of major changes in the technical offices.

Shortly after a presidential decision (Decree of March 24, 1990) to restructure many ministries, the Ministry of Public Health was reorganized. Thus, instead of six national services (directions), there would be three: Direction de la Sante Publique (DSP), in charge of the implementation of public health as defined by the Health Minister and assisted by his Cabinet; Direction de l'Administration Generale et de l'Equipement (DAGE), in charge of the management of all Ministry resources; and the Direction de l'Action Sociale (DAS), responsible for managing social affairs.

This theoretical restructuring never came to pass so there are service offices or units that are unattached, existing parallel to technical offices, which are to carry out the same activities with the same resources for the offices. Some of the technical offices that were to have been suppressed in fact survived under new names, maintaining their former functions. An example is the former DRPF, the activities of which are split between a planning function and a research and training function in the Cabinet. The result is a Ministry with diffused lines of authority and resource responsibilities which is unable to support the Project effectively. As noted elsewhere, the available organigram is incomplete and fails to link up lines of authority within the Ministry. The uncompleted organigram for the MOHSA, shown in Annex 3-3 shows the various functions and the names of occupants. One of the unhappy consequences of the many changes and unclear lines of authority for the Project was the tendency, approved during the third Ministerial team, to recentralize the management of the Project. This recentralizing tendency which began when the Kaolack Project Office was disbanded was further reinforced when the Ministry finally received the Senegalese counterpart funds for the Project.

c. USAID and the Health, Population and Nutrition Office

The responsible management office of USAID in Dakar--HPNO--has also been victim of changes somewhat similar to those witnessed by the MOHSA. The HPNO leadership which negotiated the Project and presided over its beginnings remained through the first few years only. Following that initial period, HPNO was then headed by a health officer who was less aware of, and persuaded by, the philosophy, principles and strategy proposed in the Project and with a new style of leadership. This officer was followed by another with yet a new vision of the Project and understanding of the strategy. The latter's arrival coincided with the dismantling of the Project Office in 1987, along with the progressive withdrawal of USAID and the integration of management into the Medical Regions of Fatick and Kaolack. In the change and confusion, Project staff at the time report there were serious slowdowns and delays in procedures to the point that field activities suffered profoundly.

The implementation plan fell behind schedule because funds could not be released for the activities programmed. For example, in Fatick of the 27 million FCFA planned for 1988, only 8 million FCFA were used by the end of the year. Delays were due to a variety of reasons of course including an inability on the part of the Regions to make disbursements in a timely manner, but the field staff consider that a system for timely release of funds was not in place. From the point of view of the ex-Project Manager who was either directing the Project or serving as adviser to the Regions, there was a lack of decision making on the part of HPNO in support of field activities during this transfer or transition period. There were also abrupt changes in USAID Mission vision and strategy at the top levels which affected continuity of the Project.

d. Technical assistance

HIID, in addition to backstopping the short- and long-term training component described above, was the contractual organization in charge of assisting the Government of Senegal and the USAID in the management of the Project. HIID was also victimized at a certain time by the profound upheavals. Thus three of its mandates to assist the Project staff were not completed in Senegal. And strangely, none of these experts, whether the two epidemiologists or the two management specialists, was able to produce an analytical document on the Project functioning nor on the epidemiological status of the Project area. In the opinion of the Project Manager who worked with the HIID team, the support of these experts never appeared to be effective.

On the other hand, it must be noted that HIID technical assistance has been channelled through an office which in the opinion of colleagues lacks a clear perception of the Project's objectives and strategies and is unable to assume management functions from its current Cabinet position of technical counsellor; this office formerly functioned as the Direction de Recherche, Planification et Formation (DRPF) and is ill equipped to move Project activities along. Many of these appear to get bogged down, are never carried out, or are far behind schedule: e.g., the operational research, manpower training plan, follow-up on the Kaolack Training Center study, and supervision components.

In addition to obstacles to effective use of long-term technical assistance, it must be noted that the HPNO and HIID also had conflicts which resulted in less efficient assistance being given to the Project operations.

The team noted that the entire area of technical assistance requires an evaluation of its own to assess fairly past performance, determine attitudes and current needs, and agreement between USAID and the GOS on a procedure for the selection and management of technical assistance.

2. Lack of health management expertise

To these institutional and technical assistance problems must be added the fact that neither MOHSA nor HPNO has consistently provided the health management competence required to support Project implementation effectively. This view was expressed by several partners, and the team itself was aware that timely assistance and pointing out how to solve problems could have helped activities run more smoothly. For example, the demand for regional health plans was made without sufficient technical assistance in clarifying the nature of these plans. This point is discussed further in Section IV.B.3. For a considerable span of the Project's implementation, there was not one person in the MOHSA who was trained in public health among those involved in the Project management. On HPNO's side too, it was the opinion of Senegalese partners that specially after the initial phase of the Project, HPNO suffered from a lack of expertise in the area of health project management.

As for deficiencies and limits of those in the field, they are well expressed in the 1982 Evaluation and to a certain degree in the 1986 Evaluation. The major problems were incompetence and management shortcomings and ineffectiveness of the HIID technical assistants assigned to the field Project Office in Kaolack. The 1986 Evaluation was silent however on the role of the MOHSA, HPNO and USAID.

3. Ineffective dialogue

Consistently voiced among Senegalese queried was that ineffective dialogue between US and Senegalese partners caused many delays. The team thought that dialogue failures were also due to inadequate hands-on technical assistance by the USAID staff because of administrative functions which take the lion's share of time (viz., 95 percent of the Project Manager's time). Specifically, Senegalese confirmed that it was unclear for some time what was expected from them in terms of health development plans.

4. Slow disbursement of USAID funds

During RHDS II, through June 30, 1989 only 62 percent of the funds provided had been spent, or \$6.3 million of the \$10.1 million. However, \$2.0 million more in Child Survival funds were added, making a total of \$5.82 million for the extension period. As of March 1991, only \$1.01 million had been expended due to the delays caused by suspending most Project activities until acceptable regional health development plans were received. The evaluation team thought that other activities should have been moving in tandem, except for the expenditures planned for the four specific regions.

5. BNI budget

Detailed in Section V.A., Use of Resources and Financial Management, the team noted a serious lack of management and financial control both on the GOS and AID. Managers failed to monitor and evaluate performance according to objectives and to provide accountability regarding the use of resources. USAID raised the problem of non-accountability of BNI funds as early as 1989, but there was no followup. The team has made specific recommendations for USAID to obtain the services of a local accounting firm and for strengthening management systems on behalf of the regions (e.g., through modification of training module on management used by ISED/Tulane).

C. Gender Considerations

The issue of gender considerations in the RHDS II/CS can be conceptualized on two basic levels, i.e., how gender relates to participation in program components and satisfaction with services rendered, and how gender relates to service delivery and management. In the first Sine Saloum Project, the emphasis was on providing basic preventive and curative health services at the health hut level, without a particular target population group. It is therefore not surprising that a larger proportion of men than women used the health huts (98 percent of men and 83 percent of women, according to the 1982 evaluation). This difference was due to

the greater occurrence of wounds in men for which they sought care. Nonetheless, these figures support extremely high utilization rates by both groups.

In the RHDS II, technical components were added with very specific target groups: young children and pregnant women. Therefore, it would have been a failure of the Project not to see a shift in utilization patterns. This is, indeed, exactly what happened. All CHWs reported that women and children now receive services more often than men; because mothers generally tend to the health care of the child, women are both using services for themselves, and for their children. Women are also generally using the services of the trained traditional birth attendant in the village. In a few cases, women were refusing her services; it was difficult to ascertain specifically why this was so. In one village, the several residents said that they had "no confidence in her training," while in another, it appeared to be related to superstition (perhaps the TBA had delivered a stillborn and women were afraid). Men continue to seek the assistance of the CHW for wound care, as well as treatment for malaria, headaches, and other problems.

In village Pane Sader, the mother's committee, with 12 women present, expressed great satisfaction with the health hut, because they felt the hut met their health care needs and they did not have to go elsewhere. They stated that since the implantation of the hut, there have been fewer cases of malaria, due to chloroquinization. Secondly, they said the like having growth monitoring (there is a scale in the hut) and vaccination services in the village. They reported that there is still a lot of diarrhea, but that they use SSS for it. For certain, they said, the adults lose less time from work. They are also happy to have drugs available at the hut, because the market often sells expired drugs. The women also expressed satisfaction with a literacy course that they attach to health education sessions. The CHW teaches them writing in Wolof at sessions about EPI, ORT, etc. (The CHW writes his registers in Wolof Arabic characters, and some in French--as he is currently learning to write in French.) The mothers also have a loan system, using money collected from weighing sessions to assist those financially stressed before the hivernage. (This village was also graced with very valuable assistance from a Peace Corps volunteer.)

This degree of functioning and satisfaction demonstrates the role gender plays in management and service provision, i.e., the best functioning huts were those in which women played a central role. In the above hut, women were actively involved in decision-making alongside the men on the health committee. The matrone was respected and her services used regularly. This was a common theme in most of the villages with very functional health huts. In Keur Madieng, a model village, women quarter leaders assure that neighbors get to the maternity, and bring their children for growth monitoring and vaccination. Several villages had integrated women's projects with health activities.

A second way in which gender played an important role in service delivery was the sex of the CHW. As noted in other sections, one of the greatest problems associated with failed huts was the departure of the male CHW (in one case only was a woman implicated in making off with the funds). Because male CHWs were rarely paid for their services, they became frustrated and often left, sometimes with the funds. On the other hand, the TBA's,

women, were less likely to be mobile. Secondly, a traditional system of paying the TBA was in place and accepted by the population. It is customary to reward the TBA with some food and perhaps money for the delivery of a child (this was apparently related to the importance of someone touching one's blood). Therefore, the TBAs trained by the Project continued to get paid by the villages, while the male CHWs did not. A number of villages had solved this problem by having "polyvalent" female CHWs, performing both the secouriste and matrone functions. There did not seem to be any problems with male villagers accepting services from the female CHW. The focus group leaders on the team, including the men, all stated unequivocally that women played an important role in the determining the success of the health hut.

Although the team did not explore the role of traditional healers in great detail, it had the opportunity to meet an ENDA volunteer who was studying the utilization patterns among the population of traditional healers vs. "modern" health workers in one of the villages visited--Sob, Kaolack. He has found that men are more likely to use traditional healers, while women are more likely to use modern medicine for themselves and their children. This is probably related to the types of problems for which they seek help; modern methods such as vaccinations have been shown to be effective to the mothers. This type of anthropological-sociological analysis needs to be done further to increase the understanding of the role tradition and gender play in the rural population's selection of health care services.

D. Overall Sustainability

A recent review of the sustainability of USAID-funded health programs in Senegal (Bloom 1988) defined "sustainability" as "the continuation of project outputs and/or project outcomes" for three to five years, at least, after AID funding has ceased. The study made many observations about the sustainability of the first Rural Health Project's outputs and outcomes, although it noted that "what remains to be seen is the sustainability of the entire project effort once USAID has terminated." According to the definition used above, the sustainability of the RHDS II/CS Project still cannot be evaluated, since AID direct assistance to the Regions ended only two years ago and indirect assistance continues to this day. He can, however, point out those outputs and outcomes most likely to be sustained. Following Bloom's framework, the discussion below looks at both contextual factors (e.g., political, economic and sociocultural aspects) and specific project characteristics (e.g., content and design, management and financing) which are likely to influence sustainability.

1. Contextual factors

The evaluation team found that most of the contextual factors influencing the sustainability of the Project in its early years were still important two years after Project completion. For example, Bloom highlights the stable political situation in Senegal, the Project's reliance on existing village organizations and fostering of women's participation, and the consistently high national commitment to PJfC as positive influences (among others). On the negative side, the macroeconomic environment, the inappropriate selection of certain health hut sites (which hindered participation by satellite villages) and CHWs (who were not

respected by the community) and the high degree of "independence" among different services within the MOHSA (which slowed organizational integration of the Project into mainstream Ministry activities) were described as having had a negative impact on Project sustainability. The evaluation team noted that all of these factors still wield important influence on sustainability of Project outputs and outcomes. In addition, the team saw clear evidence of the positive influence of some government policies (e.g., decentralization, cost-sharing in the health sector), and the negative influence of others (e.g., policies guiding the allocation process of local tax revenues).

The evaluation team noted with interest a few divergences from Bloom's findings from Phase I. Most importantly, Bloom indicated that sociocultural factors had limited the success of the Project's preventive care strategies: "The sustainability of promotive and preventive health measures was indubitably undermined by the sociocultural beliefs and health-seeking behavior patterns that encourage rural Senegalese to seek curative care (medicines) from health huts and posts, but seek preventive care elsewhere or not at all." If Bloom is correct in assuming these factors had undermined the Project's preventive care strategies in Phase I, the situation was certainly turned around by the time the Project ended in 1989, and a marked tendency of communities to value preventive health care measures such as vaccinations and ORT has emerged in Fatick and Kaolack Regions. This factor will undoubtedly enhance the sustainability of these interventions in the future.

Secondly, Bloom concluded that the lack of "a vibrant, well-organized private (commercial or church-sponsored) health care system" was a positive influence on the sustainability of PHC service delivery, since the government offered services did not have to compete with the private sector. In fact, there does seem to be a problem in many areas with competition from cheap, illegally-imported drugs from The Gambia which offer a low-cost alternative to the drugs sold at the health huts. Catholic dispensaries also were found to be a strong alternative provider, offering regular and plentiful supplies of drugs at higher prices which people seemed willing to pay. At the same time, however, Catholic sisters helped to improve health hut operations by assisting in baby weighing, supervising CHWs, etc. The net effect of this source of competition is therefore unclear. The evaluation team suggests that the health care financing study undertake a more systematic analysis of parallel providers on PHC program sustainability. (Because of its broad implications, the whole "competing" area of traditional/herbal healers is left without other comment than that the team recognizes its importance, especially in rural areas. Minimally, a survey of available literature (including the findings of Franklin of Tulane, ENDA, etc.) should be made and ideas discussed as to potential village linkages with the CHWs.)

2. Project characteristics

The evaluation team found similarities between Phase I and Phase II concerning Project characteristics that favored sustainability, i.e., overall Project design (which was developed with "participation, mutual respect, and consensus"), Project clarity of goals and objectives, and focus on community participation.

But where Bloom gives high marks to the early Project's "stable and well-qualified leadership" and improved administration systems, the evaluation team found that by the end of the Project, inadequate managerial leadership and administrative capacity were major problems. An AID program evaluation discussion paper has called sustainability and program management "two sides of the same coin," thus, the insufficiencies in this area are of serious concern.

a. Program management

The evaluation team believes that USAID withdrew assistance too quickly, before program management skills in the Project area were firmly in place. Ironically USAID's intentions were the opposite: by making additional assistance to finance implementation activities dependent upon receiving regional health plans, USAID thought it was building management capacities. In reality, the many conditions specified in the last Project amendment, and the ensuing agreement of other donors to withhold assistance until plans were in, resulted in no USAID assistance at all (even for management capacity building or system strengthening) in the Project areas.

The conditionalities imposed by USAID, though well-intentioned, were not the best way to stimulate self-reliance. The conditions required the Regions to "plan" before anything else could happen. But within a well-functioning program, planning is an integrated component of good management, taking place concurrently with other activities such as management control, monitoring of service statistics, supervision, etc. USAID's insistence that planning come first recalls how previous GOS administrations focussed only on EPI to the exclusion of all other child survival interventions. Just as the Project helped the GOS see that multiple technical interventions can be provided successfully through an integrated PHC delivery system, the Project should have tried to show how planning can take place as one component of an integrated and ongoing management system. In breaking up management functions and focusing on planning to the exclusion of all else, the Project did more harm to program sustainability than anything else.

b. Financing

The evaluation team believes that financing is a sustainability factor which is particularly influential now that USAID support of recurrent costs in the Regions is ending. The team found that "national absorption" of recurrent costs for supervision and operation of the drug supply system has not been equal to the resources needed to maintain previous levels of activity. And while total national resources allocated to training (post-Project) have been substantial, funding has been unequally distributed among budget categories, which has inhibited continuation of Project outputs. Solutions to these problems are discussed in Chapter VII.

At the same time, several aspects of the Project's financing have had a positive impact on sustainability. For example, it is probable that the Project's cost-effectiveness was enhanced considerably during Phase II, when preventive care Child Survival interventions

were added within the already established village-based delivery system, thus augmenting health benefits with a relatively smaller increase in total cost. In fact, it may be possible that while health outcomes in the Project regions were similar to those in the rest of the country over the length of the Project (see Annex 8-1), improvements in the Project area were achieved at lower cost than in other areas, due to the existence of a functioning, integrated PTIC system. The evaluation team was not able to analyze regional differences or changes in cost-effectiveness over time, but this could be the subject of future research, given the existence of baseline data on both benefits (the 1982 CDC survey) and costs (recurrent cost analyses from Phase I). Researchers would need to conduct a health outcomes survey and analysis of current operating costs, making adjustments for changes in strategies for program implementation between Phases I and II.

Secondly, the Project's focus on community participation in health financing and management is an element which will have perhaps the most positive impact on program sustainability. While the Project did not achieve its objectives in this area before support was withdrawn from the Regions in 1989, Senegalese staff within the UGP have continued to work on these issues, promoting legal reforms which will allow better collaboration between health staff and the population in the management of funds and use of revenues to finance primary health care delivery in rural areas. This is most encouraging and demonstrates continued commitment on the part of the GOS to providing leadership on sustainability issues. Several specific recommendations about community financing of recurrent costs are also provided in Chapter VII.

The evaluation team is strongly in favor of the planned health care financing (UCF) study, which will provide additional guidance regarding sustainability issues. The team sees the study not only as a research project, but also as an opportunity to transfer practical skills in financial management, analysis, and decision making. With this orientation, the GOS will not have to await the final study report in order to benefit from improved financial management information systems and increased local capacity to (a) make decisions about financial matters (pricing, cash management); and (b) use financial data for health planning (setting budgets, deciding on where to place a new facility). See Annex 8-1 for specific recommendations.

VI. FINDINGS AND CONCLUSIONS

1. Design: Achievement of Purpose

The overall purpose of the Project--to reduce days lost to illness, particularly malaria, among the work force, and to obtain higher agricultural productivity--is difficult to measure. Control areas were not included as part of the design so that even if macroeconomic data were to show increased production in the Project area, attributing these results to the Project would be problematic.

It was the perception of all actors and beneficiaries interviewed by the evaluation team that this purpose had been attained due not only to decreased family illness but also due to reduced travel time and costs, and the availability of a lower-cost drug supply at the village level. Though not totally verifiable scientifically, it appears that the health benefits foreseen by the Project have been realized to a large degree and the health status of rural Senegaleses in the Project area has generally been improved. Specific indicators which are measurable through health statistics (e.g., vaccination coverage) are discussed further on.

2. Project Design: Extension Covenant

In the Project extension, a severe constraint has been an unnecessarily harsh condition requiring that acceptable regional health plans be written before other activities could go forward; the time required for transfer of Project activities to the Regions proved to be much longer than anticipated and the technical assistance to advance the process was not provided, due to USAID delays.

3. Project Conception: Better Health for All

The overall conception of the original Project--Rural Health Delivery Services (RHDS) I, to bring primary health care to rural people--was sound and excellently timed in the late seventies when Senegal was in the zenith of hopes for achieving health-for-all following Alma Ata, and in the wake of the first administrative reform. Sine Saloum was an excellent crucible for an experiment to demonstrate how improved health can have a positive influence on national agricultural production. The objectives of the current Project (RHDS II/Child Survival) followed in the same spirit as the first, and, with the reservations stated below, were more realistic about the time needed to build sustainable primary health care delivery systems.

Perhaps the most important conclusion of the evaluation team concerning the health hut system is that the "esprit" of village-based primary health care continues to this day, and that such a system is feasible. It might even be true that the minimal support of the Project to the huts, in later Project years, provided the necessary impetus for self-initiated action on the part of communities and staff.

The team saw many examples where health committees and health personnel have gone beyond what was foreseen by the Project, and had developed creative solutions for organizing themselves and meeting their needs. For example, many village health committees have collected contributions to restart decapitalized village pharmacies, and in one district, health committees placed such a high value on department level supervision to the health posts that they all agreed to utilize user-fee revenue to support the cost of supervisory visits from department staff. These examples, along with many others encountered in the field, have convinced the evaluation team that the Project objectives were pertinent and that primary health care services meet real needs of the rural population in Senegal.

4. Health Hut Functioning

USAID inputs in the Project area ended in 1989. At that time, 697 health huts of the 728 foreseen had been constructed (96 percent), 402 in Kaolack and 295 in Fatick. During the team visit in April 1991, regional medical staff members estimated that about half of the health huts originally constructed were still functioning. In the areas visited by the evaluation team, team members observed that a higher than expected proportion of selected huts were in fact functioning. For example: 22 of the 24 huts visited had TBAs, and 19 had first aid workers; 23 of the 24 huts observed still served as the site for mobile vaccination sessions; 18 huts conducted malaria prophylaxis campaigns during the rainy season; 20 huts were instructing women in the preparation of ORT. The team, therefore, found that the Project definition of a "functioning" health hut excluded huts that were delivering health services but not meeting Project criteria. (These were: hut in place, drugs in stock, a positive cash balance, and CHWs providing services.) Furthermore, different health staff had defined functioning in different ways; e.g., one definition was "huts providing reports" while another was "huts where the building has continued to exist or has been rebuilt." According to the team's definition of hut functioning--"providing basic curative and preventive health care," a high percentage of huts were currently functioning.

5. Construction/Equipment of Health Facilities

Project objectives were achieved in the area of new construction, with eight health posts and one maternity unit constructed and equipped in Kaffrine Department. The team was notable to verify, however, whether funds for health post renovation (11 posts) have been disbursed. The dormitory for the Kaolack Training Center and renovations of the Regional Medical Office at Fatick were completed as planned.

6. Jeopardized Sustainability

Sustainability of outputs and outcomes is in jeopardy and to the extent that the rationale of the Project was to demonstrate a viable, self-financing system of rural primary health care, the project has fallen short of its objectives. Nonetheless, it must be recognized that progress has been made in changing the attitudes of health staff and members of the community: at both levels, people seem to value preventive medicine more and seem more willing to take responsibility for their own health, both financially and managerially.

The eighties proved to be inauspicious for the Project in that these years have been very difficult economically. The Project length was insufficient to complete the transition to full self-sufficiency, especially at the local level. For example, transport for supervision is not sustainable, dependent as it is on rural community budgets without back-up sources. In addition, there is no incentive currently for the health post nurses who train and supervise the village health workers and provide guidance for community organization/mobilization. The initial incentive--payment for hut visits-- was wisely discontinued (it is unsustainable) but a substitute, such as a training opportunity, is not being offered. Thus the nurses must be exceptionally dedicated (and we observed many who are) to carry out the extra task of village supervision (which might take up to 10-12 days a month) without an incentive, and without the support from department staff foreseen by the Project. As noted later, these early management issues persisted throughout the Project life without satisfactory resolution.

7. Pharmaceutical Supply System

The Project sought to create a system of procurement and distribution of drugs from the regional level down to the villages. The indicator of project success was a renovated and functional regional pharmacy with drugs and vaccines available. The pharmaceutical supply system for the health huts was to have been integrated with that of the health posts and health centers, as well.

Some of the Project indicators were achieved. The Regional Pharmacy in Kaolack was renovated as planned, and some counterpart funds were used for renovation of a Regional Pharmacy Fatick. In 1989, when transfer of the Project was being made to the medical regions, the remaining pharmaceutical supply capital in cash (about 15 million FCA) was divided between the two regions, and each opened an individual bank account. Kaolack's Pharmacy has maintained and even increased this capitalization slightly (from 7.5 million cash in June 1989 to 8.6 million in April 1991, plus an unknown, but reportedly "sufficient" amount of drugs in stock). The Regional Pharmacy in Fatick has been unable to operate a drug depot for the health huts due to a bank failure, so the Kaolack revolving drug fund supports both region.

The evaluation team found that the most serious problem in the supply system is distribution of pharmaceuticals to the peripheral levels. Operating district or community drug depots were rare, and stock-outs were common and sometimes long-lasting at the health huts. The problem of lack of drugs seemed to be the primary cause of failure of health huts, and therefore improved supply is seen as the key to ensuring their sustainability. In many instances committee members were obliged to travel from their villages all the way to the regional pharmacy to purchase drugs for their health hut.

The problems in the regional drug supply system can be attributed to three key factors: lack of means for supervision by regional pharmacy staff; incomplete decentralization of management responsibilities from the national to regional level; and the incompatibility of the two existing systems of drug supply (i.e. the full-cost recovery health hut supply system, and the partial-cost recovery "participation" system serving other non-hospital facilities). These

problems are most urgent and must be addressed before the sustainability of the PHC system can be assured.

8. Health Information System

The major objective of the Project in developing a Health Information System (HIS) was to put in place a model system capable of monitoring the health status of the population from the village level and to measure the health impacts of the program. A second major objective was to improve the capacity of higher levels of the HIS, through appropriate use of computers and training. Little progress was made concerning the first objective. The two initial systems of data collection--one for the Project, the other for the MOHSA--were never integrated and reports continued to be collected for the Project even after the Project Office closed. There was no ongoing evaluation of the initial design and usefulness of data collected; therefore, problems were never addressed or modified. Above all, the problem of Cbs being asked to gather data without a clear idea of how they would be used.

Despite these problems, some CHWs kept excellent records, such as registers of consultations, vaccinations, and nutritional surveillance. Unfortunately, they received little tangible reward for their efforts. Other problems highlighted by the 1986 evaluation continue to this day: excessive report forms and data items, incomplete and inaccurate reporting, and lack of analysis to assist in determining health status indicators and in guiding program changes. Although feedback from higher levels to lower levels is provided in some cases (e.g., district level to health post supervisors), this feedback usually focuses on reporting techniques as opposed to results of analyses, and is usually verbal.

The Project provided three computers: one in the Kaolack Regional Office, one in the HPNO office in Dakar, and the third at the Division of Statistics at the central level. The Project also provided technical assistance from an epidemiologist whose role was to work with central level personnel to develop a more useful HIS. The team was unable to ascertain any concrete contributions provided by this specialist over the time he was in Senegal.

Nevertheless, the central level has made progress in streamlining the reporting system through development of consolidated data reporting forms to be used at the post and health center levels. In spite of this, staff continue to use multiple forms because of different reporting requirements by the agencies providing assistance. Furthermore, there has been little continuing education about HIS changes since the 1987 seminar in Kaolack to train district supervisors from the two regions and the initial orientation for the health post nurses, and new nurses and supervisors have been inadequately trained. A budget and agenda for a training seminar for health post nurses throughout the country have been developed, but approval has been delayed pending the receipt of acceptable regional plans. The team did not think that steps to improve the nationwide HIS had a direct linkage to the development of regional health plans.

9. Technical Components

The second phase of the Project introduced selected preventive health strategies in 16 test health huts, which were to be extended to all huts in both regions, as recommended by the 1986 evaluation. These components were: a) malaria prevention through weekly chloroquine use during the rainy season, targeting pregnant women and children under five years of age; b) a program of oral rehydration therapy appropriately used in cases of diarrhea; c) vaccination coverage of infants and pregnant women (the Expanded Program on Immunization, or EPI; and d) nutritional surveillance. There are two levels to assessing these strategies, firstly, were these components put in place and to what extent?, and secondly, were these activities effective in reducing morbidity and mortality? Based on our sample of 24 huts visited, the above components were in place as follows: (1) chloroquinization -- 96 percent; (2) oral rehydration -- 79 percent; (3) EPI-- 96 percent; and (4) nutritional surveillance-- 50 percent.

All technical components were sustained by the high degree to which these activities were in place, however, it is difficult to assess the quality and completeness of each of the components, with the exception of the EPI, for which the most complete records were available and for which target numbers were calculated. Although 23 of 24 huts reported chloroquine use, there were frequent stock-outs in some sites. Others had worked through trial-and-error to develop innovative solutions such as charging for growth monitoring and vaccinations and using their own money to support purchase of chloroquine.

It is difficult to estimate the quality, and efficacy of oral rehydration activities. When queried about their knowledge of how to treat diarrhea, GHWs responded accurately. Likewise, mothers queried knew the ingredients, although we did not request that they demonstrate preparation. Health post nurses reported seeing fewer cases of diarrhea at the posts, and villagers and GHWs felt that there were fewer serious cases and deaths from diarrhea. It also appeared that there was minimal use of antibiotics for diarrhea treatment, both at the post and hut levels.

According to a survey done by UNICEF in 1990, the rate of complete vaccination among 12-23 month-olds in Fatick was 61 percent and in Kaolack, 55 percent (compared with the national combined average of 55 percent). Although vaccination rates appear comparable between the Project regions and other regions, many of the health post supervisors remarked that the presence of the huts and GHWs facilitated their work at the village level. Finally, we were impressed by the degree to which growth monitoring was carried out, particularly because the Title II food inputs had stopped in 1988 and the money collected by the mothers' committees was not returned to them. In some villages, excellent registers were kept and the GHWs knew the correct management of malnutrition. Growth monitoring was most successful in the Kaffrine Department, where villages profited from the proximity in Gniiby of a growth monitoring project and assistance from expatriate volunteer health workers.

It is important to note that national programs related to malaria reduction, ORT and EPI are in place and that a plan for national growth monitoring has been developed.

Therefore, these components were not unique to the Project regions. Unfortunately, the current health information system does not provide the capacity to compare rates of disease and mortality in the Project zones with non-Project zones. Vaccine coverage would be expected to be similar in the different regions and not be higher in Fatick and Kaolack since the EPI had a strong promotion throughout Senegal.

All CHWs and villagers queried noted that the incidence of malaria and other vaccine-preventable diseases had plummeted dramatically. The major success of these components was in the sourcefulness of many villages, combining different strategies in order to integrate, perform, and finance all these activities. This evolution to integrated primary health care at the village level is a major achievement of the Project. It can be speculated but not verified that the stronger health hut system will assure continuity in vaccination and preventive health care in the absence of special national campaigns whereas dropoff is more likely where village PHC care is lacking.

10. Supervision

The Project's objective was to institutionalize a system of supervision that would extend to the village and be appropriate to village needs and to the available financial and human resources of the MOHSA. Indicators of Project success were that 40 percent of Rural Communities ("communautes rurales" or CRs) were to have financially supported purchase of a mopylette for health hut supervision, and that 40 percent of health committees were to have used "participation" revenue to defray supervision costs. Other recurrent supervision costs were to be picked up by the MOHSA.

Current activities show that institutionalization of a sustainable supervision system down to the village level has not been achieved. Regional reports regularly complain about the inadequacy of the fuel budget for supervision, as well as the lack of vehicles, mopylettes (motorbikes), and funds for repairs of these items. These resource constraints prevent on-site supervision at all levels, including region to department and department to post, as well as post to health hut. At the same time, health post nurses are still undertaking supervisory visits in some areas. For example, in seven posts out of the 12 visited, nurses reported that they conducted some on-site supervision of health huts. In most cases, these supervisory visits were made possible only through collaboration with the EPI program, which provided vehicles or mopylettes and fuel. When these resources are withdrawn, the supervision system may be seriously endangered.

Records showed that in Fatick, CRs were budgeting only 1-2 percent for health between 1988 and 1990. In Kaolack, less than 5 percent of total allocations in 1991 are destined for the health sector. In no case has a CR in Fatick or Kaolack financed the purchase of a mopylette. The problem does not seem to be one of means, since the CRs in Kaolack were spending almost as much on sports equipment and more on social affairs investments than on health. More at the root of the problem is widespread disagreement and perhaps confusion about the laws guiding the CR budget allocation process, which many people feel prevent the CRs from investing adequate resources in the health sector.

Regarding Health Post Committees' contributions, in several cases nurses have been authorized to use receipts from sales of vaccination tickets to pay for fuel for village visits, during which the nurse can often conduct supervision of CHWs as well as vaccinate. The evaluation team did not visit any posts where curative care ticket receipts were financing village supervision costs, although in many posts sufficient revenue is being collected to enable committees to make such a contribution. Generally, health post staff and health committee members do not seem to realize that GOS guidelines allow them to spend part of their revenue for this item.

11. Training

The Project training objectives were to: improve the training and supervision skills of Project personnel in the fields of community organization, preventive health care, pedagogy, management information systems, vehicle maintenance, and health education; to introduce, test, and support the new technical components in the two Regions; to consolidate local community structures responsible for managing and supporting the PHC delivery system; and to improve the capacity of the Senegalese institutions that train health and specialized personnel in PHC. Project indicators were to: achieve a training and continuing education program for all health staff, CHWs and village health committees in the two regions; and to produce a trained cadre of health professionals capable of instituting policy changes to promote PHC in the Ministry of Health and its associated training institutions. To these objectives, the 1986 evaluation added the strong recommendation that training be provided on a wider, multi-sectorial plane, specifically to include rural expansion committee (CER) members.

a. Project training

Training in the villages with CEWs and committees was very successful in the early part of the project; the mid-term evaluation lists the training provided by the health post nurses and trainers in the villages and at health posts for CHWs and health committee members. However, in the latter part of the Project, the quantitative objectives expected to be realized for the Kaolack Training Center were not met and the Center was never used more than a third of the time. Under-utilization was signalled as early as the mid-term evaluation in May 1986, a year and a half after the Center was established in January 1985. A major setback came in April 1986, when two key center staff members departed for long-term training. Due to lack of preparation for filling the vacated positions, and inadequate staff attention to curriculum planning and center functioning, activities slowed down to a halt, and then limped along, inadequately staffed, with fewer and fewer courses being offered, until Project training ended completely in 1989. The Center facilities, described in the mid-term evaluation, were more than sufficient and student dormitories were added to the library, audiovisual laboratory and classrooms in 1986. Since Project training ended in 1989, the Training Center has been used infrequently for non-Project activities such as UNICEF and AIDS special training sessions.

The sophisticated IEC equipment has had very limited use and minimal courses were given to health education staff on the audio-visual equipment available. The Training Center was to be autonomous and self-sustaining. However, the Center never attained the necessary legal statute to permit autonomy. The mid-term evaluation of 1986 recommended immediate attention to this problem, and there was follow-up in the form of a management study to recommend desirable options to achieve marketability. Recommendations of that study were either ignored or not followed. The Center functions in limbo, and while other efforts are in the direction of decentralization, the Center has moved toward recentralization, co-directed by the Dakar Project Unit office and with links to the DRPF which no longer exists. Regional offices have not recognized the Center as a resource for their training needs.

During the team's interviews and visits with health workers in April 1991, regional and department officials, the health post nurses and midwives, and the GHWs all cited the need for refresher training. Frequently, dedicated health post nurses managed to continue training the village hut staff, either in their posts or for the traditional birth attendants, in neighboring health posts where midwives were available. However, new nurses have been assigned since early 1989 and these health post staff have not received any Project training, notably training techniques, so that they can more effectively train Cbs. Inasmuch as the Project staff could not fulfill its direct training needs, the possibility of taking the desired multi-sectoral approach recommended in the 1986 evaluation to train CER staff was never a real possibility.

b. Short-and long-term training

In overall numbers, these training goals were met; however, in terms of Project-targeted formation of cadres, the training was not only too late in the Project to affect its impact but diluted by transfers upon return. The 80 percent Project and 20 percent non-Project criteria for selection did not ensure reassignment to the Project area or to Project-related positions in the Government as the tally on returnees demonstrates.

Between 1984 and 1990, nearly one hundred short-term technical training programs were provided to Senegalese doctors, nurses, midwives, administrative cadres, social assistants and some agents from other Ministries such as Social Development. Of the Senegalese trained, the Director of PHC has calculated that 19 currently work in the Project zones of Fatick and Kaolack. Others have been transferred to other Regions, where it can be assumed that a public health orientation similar to that observed among interviewees during the field work will be evident. Twenty-eight of the trainees are working in Dakar, 11 in the Ministry of Public Health, and six in the MOH Cabinet (six of nine).

Up to April 1991, three of the 13 Senegalese selected for long-term training in the United States are still there working on Ph.Ds. Of those who returned, two are working in the Regions of Fatick and Kaolack, one as the Health Education Adviser in Fatick and the other as the Regional Pharmacist in Kaolack. Five of the 13 were physicians, four were technical supervisors, two social workers, one a pharmacist assistant, and one a nutritionist.

Harvard Institute of International Development, according to those knowledgeable about the training, has done an excellent backstopping job, despite the serious delays in getting the contract under way (the first trainees were not sent until 1986), a problem which resulted in less direct impact of the training on the Project.

c. Public health cadres and institutional capacity

The outlook for achieving sufficient cadres of physicians trained in public health is promising. In December 1988, USAID began to provide support for in-country training of doctors through a creative, practical public health training program carried out in the M'bour Institut de Sante et Developpement (ISED). USAID funds ensure institutional linkages with Tulane University and Morehouse Medical School. Country- and problem-specific training for Senegalese physicians is offered in a two-year course which is carried out through the presentation of six modules at M'bour followed by supervised on-the-job applied training. The program has graduated seven doctors and is currently preparing an additional 15 doctors. Among the first seven are the three Regional Medical Officers of Fatick, Diourbel and Tambacounda (three of 10 in the country). Of the second group, 11 are District Medical Officers and the others in special project (Pikine) or university hospitals.

The ISED training is being evaluated separately at this time. Thus, the team's conclusions are tentative and do not focus on comparative costs. Overall, advantages seen are: curriculum appropriateness to health planning efforts, maintenance of key medical staff in their jobs during their studies, a training context intimately related to future application, and appropriate institution building in Senegal/West Africa. Assuming an average of 14 new physicians could be trained each year and an objective might be to train some 120 including all regional and department medical officers and selected hospital doctors, it would take about eight years to saturate the system with a public health orientation among physicians.

The above training and that still to be planned for other health cadres should be included in a master health human resources plan or study which would include a summary of personnel needs, training gaps, areas of required general public health and specialty training, and a timetable and calendar of priorities for carrying out the different forms of training. Lack of an acceptable health manpower resources training plan has held up further overseas training. A summary of training needs has been submitted by the MOHSA but lacks an analytical framework. It is hoped that the planning process may be advanced by training needs assessments contained in the Regional Health Plans. However, detailed working sessions between the project offices, USAID and the UGP, and the Training Office of MOHSA have not taken place nor has the human resources planning expertise been identified that would advance the preparation of the training plan.

12. Operational Research

One of the objectives of the Project was to finance operational research to evaluate specific project interventions or components in an effort to improve program delivery

and outcomes. The Research Committee, within the Direction of Research, Planning and Education (DRPF), established criteria for selection of proposals that many involved staff felt were too limited. Furthermore, when proposals were received that did not meet these criteria, no efforts were made to assist the applicants in modifying their proposals to improve their study design so they would be more acceptable to the Committee. This not only represented a lost educational opportunity, but also led to an excessively high rejection rate. Ten proposals were submitted, of which three were approved; one was a study on supervision, one was a financial evaluation, and the third was a study examining different protocols for malaria prevention, but it was not carried out because the investigator moved away from the region.

The evaluation team considered it unfortunate that operational research was not used effectively, feeling that it could have added significantly to the quality of the project through indicated modifications based on sound data. The team recognized that the OR process was discouragingly bogged down, and concluded that the Project managers should have intervened to assist in the modification of proposals and the process itself, and/or have sought technical assistance to achieve this Project objective.

13. Management

a. Peripheral level

It should be noted that there was little guidance during the Project related to management indicators by which the Project's management capabilities could be evaluated. At peripheral levels, health post supervisors received some management training, but not enough to meet the heavy demands of their schedules. The team noted that they perform a great variety of tasks, including recording data, filling out forms, making charts, providing clinical services, vaccinating at the post and in villages, supervising post staff as well as GHWs, etc. Several posts displayed out-of-date charts, graphs, and population estimates, while others were somehow able to maintain enthusiasm for maintaining these tasks. UNICEF provided some time management training through the EPI, but staff would benefit even more from regular management training related to their own situations; the regular monthly meetings with district supervisors could be used for this purpose.

b. Central level

By 1986, sufficient evidence indicated that the Rural Health Project was unlikely to become self-sustaining with respect to obtaining Rural Community money for support of mobylette replacement. Project management did not succeed in providing the impetus to correct this situation, and survival of the system was left to chance and ingenuity. Health post nurses would have been limited in providing supervision to GHWs had it not been for the inputs of the EPI by UNICEF. The vaccination fees and fuel for transport to the health hut vaccination sites permitted continued supervision by the health post nurses in many instances. The difficult economic period through which Senegal was passing made it impossible for the Project to reach the level of sustainability hoped for. Almost all actors in the Project consider USAID's departure premature because there has not been sufficient time

or effort made to put such a system in place. On the part of the GOS, it did not meet the condition that Rural Communities provide their share of support, and although the Project Office made special efforts to obtain this support, it was not forthcoming. Neither USAID nor UGP project managers ensured the continued motivation of refresher and other training that could have served as incentives for the nurses to sustain their activities.

Management concerns for the 1986 evaluators were focussed on getting the RHDS II Project integrated into the health system by transferring Project management from the Kaolack Office to the Regions. Thus, they recommended that the transition be effected as soon as possible. The Mid-Term Evaluation recommendation was followed in terms of early dismantling of the Project Office. However, the preparation of, and transfer to, the Regions did not occur as envisaged.

It appeared to the present evaluation team that central offices provided too little input to ensure an orderly transition, and when floundering was evident, too little action was taken to set the course right. The steps that were needed between 1987 and 1989 to make that transfer happen efficiently are just now taking place. The void in central guidance stemmed largely, in our judgment, from a lack of leadership continuity within USAID and the MOHSA. While personnel modifications are inevitable due to limited intervals of leadership and ever-changing staff who bring their own ideas and vision to projects, the RHDS Project appears to have undergone unusual contrasts in USAID leadership style, from one of minimal direction to a highly controlling mode. Likewise, MOHSA posture with respect to the Project, shifted from a strongly supportive role to one of diminished interest, in difference, and lack of familiarity. Minimally, these shifts took extra time and brought frustration to Project staff; at their worst, the support and monitoring needed for effecting a smooth transition were missing and there were many loose ends.

The Project, which should have moved toward increased decentralization, instead was tied together in the Dakar UGP that "ran" the Training Center and other activities, while the Regional Offices for the most part felt no Project ownership. The activities needed to make the Regional Medical Offices into prime Project actors were held up due to Project management failures in both agencies. USAID was slow in allocating resources, could not expedite the out-of-country training nor assure effective technical assistance. The Senegalese are reticent not to take on technical assistance; because of past disappointments, they do not perceive the potential value of this resource. Dialogue between the HPNO and the MOHSA has been less effective than is required for optimal Project implementation and monitoring. USAID procedures appear unnecessarily cumbersome and at times incomprehensible to Senegalese partners, causing delays, frustration, and sometimes ill will.

There was no GOS followup to the May 1986 evaluation until an instruction letter was sent out by the MOHSA in September 1987; many of the recommended actions of the evaluation and MOHSA instruction are still outstanding. The Project managers were unable to keep the Kaolack Training Center functioning, break the operational research logjam, or alter the ill-defined lines of authority in the Health Ministry which held up many activities.

An important key to the decentralization which was to take place in Phase II was to have been through the assistance of a full-time health planner; USAID, for a variety of internal reasons, was unable to accomplish this objective. The field planning process--developing acceptable Regional Health Development Plans--fell far behind schedule and because their completion was a condition precedent, prevented the technical components, training, and information system refinement from advancing. To the major credit of both agencies, recent efforts to provide direct USAID and MOHSA technical assistance to the Regions to move planning documents along have been laudatory and effective.

VII. RECOMMENDATIONS

A. Project Design

Because of design, economic and management constraints inhibiting Project implementation within the envisaged time frame, it is recommended that USAID and GOS extend the Project at least through September 30, 1992 to permit the completion of activities planned that could occur simultaneously with the development of a new USAID health project to integrate primary health care components with family planning.

B. Project Conception: Better Health for Rural Populations at Lower Cost

Despite the shortcomings and constraints that inhibit complete implementation of the strategy, the conception of the health hut and basic primary curative and preventive health care is the most appropriate in the economic and social context of the country. Having observed the network of primary health care health huts in the RHDS II/CS Project area, the evaluation team recommends that the model be replicated more intensively in other regions in order to accelerate achievement of the social objective of "health for all". USAID and the GOS should seek support from the donor community.

C. Decentralization

Having noted the effectiveness and feasibility of decentralizing health planning as demonstrated in the Regions of Fatick and Kaolack, the team recommends that USAID and the GOS reinforce their efforts. Specifically, USAID should continue to assist the MOHSA in the elaboration and execution of health development plans, in order to bring to successful conclusion the investments made in the past.

In order for the reforms being undertaken by the MOHSA at the national level to facilitate orderly decentralization, it is suggested that USAID provide technical assistance to advance the process of interviewing personnel and writing of task descriptions, culminating in a meaningful organigram of the MOHSA. Operations research methods are suggested for designing work flow pattern options.

USAID should provide all the necessary support to promote the educational process in health planning through reviews of decentralized health plans such as those that were held in Mbour May 1991, using these opportunities to invite as many participants as are manageable so that an effective dialogue between USAID and health officials at the national, regional and department levels can be maintained and improved.

USAID should also hire its health planner as soon as possible and carefully decide with the COS the most effective base of operations, making sure that direct channels to the regions are clearly specified.

D. Use of National Investment Budget

It is recommended that the National Investment Budget(NIB) be decentralized in the Regions, and that funds be made available as soon as possible to meet the specific needs of the Regions.

1. To improve use of NIB resources, USAID, in consultation with GOS officials, should write terms of reference for a local accounting firm to perform the following tasks:

- Assist the UGP Manager to edit and correct the historical financial statements contained in this report;
- Meet with staff from the UGP, USAID and MOHSA to determine management information needs;
- Work with the UGP Manager to develop reporting forms on payroll and general ledger expense data, by project activity; reach agreement on reporting forms with staff from HGP, USAID, and MOHSA;
- Develop a chart of accounts which will permit cost accounting by activity (Kaolack Training Center, Regional Plan Development, SANAS, etc.), and develop a format for journals and ledgers, as well as a payroll transaction processing system;
- Recommend external audit procedures, including recommended assignment of responsibilities to individual persons, services or agencies;
- Organize and facilitate a meeting with UGP, USAID and MOHSA staff to reach agreement on forms and procedures; prior to this meeting, diffuse findings, recommendations, sample reports, etc. to relevant staff; and
- Provide initial training and monthly supervision to the UGP Manager and Controller Aide in implementing the system, for the first year of operation. Meet with the Director of the HGP to discuss results of analysis of data obtained from the system, and provide feedback on analytical reports produced by the UGP.

2. The GOS should review and approve these terms of reference within a reasonable time period.

3. USAID should engage and pay for the local accounting firm's work, to avoid any conflict of interest.

4. USAID should hire a management consultant with financial systems knowledge to evaluate the system after 6-12 months of operation, to suggest improvements and comment on its utility for management decision-making. The management consultant should also analyze the feasibility of applying this financial system development process (i.e., local consultants acting as a catalyst to system development, with full participation of managers and other "users" of the financial information) to the regional budget management process, and possibly other decentralized management systems (e.g. personnel management or pharmaceutical supply) as well.

5. If this model appears feasible, USAID should support the costs of hiring local consulting firms or individual consultants in further efforts to improve management systems. At this stage, however, USAID should not actually hire the consultants. To enhance management capacity and decentralized decision-making, USAID should assist the GOS in developing terms of reference and engaging the local consultants to do the work. In the area of personnel management, a medical region might be helped to contract with the University of Dakar's Institute for Health and Development, to develop an improved logistics supply system, or to analyze personnel training needs, for example. An important element of sustainability is self-reliance in technical skills. USAID's indirect support of demand for consulting services, provided through the private sector and institutes for higher education, would be an important stimulus in developing a market for local technical skills and services.

6. Concerning the funding of the Kaolack Training Center, the GOS should review the budget and reduce it to correspond to actual levels of activities. The savings should be reallocated to the Regional Medical Office of Kaolack, and should be targeted to improving supervision of the drug supply and distribution system at the post and health hut level. The GOS should also increase the number of budget categories used for the Training Center.

E. Supervision

In the interest of cohesion and efficiency in management of the regional health system, the team recommends that the GOS consider the attachment of different regional bureaus and services such as the Training Center, the Regional Pharmacy, the Regional Laboratory, the Endemic Disease Service, the Sanitation Service and even the Regional Hospital to the Medical Region for purposes of supervision, control and evaluation of their efforts.

The MOHSA should also assure that regional and department health teams give priority to the role of supervision in terms of serving the health huts and ensuring sustainability of the system; health post nurses and health committee members should be sensitized about the importance of supervision and the need for finding means of supporting it. In those cases where user fees are inadequate at this time, the health committees should be assisted in seeking ways and means to increase their resources: through raising the price of

tickets, undertaking income-generating activities, or having all members of the community participate whether they are sick or not. More detailed recommendations include:

1. Financing of Supervision Costs by Communautes Rurales
 - The GOS and USAID should give full support for speedy completion of the planned Health Care Financing Study in Senegal, the first element of which will examine legal and regulatory requirements in the health sector, clarifying how current laws facilitate or impede local tax spending on health.
 - To involve the medical regions more actively in the budget allocation process, the team recommends that the MOHSA (PHC Division) begin by assisting Fatick Medical Region to analyze CR budgeted and actual spending for 1990-1991 and past years, and to identify priority areas where increased spending is particularly important to achieve regional health objectives. The MOHSA staff member should also assure that the Kaolack CR budget analysis contained in this evaluation report is reviewed and updated by Kaolack staff in a similar manner. In each medical region, the Manager might be asked to perform the budget analysis task, in collaboration with the regional PHC supervisor. The MOHSA staff member should evaluate their work and provide feedback. This task should then become a standard procedure performed annually.
 - The Fatick and Kaolack Medical Regions should, with the collaboration of the PHC Direction of the MOHSA and staff members of the UGP, and invited representatives of the Ministry of the Interior, organize a workshop for regional and district staff (especially the medical chiefs of the districts). The purpose of the workshop will be to disseminate information about the new laws from the Ministry of the Interior regarding CR budgetary responsibilities; to present the results of the two budget analyses; and to discuss methods for effective lobbying for increased CR funding to the health sector. Administrative and elected officials ("sous-prefets" or CR presidents) known to be sympathetic to the concerns of the health sector should be invited and asked to explain how the budgeting process works, and how needs can be presented most effectively. USAID should provide organizational support and funding for this workshop.
 - Following the workshop, the two Medical Regions should develop and present funding proposals for FY 1992 to selected CRs for the purchase of mobylettes for nurses' supervision of

health huts. These proposals should make clear that the mobylettes are an investment expenditure required once every two to three years. If it seems feasible, the medical regions should also attempt to secure some annual contribution toward the financing and repair and maintenance of the mobylettes, requiring the fulfillment of certain conditions--e.g., that vaccination levels at each health hut are maintained above 80 percent, or that monthly supervision reports are submitted to the CR president (Since CRs do not normally finance annual operating costs in any sector, the medical regions should not depend on the CRs for financing these costs, at least not in the very near future.)

- The UGP staff should assist regional staff in monitoring the progress and outcome of the proposals. If the proposals are successful, the UGP should develop a report on the outcome and methods used, and should finance the copying and distribution of this report to all relevant health personnel in all regions of the country. Such a report will help other regions to benefit from increased local financing of health expenditures.

2. Financing of Costs by Health Committees (User Fees)

- It is recommended that the MOHSA develop a simple manual to guide health center/post nurses and health committee members through the process of budgeting locally generated funds. Its purposes would be: to sensitize further committee members to recurrent cost needs; and to involve nurses more in the budgeting process of health committees, and to help them learn how to plan for the nature and timing of expenditures. USAID should provide technical assistance to review the guidelines, which should be developed by local financial management staff (e.g., the Kaolack Manager assisted by the Regional PHC Supervisor and Pharmacy Assistant) or other Senegalese professionals with financial management expertise. USAID should finance the reproduction and dissemination of the manual in Kaolack and Fatick, and after the first year's use, the MOHSA should oversee revisions (again using local staff) and dissemination of the manual in all regions of the country.
- The MOHSA should ask the Medical Region Manager and Pharmacy staff in Kaolack to recommend improved procedures for recording fee revenue and expenditures, and drug stock information. These recommendations should be based on field visits in both Kaolack and Fatick, The Pharmacy Assistant in

Kaolack has been trained in the procedures which the Project originally put in place for pharmacy management, but which are no longer being followed. He should be asked to review the old procedures and make recommendations regarding which ones should be kept and which should be changed. The Manager should make suggestions for monthly and annual financial reports. He should also make recommendations for separating the responsibilities of the health committee treasurer, president, and the health post nurse in order to maximize financial control.

- The Kaolack and Fatick Medical Regions should convene department-level coordination meetings (already held regularly in the two Regions) to discuss ideas about how to finance supervision costs, including cost-sharing with other services, starting a "fuel bank," and pricing strategies to generate a surplus to finance supervision. Although phases III and IV of the PRICOR supervision study were to have tested solutions to the problem of cost-effective supervision alternatives, the evaluation team feels that local solutions to this financing problem must be generated quickly and tested informally before more general guidelines can be developed. The Fatick Medical Region appears to be qualified to take the lead in coordinating the timing and content of the meetings in both Regions. It is suggested that the UGP monitor the process with regional staff. Once all department level meetings have been held, an inter-regional coordination meeting should be scheduled to discuss findings and differences or similarities of solutions proposed. USAID should send a representative to the inter-regional coordination meeting, and should consider publishing a summary of proceedings if the results of the meeting seem to warrant dissemination over a wider audience.

3. Financing of Costs by the MSPAS Operating Budget

- The fuel budget issue should be examined during the Health Financing Study and at the coordination meeting on financing supervision costs.

F. Pharmaceutical Supply System

For optimal functioning of the health huts, a constant supply of basic medicines is needed and to ensure that, the community depots and the health center depots must be rehabilitated. More specifically, the team recommends that the MOHSA reestablish the supervised depot system that was in place at the Project's beginning and that the stock

management system with stockcards and accounting registers be reinstated. The evaluation team also recommends that the two medicine supply systems that currently exist in Fatick and Kaolack Regions be integrated (one system supplies the health huts and the other, the health centers and health posts). This proposed integration, first suggested in 1983, may have a better chance of success at this time, in light of the possibilities for receiving Swiss medicines and essential medicines from the World Bank as "initial" stocks for the health centers and posts just as USAID stocked the health huts at the outs. To reactivate the Regional Pharmacy, the team recommends that it be given an operational budget for office furnishings and gasoline for supervision of the medicine supply system. If a vehicle cannot be provided to the Pharmacy, the Medical Region should facilitate access for the Pharmacy staff to the vehicles in the Medical Region's car pool for all of their distribution activities.

The Regional Medical Chief should be briefed about his responsibilities vis-a-vis the Regional Depot and ORS supply systems. The evaluation team recommends that this briefing be undertaken by the UGP, along with the Director of the PHC Division of the MOHSA. Immediate actions by the RMC should be replenishment of the ORS stocks, investigation of the unexplained drop in Depot sales revenue in 1991 and request for a physical inventory of the Depot (to be taken by non-Depot staff).

The team recommends a thorough analysis of the current status of the Depot system, including a physical inventory at the department and community Depot level, and possibly an inventory at the health hut level (through health post nurses). To accomplish this situation update, USAID should provide a technical assistant who is experienced in pharmacy management and pharmaceutical cost recovery programs. The UGP should provide a fuel allowance from the 5.5 million budget for 1990-1991. The Medical Region should provide vehicles. The technical assistant should be accompanied in the field trips by pharmacy staff and, if feasible, the Medical Region Manager, who will make recommendations about improved financial records and reporting. The scope of work for the assignment will include historical financial analysis and analysis of stock movements at the regional depot as well as the regional pharmacy. The TA should also make recommendations about the best use of the cash balance for the Regional Depot, which seems unnecessarily high given the slow stock turnover. Meetings should be held and consensus reached regarding division of financial and management control roles and responsibilities, and at least partial solution to the problem of financing the supervision and distribution system. These decisions should be reviewed and modified as new reforms occur within the PNA or stem from UNICEF's Bamako Initiative.

The MOHSA should take immediate action to lobby for their lease of the Fatick Branch Drug Depot's funds (about 7-8 million FCFA) from the USB, which failed more than a year ago.

USAID should provide technical assistance to examine the feasibility of adding a Project-area department to the already-selected departments that will be pilot testing the Bamako Initiative. The pilot test would be financed by USAID, not UNICEF, and would be managed by the GOS with advice from UNICEF and USAID. The pilot test could probably be done with a minimum of external inputs, given the long-term training and other work that

have gone into building up the pharmaceutical supply system in the Project regions. Regional pharmacy staff should be given (or share) responsibility for coordinating the pilot test. Operations research funding from AID should support the effort, since it will be an experiment in an alternative method of implementing the principles of the Bamako Initiative, grounded in the experience of primary health care financing gained over 10 years in Kaolack and Fatick.

The Pharmacy Depot and MCR should initiate actions to inform nurses, who will in turn inform committee members, that medical material for TBAs is also available for sale through the Depot. Several health hut workers mentioned the need for replacing these supplies. (The evaluation team assumes that this material is, in fact, available, since it was in stock at the time the Project office closed in 1987).

G. Training

Noting the substantial needs still unmet in public health training, the team recommends that the Government and USAID continue to support the training program for physicians already underway in the Institute of Public Health and Development in collaboration with the University of Tulane and Morehouse Medical College. Though the team is not evaluating this project since a separate evaluation is being carried out at this time, it supports the basic conception of this training because it is well adapted to the needs of the country, is likely to be cheaper and keeps health staff in their jobs during the two years of training. The team recommends that all physicians who serve as regional and department chief medical officers and even some in hospitals have this public health training in the interest of assuring the leadership that can make effective primary health care available throughout the country.

A global training plan to encompass the above physician training and an outline of needs for the training of other health cares is needed. After considering the list of training needs prepared by the MOHSA, the team recommends technical expertise to assist the Health Ministry staff responsible for human resource training and management. This assistance should focus specially on preparation of a detailed national health training needs plan that would compile existing health manpower needs, assess adequacy of training completed, and outline the training required to achieve specific objectives within an agreed timeframe. At the same time, it should provide hands-on training to a Senegalese partner who would continue to plan training after the end of the technical assistance.

Having noted that training of health staff played a key role in primary health care network functioning, and that present field staff are in need of refresher and initial training, the team recommends that the Kaolack Training Center be revitalized to meet current Project area needs based on guidance from the Regional Medical Office for the immediate future. We suggest that the Health Financing Study to be made this year look at ways in which available Regional resources can be used to bring about continuing training of health staff, particularly of newly-appointed agents and community health workers.

We suggest that the production, projection and photographic equipment in the Center be utilized in health education training courses that can be expected to be requested in the Regional Health Plans currently being completed. It is also suggested that the Health Communications Advisor, employed by the Project to work with the MOHSA Health Education Service staff, review the list of equipment and determine potential uses in the future integrated PHC/family planning project that will be designed by USAID. Through the HealthComm Advisor, USAID should collaborate with the World Bank Health Resources Development loan team expected to be in Senegal in May 1991 to determine how the equipment might best serve the IEC program to be designed.

It is recommended that the legal problems obstructing autonomy of the Center be resolved and that the UGP, the Kaolack Region and USAID work together to formulate how the Center should serve the ongoing and new health projects in the future.

H. Information System

Having noted in the field work that the health information system (HIS) is very cumbersome and complicated, with little linkage to decision-making, the team recommends the support of the MOHSA for organizing a comprehensive workshop on the HIS. Carrying out this workshop should not be dependent on acceptable regional and district health development plans because the work planned can be expected to help improve these plans. The workshop is designed to select indicators to be measured at each level of the HIS, to develop the basic support in terms of registers and standardized forms, and the mechanisms for the collection, analysis, and utilization of data. Based on the results of the workshop, an instruction and training manual for each level of the health system will be developed. The workshop should also address recommendations for computerizing the system. The assistance of an epidemiological HIS expert would be useful in setting up the workshop and carrying out its recommendations. This expert should provide TA in a periodic and continuous manner during the implementation of the HIS. To ensure an effective and responsive system, the team recommends that the Statistics Office have regular counsel from field decision makers and from data users (doctors, service heads) so that appropriate analyses are made from available data. The team further recommends development of a sentinel site system to follow health indicators in an elected number of zones to evaluate the impact of prevention and child survival activities. Finally, it is recommended that health post nurses and other health agents be trained in the analysis and use of data, as well as in its collection; this training should be accompanied by management tools such as guides and forms.

I. Technical Interventions

During its field work, the team noted that the integration of different technical interventions permitted their mutual reinforcement and made the work of health agents at the post and health hut level more effective. Thus the team recommends continuing and reinforcing the integrated approach in health interventions. The team thinks that it is desirable that all of the services provided to villagers be of the best quality and be integrated,

inclusive and continuous. The team also recommends that donors, instead of preparing parallel projects to the already existing national programs, provide direct support to national programs to reinforce their implementation. In this respect, they should work together to help the Health Ministry in its desire to integrate, at least at the department level, the different primary health care interventions. The team recommends that henceforth attention be given to quality of care and not merely to service utilization.

The team further suggests that family planning should be considered as a PHC intervention and that it be integrated with the other technical components since it too has the objective of improved maternal and child health. The rural health network put in place by the Project should be viewed as an opportunity for introducing or reinforcing a family planning component. There quests for family planning noted in some villages during the field work lead us to suggest that family planning be provided in the rural areas as well.

In as much as the team considers the support of a limited number of child survival interventions to be less effective interims of both health impact and management than an integrated delivery, it recommends that USAID include all of the related technical interventions in Regions where it supports Regional Health and Development Plans. It is suggested that Pritech give special attention to cost effectiveness of the growth monitoring component through attention to this intervention at selected sentinel sites.

J. Operational Research

Noting the multitude of problem-solving opportunities for operational research, the team recommends that USAID and UGP decide on a strategy for the remaining Project life, using technical assistance to advance the utilization of this resource. It is suggested that the UGP and USAID take the lead in proposing new criteria and procedures for using OR and in suggesting specific priority problem-solving areas in which OR could serve the Project. In addition to modifying the current practice of inviting proposals which depend on researchers' areas of interest, there commendation is to change from research to practical operational problems. For example, it is suggested that OR could be used to carry out a feasibility study for running a pilot-test in anew project-area District to try out an alternative method of implementing the principles of the Bamako Initiative using the PHC experience in Kaolack and Fatick. It is also suggested that OR could be used to design organizational lines of authority and task definition in the MOHSA, a process which has been started but may require more intensive attention. At least two problem-solving activities should be completed before the end of the Project with the objective of demonstrating OR usefulness and of resolving key Project problems.

K. Program Management

As noted during the evaluators' visit to the field, the monthly department-level meetings with health post nurses are very opportune occasions for on-the-job training to meet the most urgent demands of their job: recording data, filling out forms, making charts, providing clinical services, vaccinating at the post and in villages, mobilizing villagers,

supervising post staff as well as village workers and committee members. Thus it is recommended that greater emphasis be given to providing peripheral staff with continuing management training in the interest of improving program quality and providing incentives for health post nurses.

In light of the fact that the team is recommending a good deal of TA and because some earlier TA has not been very effective in this Project, it is recommended that USAID, UGP and the MOHSA meet to discuss the entire area of technical assistance and decide whether an organizational management assessment might be useful. The objective of the assessment would be to clear the air with respect to technical assistance and prepare the way for more effective use of it. Such an assessment should: ascertain problems and the source of problems with respect to past TA; define all current needs in TA; describe expectations of all relevant parties with respect to TA; prepare agreed criteria and methods for carrying out future recruitment, hiring, and utilization of TA in a decentralized rural health delivery system.

It is recommended that delineating lines of authority within the MOHSA be considered a necessary precedent to signing a new health Project and that USAID assist in helping to bring this about by supporting current efforts by the MOHSA to make a central plan for a decentralized health program.

It is further recommended that the management training module at the Public Health Institute be modified to include instruction regarding management control and organizational design.

The team suggests that USAID requirements be demystified for the Senegalese working on the Project by holding workshops jointly sponsored by the HPNO and the Program/Controller office with UGP and relevant MOHSA offices. The purpose of the workshop(s) would be to make understandable the rationale and regulations governing AID procedures and to facilitate meeting the requirements most efficiently. Other workshops to improve dialogue could follow, including those on operational research, training, and the information system. As feasible, additional technical expertise could be included in these workshops--e.g., regional training resources, in-country or regional training or HIS experts.

L. Sustainability (See also Supervision)

1. Future efforts to support Senegal's PHC programs should continue to emphasize reliance on existing village organizations and fostering of women's participation (e.g. women as CHWs, enhancing role of women's committee).

2. Organization development within the MOH should be promoted, so that the administrative structure (control of resources) fits more closely with the "responsibility" structure (control of activities to achieve objectives).

3. USAID and the GOS should monitor the emerging influence of parallel providers (e.g. illegal drug market, Church-sponsored health care) as a potentially negative influence on sustainability of government-provided health services. Management training sessions for nurses and other staff should include sessions of pricing strategies and other actions which can reduce the negative effects of competition.

4. USAID should immediately restart at least some level of direct assistance to the Project regions, without waiting for the Regional plans. The assistance should be targeted to developing program management capacity and systems. USAID should focus on developing decision-making skills of host country counterparts not just in planning, but in other areas as well, e.g., personnel management, management control, financial management and systems analysis. USAID and the GOS should begin implementing the Health Care Financing study as soon as possible. The HCF study should be seen not only as a research project, but also as an opportunity to transfer practical skills in financial management, analysis, and decision making. Toward this end, the TA team should work closely with UGP staff and GOS "line managers" (e.g., chief medical officers, supervisors, and health post nurses) during the data collection and analysis process, drawing assistance for Senegalese health care financing experts (e.g., university professors) and private sector accountants such as trainers and research collaborators. With this orientation, the GOS will not have to await the final study report in order to benefit from improved financial management information systems and increased local capacity to i) make decisions about financial data for health planning (setting budgets, deciding on where to place a new facility).

M. Evaluation

The team suggests that evaluations that carry a major component of document review and synthesis (for long-term and complex projects such as RHDS II/CS which, as reflected in this report's bibliography, have generated a multiplicity of documents) could be carried out more cost effectively by furnishing documents in advance. This would allow team members unfamiliar with the Project time at home not only to read, but to digest and make a desk review prior to undertaking work in the country. The latter would then permit a shorter and better use of time.

ANNEX 1

ANNEX 1-1

Scope of Work

ARTICLE I - TITLE

Family Health and Population - (685-0248)

ARTICLE II - OBJECTIVE

The purpose of this final evaluation is to assess project impact and to review the progress made towards achieving the outputs and the objectives of the project after five years and five months of implementation. This evaluation will answer programmatically important questions about project design, program management, the level and appropriateness of technical assistance as well as the timeliness and appropriateness of project inputs. Finally, this evaluation will recommend future interventions in family planning/family health that should be supported

ARTICLE III - STATEMENT OF WORK

ACTIVITY TO BE EVALUATED

- Project Name: Family Health and Population
- Project Number: 685-0248
- Authorization Date:
- Grant Agreement (G.A.) dated July 31, 1985 \$9,450,000
- G.A. Amendment No. 1 dated August 22, 1986 \$10,550,000
- G.A. Amendment No. 2 dated June 10, 1987 \$600,000
- Life of Project (LOP) funding:
 - Total USAID: \$20,600,000
 - GOS, in kind and counterpart: \$7,400,000
- Life of Project Funding:
- Amount obligated:
 - USAID: \$20,600,000
 - GOS: \$220,000 + in-kind contribution
- Project Assistance Completion Date (PACD): June 30, 1992.

The Evaluation Team will:

A. Review data from the Demographic Health Survey (DHS) 1989, the Urban Knowledge, Attitude and Practice (KAP) 1990, 1988 Census data and other existing documentation in order to assess the project impact on fertility reduction. Review project data in order to project contraceptive utilization, couple year protection (CYP), and number of births averted as to review the "drop out survey" initials results to project continuation rates.

B. Review the nature and level of planned outputs as identified in the Project Paper and the Logframe in terms of feasibility and importance to the program purpose. Determine whether key assumptions remain valid. Recommended any changes in quality or quantity, and any additions or deletions that appear appropriate.

C. Review the level and timeliness of planned inputs, both GOS's and USAID's in terms of feasibility and of importance to the attainment of the purpose. Determine whether key assumptions remain valid. Recommend any changes in quality or quantity, and any additions or deletion that appear appropriate.

QUESTIONS D-E SHOULD BE ANSWERED SEPARATELY FOR FAMILY PLANNING CLINICAL SERVICES (BOTH PUBLIC AND PRIVATE); STD/AIDS; IEC; DATA BASE ACTIVITIES AND WID COMPONENT (as appropriate).

D. Assess strategy and plans for attaining the purpose and generating anticipated outputs over the remaining life of the project. Determine whether key assumptions remain valid. Are the purposes likely to be met and the outputs produced in the time, and with the resources available? Identify any areas that appear weak, and any that may appear over-emphasized. What changes, if any, are recommended.

- 1) In the context of strategy, give attention to:
 - * training/staffing;
 - * public/private sector emphasis;
 - * "quality" vs "quantity" of centers of services;
 - * "inactives" (the drop-outs);
 - * IEC methodologies, e.g. mass media vs personal contact;
 - * GOS policy/attitude change;
 - * sustainability issues:
 - treatment;
 - drugs, diagnostic and contraceptive supplies;
 - recurrent costs (administrative).
 - * use of technical assistance.

2) Assess the roles attributed to MSPAS, BNR, VSPP and assess implementing strategy for each of the project components; of ISTI and the U.S. Bureau of the Census (BUCEN) for data base activities.

3) In reviewing plans for attaining the project purpose and generating anticipated outputs over the remaining life of its project, focus on the nature and completeness of the planning as well as the content. Do plans clearly show that levels of input (including key staff time) required for various activities are known and taken into account, particularly as the pace of implementation accelerates?

E. Review current GOS/ISTI/USAID management structures, practices and relationships in terms of how helpful they are for the successful attainment of purpose and output targets. Identify and action that might be taken to make them more effective. Give particular attention to the following items:

1) PLANNING: Process. Participants and roles. Communication. Implementation of plans. Follow-up.

2) SERVICE DELIVERY: Definition of the type of performance. Indicators and standards; monitoring process. Quantity and quality of services; corrective processes.

3) SUPPLY SYSTEM: Effectiveness: central, regional and local. Appropriateness for expected levels of activity.

4) MANAGEMENT INFORMATION SYSTEM (MIS): How adequately/correctly does it describe resource use, outputs and progress? How is it used by management?

F. Identify any policies, practices, structures or other aspects of involved government agencies that may be (or may become) impediments to the successful attainment of purposes and output targets. Identify any offsetting or corrective actions that should be considered. Issues for attention include at least:

- * inter-ministerial coordination/collaboration;
- * staff transfer practices;
- * supervision (process vs results oriented)
- * pharmaceutical supply system;
- * role of different service providers in family health/planning services.

G. Assess the project purpose. Do the indicators anticipated appear to be reasonable? What changes, if any, should be made? How can this evaluation help design of the new project? Recommend future potential of USAID assistance in this sector.

H. Assess what has worked and what has not worked and the relative effectiveness of the various interventions to assist USAID in planning for our future role in the population sector.

I. Selected Issue

Given the importance of gender considerations in assessing the "people level impacts" of the Family Health and Population project in the future, the Evaluation Team will document the differential participation of men and women at each level of project activity subject to the availability of data. Special attention will be given to documenting on a gender disaggregated basis the participation by men and women in project activities/components. Based on this analysis, the Evaluation Team will draw conclusions regarding the principal constraints to effective participation by men and women in project activities, and will draw conclusions regarding opportunities to maximize effective participation by men and women in Population activities in future A.I.D. - funded projects in Senegal.

ARTICLE IV - REPORTS

The questions to be answered in the SOW are extensive and cannot all be addressed to the same level of detail and completeness. Therefore, the evaluation team will meet with a joint USAID/MSPAS advisory group to assess the relative importance of the expected evaluation and prepare a modified SOW (Table of Contents of evaluation report) for review by the advisory group at the end of week 1.

The preliminary conclusions and recommendations will be orally presented in English and French at a pre-departure briefing organized by USAID, and a draft report in English and a draft Project Evaluation Summary will be submitted to USAID prior to the departure of the team. Five copies of the final report in English will be submitted to USAID/Dakar for review and comment within 45 days of departure of the Team Leader.

The Evaluation Team Leader will be responsible for completing the Abstract and Narrative sections of the A.I.D. Evaluation Summary form. Detailed instructions for completing these sections of the form will be provided to the Contractor in USAID/Dakar together with A.I.D.'s required format for evaluation reports.

ARTICLE V - TECHNICAL DIRECTIONS

Technical directions during the performance of this delivery order will be provided by USAID/Senegal Evaluation Officer, pursuant to Section F. 3 of the IQC contract.

- or the USAID Evaluation Officer, Chief of Party will direct contractor and Senegalese members of evaluation team.
- B. Cooperating Country Liaison Officials: Commandant Aboubakry Thiam, CT Family Planning; Commandant Lamine Cisse Sarr, Directeur de la Sante Publique; Dr. Alassane Nakoulima, MSPAS; Mme. Marieme Diop, MSPAS; Mme. Awa Thiongane, MEFP/DPS.
 - C. A.I.D. Liaison Officials: Dr. Mary Ann Micka, Chief HPNO under the direction of USAID's Deputy Director and Director and in coordination with USAID's Evaluation Officer; Contractor: ISTI (Tim Rosche). Linda Lanckenau, Deputy Chief HPNO will backstop the team and provide day to day guidance.

ARTICLE VI TERM OF PERFORMANCE

- A. The effective date of this delivery order is March 27, 1991 and the estimated completion date is June 27, 1991.
- B. Subject to the ceiling price established in this delivery order and with prior written approval of the Project Manager (see block 5 of the Cover Page), Contractor is authorized to extend the estimated completion date, provided that such extension does not cause the elapsed time for completion of the work, including furnishing of all deliverables, to extend beyond 30 calendar days from the original estimated completion date. The contractor shall attach a copy of the Project Manager's approval for any extension of the term of this order to the final voucher submitted for payment.
- C. It is the contractor's responsibility to ensure that Project Manager-approved adjustments to the original estimated completion date do not result in costs incurred which exceed the ceiling price of this delivery order. Under no circumstances shall such adjustments authorize the Contractor to be paid any sum in excess of the delivery order.
- D. Adjustments which will cause the elapsed time for completion of the work to exceed the original estimated completion date by more than 30 days must be approved in advance by the Contracting Officer.

ARTICLE VII - WORK DAYS ORDERED

<u>A. Functional Labor Specialist</u>	<u>Delivery Days Ordered</u>	<u>Fixed Daily Rate*</u>	<u>Total</u>
Management Analyst	49.0	\$552.94	\$27,094
Management Analyst	35.5	270.00	9,585
Institutional/Operations Analyst	31.5	284.40	8,959
Social Science Analyst	35.5	552.60	19,617
Statistical Analyst	29.5	324.80	<u>9,558</u>
	TOTAL		\$74,813

*Based on a multiplier of 1.80

B. Subject to the prior written approval of the Project Manager (see Block No. 5 on the Cover Page), contractor is authorized to adjust the number of days actually employed in the performance of the work by each position specified in this order. Contractor shall attach copy of the Project Manager's approval to the final voucher submitted for payment.

C. It is the contractor's responsibility to ensure that Project Manager-approved adjustments to the work days ordered for each functional labor category do not result in costs incurred which exceed the ceiling price of this delivery order. Under no circumstances shall such adjustments authorize the contractor to be paid any sum in excess of the ceiling price.

ARTICLE VIII - CEILING PRICE

(1) For Work Ordered	\$ 74,813
(2) For Other Direct Cost	<u>55,002</u>
Ceiling Price (1) + (2)	\$129,815

The Contractor will not be paid any sum in excess of the ceiling price.

ARTICLE IX - USE OF GOVERNMENT FACILITIES OR PERSONNEL

- A. The Contractor and any employee or consultant of the Contractor is prohibited from using U.S. Government facilities (such as office space or equipment) or U.S. Government clerical or technical personnel in the performance of the services specified in the Contract, unless the use of Government facilities or personnel is specifically authorized in the Contract, or is authorized in advance, in writing, by the Contracting Officer.
- B. If at any time it is determined that the Contractor, or any of its employees or consultants have used U.S. Government facilities or personnel without authorization either in the Contract itself, or in advance, in writing, by the Contracting Officer, then the amount payable under the Contract shall be reduced by an amount equal to the value of the U.S. Government facilities or personnel used by the Contractor, as determined by the Contracting Officer.

- C. If the parties fail to agree on an adjustment made pursuant to this clause, it shall be considered a "dispute" and shall be dealt with under the terms of the "Disputes" clause of the Contract.

ARTICLE X - EMERGENCY LOCATOR INFORMATION

The contractor agrees to provide the following information to the Mission Administrative Officer on or before the arrival in the host country of every contract employee or dependent:

- A. The individual's full name, home address, and telephone number.
- B. The name and number of the contract, and whether the individual is an employee or dependent.
- C. The Contractor's name, home office address, and telephone number, including any after-hours emergency number(s), and the name of the Contractor's home office staff member having administrative responsibility for the contract.
- D. The name, address, and telephone number(s) of each individual's next of kin.
- E. Any special instructions pertaining to emergency situations such as power of attorney designees or alternate contact persons.

ARTICLE XI - LOGISTIC SUPPORT

The contractor will be responsible for all logistic support.

In addition USAID via ISTI will provide two vehicles for in-country travel for fieldwork and the contractor will be responsible for renting an additional vehicle and driver. Fuel will be provided by the project.

ARTICLE XII - ACCESS TO CLASSIFIED INFORMATION

The contractor shall not have access to classified information.

ARTICLE XIII - DUTY POST

The Duty Post for this work order will be Dakar and site visits.

ARTICLE XIV - WORK WEEK

The Contractor is authorized up to a 6 day work week with no premium pay.

ANNEX 1-2

Ministry of Health and Social Action--Letter re: Evaluation

MINISTRE DE LA SANTE PUBLIQUE
ET DE L'ACTION SOCIALE

Dakar, le

20 MARS 1991

Le Ministre

Objet : Observations relatives au Projet
"Evaluation Finale du Projet Santé Rurale/
Survie de l'Enfant II".n° 685-0242.

Date Rec'd	21 MARS 1991
MRN	0-0-0-5
Action Taken
Date
Signature

Monsieur le Directeur,

Fatimata

L'étude du document intitulé "Version Française du PIO/T de l'évaluation du Projet Santé Rurale/Survie de l'Enfant II" que vous avez bien voulu soumettre à mon appréciation, appelle de ma part les observations suivantes :

1°/ l'objectif visé par cette évaluation est suffisamment pertinent et il contribuera à aider à affiner nos stratégies pour résoudre les problèmes de santé de nos populations.

Il est toutefois à regretter le retard tant apporté à cette évaluation, deux ans après la fin du Projet.

Par conséquent, une enquête fiable auprès des populations sur la perception ou les bénéfices tirés des activités menées dans le cadre du projet me paraît difficile à réaliser.

En d'autres termes, je suggère que l'étude s'oriente plus particulièrement vers une évaluation administrative en s'attachant à analyser les stratégies du projet. Plus spécifiquement, l'étude doit se focaliser sur :

- les infrastructures
 les équipements ;
- les formations ;
- les types de services fournis ;-
- les mécanismes et procédures de gestion des ressources et des activités.

L'analyse de l'impact sur l'état de santé en termes de réduction de la morbidité et surtout de la mortalité par affection ne paraît pas faisable avec la crédibilité souhaitée en ce moment.

Monsieur Julius E. Coles
Directeur de USAID/Sénégal

.../...

//) A K A R/-

12

DUE	<i>ou/les</i>
ACTION	<i>HPNO</i>
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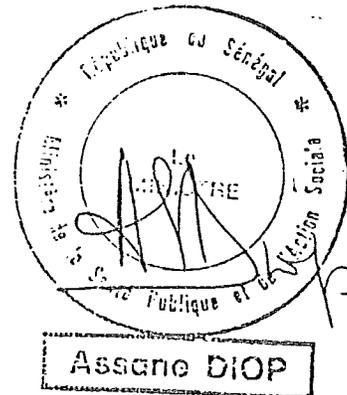
Par ailleurs, pour éviter tout équivoque, des précisions devront être apportées à la notion "absence de décisions opportunes" contenue dans le document. En effet, cette notion ne peut édifier ce qui devrait être fait.

Et enfin, s'agissant de la sélection du personnel du Ministère de la Santé Publique et de l'Action Sociale à impliquer dans le projet, je demande que vous vous en teniez seulement à la description des postes à pourvoir et surtout dans les cas où cela doit entraîner des charges supplémentaires à supporter par le projet. Il revient à mon département de désigner de son côté les agents qu'il souhaite impliquer.

Au total, hormis ces quelques réserves, je suis favorable à l'évaluation de ce projet comme prévu dans le Protocole d'Accord signé entre le Gouvernement du Sénégal et l'USAID.

Espérant que ces quelques observations pourront contribuer à l'amélioration du document d'évaluation du Projet Santé Rurale, vous prie d'agréer, Monsieur le Directeur, l'expression de mes sentiments les meilleurs./-

C/C : -DSP
-PSR/USAID.-



ANNEX 2

ANNEX 2-1

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ANNEX 2-2

Interview Guides

GUIDE DE GROUPES SOCIAUX

Noter quel poste, case ou village, nombre de personnes, l'heure et journées.

Vérifier que le groupe comprend ce qui est "le projet": le projet Santé Rurale sous lequel on a construit les cases, renouvés des maternités et postes de santé, fourni un premier approvisionnement des médicaments, formé le personnel à tous les niveaux et autres activités à définir.

1. Aspects positifs du projet

Vérifier que veut dire positifs--les activités ou aspects du projet qui a réduit les maladies dans la famille...

(les plus précisément possible)

2. Aspects négatifs du projet

(Vérifier que veut dire négatifs--les activités ou aspects du projet qui ne vous ont pas aidé...)

(idem)

3. Que pensez-vous des suivants?

- disponibilité des médicaments?

- qualité des soins fournis?

- coûts des soins?

- différences dans la fréquentation des hommes et des femmes et enfants? Pourquoi?

3. Si l'on voit que le projet n'a pas réussi pour leurs besoins: sources et causes d'échecs, en évoquant une à une toutes les réalisations et tous les volets techniques. (Liste de rappel ci-joint)

4. Les impressions sur la réduction des journées d'absence au travail pour cause de maladie par le projet.

Trouver des questions pouvant rendre réponses utiles.

5. Les impressions sur les crises chez les enfants maintenant comparées avec les années passées. (préciser s'il est possible)

6. Impressions sur le nombre de morts pendant les saisons difficiles?

INTERVIEW GUIDE

MEDECINS-CHEFS REGIONAUX/DEPARTEMENTAUX

I. Fonctionnement des Cases

A. Idee generale du fonctionnement actuel? (a) Source des informations?

B. Raisons pour la situation actuelle des cases, par ordre de priorite.

Ce qui a bien marche	Ce qui n'a pas bien marche	Ce qui n'a pas marche du tout
-------------------------	-------------------------------	----------------------------------

(Liste de rappel: les differents volets preventatifs et curatifs: supervision de poste; manque d'approvisionnement; insuffisance de formation du personnel (lequel); mauvaise conception du projet; interet des beneficiaires; manque de moyens pour appuyer les cases)

C. Que doit faire le gouvernement pour sauver les meilleurs elements du projet? Role des bailleurs de fonds?

D. Qu'est ce qu'on aurait du faire autrement pour faire mieux fonctionner le reseau de cases?

E. Est-il faisable qu'un reseau de cases peut etre autogeres et autofinances, compte tenu des ressources (humaines et financieres actuellement disponibles dans les communautes?

II. Interventions Sanitaires.

A. Perception de la prevalence des maladies majeures depuis le demarrage du projet? Mortalite? Etudes a voir.

B. Commentaires sur les differentes interventions (FEV, Surveillance de croissance; Falu, TRO, et IEC dans les interventions.

III. Decentralisation. Le processus de planification regionale (departementale): documents ecrits; role de la formation, assistance technique dedans?

IV. Formation des medecins? autres? Utilisation actuelle?

V. Les changements de personnel comment ca a influence le deroulement du projet

VI. L'assistance technique a ete bien faite selon vous?

VII. Statut des plans au niveau regional et district?

OBSERVATIONS INTERVIEWS POSTES

1. Combien de cases sont supervisees par le poste? Nombre construites _____ qui fonctionnent _____ ne fonctionnent pas _____

2. (Après avoir verifié que l'on comprend ce qui est le "Projet": Le Projet Sante Rurale a construit ou renove de l'infrastructure? laquelle? _____

fourni des mobiliers? _____

Equipements? _____

Noter presence de: frigo _____ boite isotherme _____ sterilisation _____

boite de secours _____ seringues/aiguilles _____

balance _____

autres _____

3. Presence et formation du personnel (Infermier, autres) _____

Nature? Quand? _____

recyclage? Lequel, quand? _____

(Rappel: formation pour former les TSVS? _____

3. Approvisionnement en vaccins/medicaments?

Presence de: chloroquine _____

Piperazine _____

Sachets TRO _____

Frequence et duree des ruptures de stocks pendant l'annee passee? _____

4. Systeme d'Information: donnees disponibles/compilees. Combien de rapports pendant les derniers 12 mois? _____

Les cases transmettent les rapports avec quelle frequence et detail? _____

Moyenne mensuelle de visites au poste? _____

5. Supervision.

Combien de visites a chaque case l'annee passee? _____

Guide de supervision existe-il? _____

critique du guide _____

Comment se fait la visite de supervision? _____

6. Perception de l'appui communautaire: participation/fonds consacres a la supervision _____

7. Revenu.

Moyenne de revenu mensuel du poste _____

Sources?(%) _____ Cotisations? _____

Autres? _____

OBSERVATIONS INTERVIEWS CASES

A. Aspect Physique _____
Mobilier, Equipements _____
Balance _____ boite de secours _____
autres _____

B. Personnel (Niveau, formation, du village)
TSV _____
Matronne _____

C. Approvisionnement en vaccins/medicaments (specifier):
Chloroquine _____ Piperazine? _____
Sachets ORS _____
pansements _____ sponges _____ coton _____
alcool? _____

D. Systeme d'Information.
Dernier rapport? _____ Combien par an? _____
Moyenne de Visites mensuelles _____
Observation: donnees disponibles _____

E. Supervision.
Derniere visite? _____
Combien dans l'annee derniere? _____
Comment se faisait la visite _____

F. Revenu: revenu mensuel moyen? _____
Sources: 1) cotisations _____
2) communaute _____
3) autres _____

G. Comite de Gestion.
1. Existe-t-il un comite de gestion? _____
2. Reccivent les membres quelque paiement? _____
3. Qui sont les membres (education, experience, formation
donnee par MSP, le Projet) _____

4. Decisions qu'ils prennent?
a. Etablir les cotisations? _____
b. Reviser/controler la comptabilite? _____
c. Controler l'utilisation? _____
d. Controler les cas non payants? _____
e. Assurer la protection des fonds? _____
f. Controler la consommation des medicaments,
les commandes _____

5. Reunions tenues. Quelle frequence? _____
Qu'est-ce qu'on discute dans les reunions? _____

6. Quelles actions entreprennent le comite pour sensibiliser ou
mobiliser les villageois en matiere de sante? _____

LIST OF CONTACTS

AID

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Fatimata Hane, Project Manager, RHDS II/CS
Mr. Massayan, Project Manager, Family Health
Seydou Cisse, Program Officer
Tom Walsh, Controller
Mr. Dieng, Financial Analyst, Controller's Office

Kaolack Region

Dr. Lamine Diop, Medecin Chef Regional
Mme Emilie Ndao Carva, Coordinatrice SMI/FP
Malamine Sarr, Superviseur, Nutrition
M. Mamadou Sow, Superviseur, SSP, et Resp. de la Statistique
Francois Seck, Gestionnaire
Ousmanu Fall, Directeur, Centre de Formation Kaolack
Mama'ou Wade, Technicien Superviseur, Centre de Formation Kaolack
Dr. Diop, Pharmacien Regional
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Mamadou Fall, ICP (PS Birkelane, Kaffrine)
Mohamed Badji, Infirmier de l'Etat (PS Keur Soce, Kaolack)
Mamadou Seck, ICP (PS NDoffan, Kaolack)
Ibou Faye, ICP (PS Dya, Kaolack)
Adama Ndaw, ICP (PS Prokhane, Nioro)

Fatick Region

Ramatoulaye Dioume, Responsable l'education de la sante
Bassirou Ndiaye, Superviseur
Amadou Bassirou Fall, Superviseur SSP, CM (District) Fatick
Tbou Dione, ICP (PS Niakhar, Fatick)
Sourakhe Cissokho Akrachi, ICP (PS Fayil, Fatick)
Habib N'Dour, Superviseur SSP, Foundiougne
Alassane Seck, ICP (PS Passy, Foundiougne)
Djaguily Koita, Superviseur, CM (District) Sokone
Sekou Badji, Superviseur SSP, Sokone
Ndeye Awa Guene Kaba, Sage-Femme, Sokone
Mme. Thiam, ICP (PS Missirah, Sokone)
Mor Fall, ICP (PS Ndiago, Guinguineo)
Diaguily Koita, Superviseur SSP, Guinguineo
Khoudia Toure, Sage Femme, Guinguineo
Dr. Santos, Medecin Chef District, Gossas
Alioune Seck, ICP (PS Patar Lia, Gossas)
Mouhamadou Gueye, ICP (PS Wack Ngouna, Nioro)

Ministry of Health

Bandougou Sylla, Directeur Cabinet
Lamine Cisse Sarr, Directeur de la Sante Publique
Alioune Mbaye, Directeur, DAGE
Mr. Wade, Comptable, DAGE
Alphonse Dieme, Inspecteur of Finance, DAGE
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Med Cdt. Lamine Diop, Med. Chef/Reg. Kaolack
Dr. A.M. Mbaye, SANAS/MSPAS.

LIST OF HEALTH HUTES (AND RELATED HEALTH POSTS)
VISITED BY EVALUATION TEAM APRIL 1991

REGION/ District/ Health Post	Health Hute
<u>FATICK</u>	
Foundiougne*	
1. HP Passy	1. Sorome
	2. Kebe Koude
Sedoune*	
2. HP Missirah	3. Nemah Bah
	4. Babou Diouf
Fatick	
3. HP Niakhar	5. N'Dos Badiock
4. HP Fayil	6. NdiouDiouf
	7. Dioral
Gossas*	
5. HP Patar Lia	8. Gossas
	9. Djan Der II
Guinguineo*	
6. HP Ndiago	10. Keur Madieng
	11. Sakhagne
<u>KAOLACK</u>	
Kaffrine*	
7. HP Mboss	12. Panal
	13. Diam Wele More
8. HP Birkelane	14. Keur Mbouky
	15. NDiayene Waly
Nioro*	
9. HP Frokhane	16. Keur Souleye Thiam
	17. Mamby
10. HP Wack NGouna	18. Pane Sader
	19. Keur Yorc Khodia
Kaolack	
11. HP N'Doffane	20. Keur Ablaye Maram
	21. Keur Baka
12. HP Iya	22. Dardu Kibari
	23. Sob II
13. Keur Sobé	24. M'boune

*Districts Visited

ANNEX 2-5

Grid of Health Post Characteristics

SYNTHESE DE POSTES DE SANTE

Postes	1 Passy	2 Missirah	3 Niaker	4 Feyil	5 Paterlie	6 NDiego
Infrastructure poste/maternite	Dirty, but exists	Post-large, clean M-being built	OK	Excellent- one of best	OK	Sustained architecture
Etat poste/maternite	OK	As above (maternity currently part of post)	OK	excellent- separate mult c. electricity	OK	Messy, dirty
Mobiliers	No mobylette Other equip. OK	No mobylette Other equip. Good. Height bd. scale	Mobylette in good cond. Scales	mobylette good cond. Scales, mensur id.	mobylette new, Scale, frigo, box for transport	
Equipement techn. (frigo, affiches)	OK	Functioning freezer part of Frigo, where there is no Doctor	OK	frigo lots of posters	↓	
Personnel paye par etat/ paye par poste	3: InfCP SF AS 4 Matrones	1-ICP 1-matrone	1 ICP 4 matrone	1 sage 1 AS-chef 1 matrone 1 ASC	1 ICP 4 matrones	1 ICP 4 matrones
Prix de tickets/ accouchements	100 Cfa	50-enfant 100-adult (1 day) 1500	100A/50 ch 1200 (200 prenatal?)	100 all 1600	100 all (2 days) 1000	
Recettes-hivern. non-hivernage	110,000-121,000 par mois 85-106,000/H Total yr. - 1.3 million	3191- 38,000 (250,000 spent on meds in past 12 mos)	59,000 30,000	March 91 - 39,000	26,000 18,000	
Population		1700	18,738	6057	11,340	9284
# Consultations Hiver/non-hiver.	946/mo (Hiv)	600/mo. 3-400/mo	516 286	deliv-10-15/mo	300 100	300-500 600-700
# Consultantes hiver/non-hiver.	742/mo (Hiv) (1.22 visits/person)	300 200				
# cases-fonction./nonfonctionnelle	10 2	1 (no olds) 1-matrone conv. to post, very close	4 7	2 1 (no olds, act.)	9 0	8 1 being built
Supervision-par district	Yes, 6 x/	1x/mo - not so helpful	1x per 8 mos. occasional 1x per 12 mos. not so helpful	1x reg - 12 mos. 6 mos.	?	How often been there

Supervision-par chef de poste	Yes - 1x/Mo.	Yes - 2x/Mo.	Yes	Yes - monthly	Yes regular	
Dotation de médicaments/dernière fois		1/91 from gov't - 1700 CFA				
Autre services (PEV, PF)	OK	PEV Pesee (40%)		PEV URO PF	PEV, URO	PEV URO Pesee
URO	OK	Yes		Yes	Yes - not special rm.	Yes
Couverture de vaccination	?	75-80% complete		80% complete BCG-100%	BCG-92% < 60% complete	90% complete VAT-80% BCG > 100% (no mads)
Depot communautaire existe/fonctionne	Yes - normally (stock out now)	Yes	"Drug system does not work"		Yes	?
Medicaments-suffisants	OK for Post.	Yes - freq. stock-outs in Keoloch - goes to Dakar		not complete but adequate	Yes	has ORS Problems - frequent shortages
Appui special	None	PCU		Caritas, originally Dutch		No
Comite de sante/fonctionnel	OK	Sante - yes hygiene - no reorganizing		Has problems - chef vs. health committee case)	Yes	
Formation de chef de poste sur projet	?	Yes	No	Yes(?)	No	Yes
Maladies plus frequentes		adults - malaria, resp, syphilis, leprosy, un. child - malaria, skin, diarrhea, wounds	adults - malaria, HTN, Resp child - malaria, diarrhea, un., wounds			A - malaria, rheumatism, grippe, URT C - malar, diarr, URT, wounds
Changement de frequence de maladies		skin infx. V. malaria, measles, arthritis				
Commentaire divers		Sees alot of prenatals - People with no go to com. poste & pay more because of new mads	of ten lactating	Very motivated staff	A lot of nurse problems	This poste built - E.F.I. money uses PEV money

Postes:	7	8	9	10	11	12	13
	Biboss	Birkelane	Prokhane	W. Ngouné	NDoffane	Dya	K. Soce
Infrastructure poste/maternite	OK	poor		Good	OK	Average sep. maxm.	Average
Etat poste/maternite	OK	poor / Maternity in territorial state		Good	OK	avg.	
Mobiliers	No mobyl.	Has mobylette (unicef)		mobylette (unicef)	No mobylette	new gun table scale	mobylette broken
Equipement techn. (frigo, affiches)	bad	poor	No scale	frigo, boîte, armoires	OK		
Personnel paye par etat / paye par poste	1 ICP 2 matr.	1 ICP 1 AS 4 matrones + 1 volunteer	1 ICP 3 mat.	1 ICP 1 matrone 2 matrones	1 ICP 1 SF 3 matrones	1 ICP 2 matr.	1 ICP
Prix de tickets / accouchements	100 1000	100/50 (2d)	100/50 1000 (20% → M)	100/50 (1 day) 1000	50/25 1000	100 (all) 1000	
Recettes-hivern. / non-hivernage		Total 1990 ~ 592,000 3/91 - 52,000 \$	monthly bal ~ 50,000	3/91 - 76,000 9/90 - 106,000	105,000 / 20,000 80,000 / 10,000		
Population		15,000	7834	12,700	?	15,130	15,000
# Consultations Hiver/non-hiver.	150?	1500/500		1300 725	2000	200/100	
# Consultantes hiver/non-hiver.	300?	500/300	250/ 150	1000 500	1300		
# cases-fonction. / nonfonctionnelle	? Total 8	5 10	6 2 being built	7	6 0	6 5	6 3
Supervision-par district	No	goes to monthly meeting of district		irreg - gas problems - started -	Yes, monitoring	Sporadic en-s... goes to mo. with district	

Mboss _____ Birieliane, Prorname _____ W. Ngouna _____ NDoffane, Dya _____ K. Sace _____

Supervision-par chef de poste	No	1x/mo (good cases) 2-3 mos. poor ones	Yes-regular	Yes, monthly	No	about every 2-3 mos.	No
Dotation de medicaments/derniere fois	restarted in April - big problem		1x only from CR - 300,000 2/91	3/91 - 250,000 (3x/yr)		1x only - 100,000	
Autre services (PEV, PF)	PEV	PEV PF(50 active)		PEV No PF (wants)	PEV	PEV	
URD	Yes	Does, but no special unit	No	Yes	Yes		
Couverture de vaccination	>			95% complete VAT-80-85%	85%	79% complete	
Depot communautaire-existe/fonctionne	No			Yes - best =	Yes	Not-func.	Had some meds
Medicaments-suffisants	No		Always a problem of supply from Regional Pharmacy	Yes - frequently to Dakar	Yes	has some	has some
Appui special	None	PCV	No	No	No (Belgians in 9 cases)	No	No
Comite de sante/fonctionnel	Reformed				Yes	Yes	
Formation de chef de poste sur projet	No			Yes	Not for last 5 years		
Maladies plus frequentes	?	A - palu, UR's, Wounds C - Dala, diarrhoe, worms.		A - palu, Resp. plaies, diarrhoea C - diarrhoe, palu, PRF, pleur.			
Changement de frequence de maladies		wounds ↓ malaria	↓ palu, ↓ measles, ↓ diarrhoea	↓ vacci- pre ventable diseases		↓ measles	
Commentaire divers			Problems local meds.	Fuel bank, 8% CR, morning, Excellent ice		↓ # psat dose	

ANNEX 2-6

Grid Health Hut Characteristics

CHARACTERISTICS OF HEALTH HUTS VISITED, APRIL 1991

No.	NAME OF HEALTH HUT	PERSONNEL			STRUCTURE & CAPITALIZATION		
		FIRST AID WORKER	TBA	TBA/FAW SAME	STRUCT. EXISTS	DRUGS IN STOCK	CASH BALANCE
1	SOROME	---	+	+	---	---	30,000
2	KEBE KOUDE	+	+	---	+	+	?
3	NEMAHRAH	+	+	---	---	---	?
4	BABOUDIOUF	---	+	+	+	+	40,000
5	NDOS' BADIOCK	+	---	---	+	+	11,000
6	NDIOU DIOUF	+	+	---	+	+	18,500
7	DIORAL	+	+	---	+	+	?
8	GËSSAS	+	+	---	+	+	17,525
9	DJAN DER II	+	+	---	+	---	0
10	KEUR MADIENG	+	+	---	+	+	471,000
11	SAKHAGNE	+	+	---	+	+	20,000
12	PANAL	+	+	---	---	---	20,000
13	DIAM WELE MORE	---	+	---	---	---	0
14	KEUR MBOUKY	+	+	---	+	+	26,525
15	NDIAYENE WALY	+	+	---	+	+	?
16	KEUR SOULEYE THIAM	+	+	---	+	+	4,000
17	MAMBY	+	+	---	+	+	35,000
18	PANESADER	+	+	---	+	+	30,150
19	KEUR YORO KHODIA	S	+	---	+	+	?
20	KEUR ABLAYE MARAM	+	+	---	+	+	18,000
21	KEUR BABA	+	+	---	+	---	30,000
22	DARU KIBARI	---	+	+	---	---	0
23	SOB II	+	+	---	+	+	3,840
24	MBOUNA	+	---	---	+	+	?
TOTAL POSITIVE RESPONSE		19	22	3	19	17	15
(PERCENT)		79%	92%	13%	79%	71%	63%

CHARACTERISTICS OF HEALTH HUTS VISITED, APRIL 1991

NAME OF No. HEALTH HUT	CURRENT ACTIVITIES					
	VACC.	CHLORO	ORT	SAN.	MONIT.	CURAT.
1 SOROME	+	+	+	+	---	+
2 KEBE KOUDE	+	+	+	+	+	+
3 NEMAHBAH	+	+	+	+	---	+
4 BABOUIDUF	+	+	+	+	+	+
5 NDOS' BADIOCK	+	+	+	---	---	+
6 NDIU DIOUF	+	+	+	+	+	+
7 DIORAL	+	+	+	+	+	+
8 GESSAS	+	+	+	+	---	+
9 DJAN DER II	+	+	?	---	---	---
10 KEUR MADIENG	+	+	+	+	+	+
11 JAKHAGNE	+	+	+	+	+	+
12 PANAL	+	?	+	---	---	+/-
13 DIAM WELE MORE	+	---	---	---	---	---
14 KEUR MBOUKY	+	+	+	+	+	+
15 NDIAYENE WALY	+	+	+	?	+	+
16 KEUR SOULEYE THIAM	+	+	+	+	+	+
17 MAMBY	+	+	+	+	+	+
18 PANESADER	+	+	+	+	+	+
19 KEUR YORO KHODIA	+	---	---	---	---	+
20 KEUR ABLAYE MARAM	+	+	+	+	+	+
21 KEUR BABA	---	---	---	---	---	---
22 DARU KIBARI	+/-	---	+	+	---	+/-
23 SOB	+	+	+	+	---	+
24 MBOUNA	+	+	+	?	?	+
TOTAL POSITIVE RESPONSE	23	19	20	16	12	21
(PERCENT)	96%	79%	83%	67%	50%	88%

CHARACTERISTICS OF HEALTH HUTS VISITED, APRIL 1991

NAME OF No. HEALTH HUT	UTILIZATION		
	VISITS/ MO. HIV.	DELIV./ MO.	# VILL. SERVED
1 SOROME	30	?	4
2 KEBE KOUDE	50	3	3
3 NEMAHBAH	30	3	6
4 BABOUDIOUF	?	?	7
5 NDOS' BADIOCK	13	0	3
6 NDIOU DIOUF	?	3	1
7 DIORAL	?	?	1
8 GESSAS	?	5	13
9 DJAN DER II	0	?	2
10 KEUR MADIENG	50	2	1
11 JAKHAGNE	100	4	3
12 PANAL	0	?	5
13 DIAM WELE MORE	0	?	4
14 KEUR MBOUKY	100	4	18
15 NDIAYENE WALY	12	4	5
16 KEUR SOULEYE THIAM	?	3	3
17 MAMBY	30	8	4
18 PANESADER	100	?	2
19 KEUR YORO KHODIA	?	0	?
20 KEUR ABLAYE MARAM	50	3	5
21 KEUR BABA	?	5	3
22 DARDU KIBARI	?	?	3
23 SOB	?	1	5
24 MBOUNA	200	0	?
TOTAL POSITIVE RESPONSE (PERCENT)	RANGE 12-200	RANGE 0-8	RANGE 1-18

CHARACTERISTICS OF HEALTH HUTS VISITED, APRIL 1991

No.	NAME OF HEALTH HUT	ADMINISTRATION/ORGANIZATION					LAST DRUG ORD
		COLLECT INFO.	HEALTH COMMIT.	REFRESH. TRNG	RECEIVE SUPERV.	SUPPORT ORG.	
1	SOROME	?	+	+	+	---	?
2	KEBE KOUDE	+	+	+	+	+	?
3	NEMAHBAH	---	?	+	---	---	1990
4	BABOUDIOUF	+	+	+	+	+	?
5	NDOS' BADIOCK	+	---	+	+	---	?
6	NDIOU DIOUF	+	+	+	+	+	?
7	DIORAL	+	+	+	+	+	?
8	GESSAS	+	+	---	+	---	?
9	DJAN DER II	---	---	---	---	---	1982
10	KEUR MADIENG	+	+	?	+	+	?
11	JAKHAGNE	---	+	+/-	+	---	?
12	PANAL	+/-	+	---	---	---	1988
13	DIAM WELE MORE	---	+/-	---	---	---	1989
14	KEUR MBOUKY	+	+	+	+	+	?
15	NDIAYENE WALY	---	+/-	---	+	?	?
16	KEUR SOULEYE THIAM	+	+	---	+	---	?
17	MAMBY	+	+	---	+	---	?
18	PANESADER	+	+	+	+	+	?
19	KEUR YORO KHODIA	+	---	---	---	+	?
20	KEUR ABLAYE MARAM	+	+	?	+	+	?
21	KEUR BABA	---	+	---	---	---	1989
22	DARDU KIBARI	---	---	---	---	---	1989
23	SOB	+	+	---	+	+	?
24	MBOUNA	?	+	---	---	---	?
TOTAL POSITIVE RESPONSE		15	19	10	16	10	NA
(PERCENT)		63%	79%	42%	67%	42%	NA

ANNEX 2-7

Synthesis of Field Findings

SYNTHESIS OF FIELD WORK AS SEEN BY ENQUETEURS
AND EVALUATION TEAM MEMBERS

1. Villagers are closer to attaining organized activities than technical supervisors had thought. There was evident to them a change in village attitudes from their last encounters. There is still some suspicion about matrones trained at HPs and especially younger ones, and tendency to rely on old TBAs, e.g. the instance of Keur Yoro Khodia.
2. The more women are involved in the health huts and committees, the better they work thought Rama, and Wade confirmed that there is more continuity with ASC/matrones who are less mobile than the men. Examples Sob, Pane Sader.
3. Villagers have greater access to PHC and health services, vaccinations, chloro, TRO, causeries, but medicine supply system still not satisfactory.
4. The ASC is often a supply source for medicines rather than health provider. This "boutique" perception makes it hard to understand why the ASC should be paid.
5. The problem of motivating the ASC materially is still a problem after all these years, but on the other hand many of them are still out there after all this time. There are social motivations--pride of being selected, duty for giving service. It was also suggested that although the men work in the fields, they are not always perceived as having other duties, therefore why pay him for doing more of nothing and make him "richer than the other villagers. His perception depends entirely on himself a lui a se definir...il est en effet "disponible" et puis, pourquoi doit-il etre rembourse.
6. The PEV and the Rural Health Project complement or reinforce each other--The hut organization makes mobilization efficient for PEV and PEV makes it possible for ICPs to get out to the huts regularly thanks to support for fuel, etc.
7. There is clear perception that illness has been reduced on all sides--the village population, ASCs, committees, ICPs. Program importance understood even including growth monitoring in Sob, Pane Sader, Dardu Kibaru (?) Examples given by Rama. Check with chart.
8. When medicines are available, there is easy comprehension of time and money saved by getting from Hut and it is a great pity the supply system does not work better.
9. Though there is still residual "mentalite d'assiste", villagers are taking increasing responsibility for their own health. Outstanding examples observed: Mamby and Keur Madieng.

10. The competence and dedication of the ICP greatly influences whether the Hut works: Examples best HPS:.
11. In deciding whether Huts are functioning, need to look beyond the existence of structures and see whether services are being provided and villagers supporting or changing attitudes.
12. Committee members are limited and we should not expect more than they can do, thought Wade; not all trained. Did I hear that only those in Fatick District were trained?????
13. There was too much emphasis on rushing through hut construction at the expense of other project details.
14. Supervisory problems with the 10 liter/month fuel allocation for ICPS and the extra days needed in the field (usually one day per hut according to some).
15. Huts were not well situated and often based on political pressures since the implementation came at the moment of the electoral campaign of.... Thus not born of village as foreseen in Reform and Alma Ata but imposed or implanted from outside.
16. From the highest health and administrative levels, the huts are affected by the degree of dedication to principles of the project. If Doctors don't believe in importance, this filters down with adverse effects. NB my note: Fatick functioning better than Kaolack though project time in latter is much lengthier.
17. At many levels (including Kaolack MCR) the Project and its objectives are not yet understood.
18. They need management guides so that incoming new personnel have something as guidance, at District level, e.g.(Excellent example of manual is that provided by UNICEF for PEV and related health activities).
19. It is hard to raise prices of medicines because of parallel market, especially near Gambian border. Question of whether Government should control and furnish medicaments.
20. There is both increasing willingness to accept PHC because of its accessibility and less and less reluctance on the part of health staff to think their care is required.

ANNEX 3

ANNEX 3-1

Additional Information on Health Problems and Priorities

Additional Information on Health Problems and Priorities in Senegal

1. Health problems and priorities of Senegal preceding the implementation of the USAID/RHP

Although several serious endemic diseases such as sleeping sickness, smallpox, and plague disappeared in Senegal during the 1950s and 1960s, the general health of the population continued to be very poor in the 1970s, as shown by the following indicators of health status:

- 1) birth rate: 48/1,000
- 2) crude mortality rate: 19%
- 3) infant mortality rate: 112/1,000
- 4) infant/childhood mortality rate (under 5 years): 220 per 1,000
- 5) maternal mortality rate: 800/100,000 live births (urban: 500; rural 950)
- 6) life expectancy for women: 49 years; for men: 47.3 years
- 7) fertility rate: 7.2

(Source: Fertility Survey, 1979.)

The illnesses and conditions that contributed most to this situation include: malaria, diarrheal diseases (including cholera), malnutrition, parasitic infections, respiratory infections, meningitis, accidents of labor and delivery, and the long period of reproduction and multiparity of the majority of women. Other factors that contributed to the poor health status of the population include:

- 1) economic hardship
- 2) high illiteracy rates (<40% of children attended primary school), especially among women
- 3) lack of potable water and other environmental health services
- 4) inadequate agricultural production and poor nutrition
- 5) lack of individual and public hygiene
- 6) lack of knowledge among the population of the causes of diseases
- 7) the insufficiency of resources mobilized for health care, and the lack of efficiency and efficacy of the health care system.

2. Current national health priorities, problems, and strategies

This section presents an overview of the health status of

priorities at a national level. Greater detail related to these factors within the RHDS II/CS in Fatick and Kaolack are presented in following sections of this Appendix. Over the past decade, there has been increasing emphasis on management, improving infrastructure, and increasing the competence of health workers. However, problems continue to face the health care system, including: insufficient human resources, infrastructure and equipment, and means to ensure the correct functioning of services, all of which also cause dissatisfaction and lack of motivation among health care workers; and excessive distances between some villages and a source of care. There has been a strong reliance on multiple funding sources, including the World Bank, foreign governments, and FVOs to fund health care projects that supply equipment, build and renovate structures, and provide technical assistance.

The Ministry of Health and Social Action (MOHSA) has undergone many reorganizations in the past decade in order to consolidate and integrate activities; the most recent reorganization was in 1991, when the Ministries of Health and Social Action were combined (see Appendix II.A.2). The MOHSA provides direction, support, and evaluation to the other levels of the health care system. The infrastructure of the public health system and corresponding administrative levels are shown below:

<u>Health System</u>	<u>Administrative Level</u>
National Hospital	National
Regional Hospital	Region
Health Centers	Department
Health Posts and Rural Maternities	Arrondissement
Health Huts	Village

At the base are the health posts and rural maternities, which supervise a certain number of health huts and satellite villages. The second level corresponds to the health centers, which provide supervision to the health posts. Together, these constitute the District, which is the operational structure of the peripheral level. At the third level is the regional hospital, corresponding to the intermediate level. At the top of the pyramid is the University Medical Center (Centre Hospitalo-Universitaire, CHU). In addition to the public health system, there is a small contribution from the private health system, both for-profit and not-for-profit.

Between 1960 and 1988, the total number of hospitals increased from 7 to 18. Each region has a hospital, with the exception of Fatick and Kolda. (Sine Saloum was separated into the regions of Fatick and Kaolack in 1984.) Although the number of health centers has increased from 34 to 47 between 1960 and 1988, the number is still insufficient, with 142,300 inhabitants/health center. Each health center is directed by a

physician ("medecin-chef"). In 1988, there were 659 health posts nationally, including public and Catholic dispensaries; in 1990, this number was 687. Each health post is supervised by a "chef de poste", who is either a nurse or sanitary agent; the majority of these are men. The rural maternities are located at the health posts, either as part of the structure or a separate building. These are supervised by a midwife in ideal situations, but because of a shortage of midwives, the chef de poste often supervises the birth attendants ("matrones"), who perform the deliveries. There were 502 rural maternities as of 1988. At the village level, the health huts operate under the direction of a community health agent and a birth attendant; in some villages, these roles are provided by the same individual, who would be a woman. There were 1409 health huts in 1988, with approximately 5,200 inhabitants/hut, and 1265 as of 1990. Further details related to the health infrastructures of the regions of Fatick and Kaolack are provided in section II.A.3. (Source of above data: National Health Declaration, 1989; Evaluation de la Sante pour Tous d'Ici l'An 2000 1989-90.) There were a number of health worker strikes during the Project period, most notably in 1988.

Since 1978, there has been an improvement in some health indicators, including infant and infant/child mortality rates. The growth rate, mortality rate, life expectancy, and fertility rate did not change significantly over the decade, however, as shown below:

- 1) infant mortality rate: 86/1,000
- 2) infant/child mortality rate (under 5 years): 191/1,000;
urban: 135/1,000; rural: 249/1,000
- 3) crude mortality rate: 18/1,000
- 4) crude birth rate: 47/1,000
- 5) fertility rate: 6.6
- 6) growth rate of population: 3%
- 7) life expectancy: 48 years
- 8) literacy rate for male adults: 37%, for females: 19%;
children completing primary school: 86%

(Source for 1-7: Enquete Demographique et de Sante au Senegal, 1986; for 8: Situation Economique du Senegal, 1988.)

In 1989, the top 10 communicable diseases reported by the Division of Statistics based on data collected through the public health information system were: malaria, upper respiratory infections, influenza, gonorrhoea, chicken pox, dysentery, syphilis, measles, neonatal ophthalmologic infections, and bilharzia. The 10 leading causes of death due to communicable diseases were malaria (45%), tetanus (18%), respiratory TB (10%), purulent meningitis (10%), jaundice (7%), meningococcal meningitis (6%), bacillary dysentery (3%), amoebiasis (<1%), typhoid fever (<1%), and pertussis (<1%). It must be noted that the number of deaths reported through the health information system represents only an estimated 0.3% of the total deaths in

Senegal (Sector Analysis 1991).

Infant mortality was estimated at 96/1,000 in 1988 compared to 112/1,000 live births a decade earlier. Other health statistics have improved as well. Reported cases of measles and tetanus have decreased between 1971 and 1989, particularly after 1986 for measles, and after 1984 for tetanus, although they began to decline in 1978 (Appendix II-A-3). Reported cases of malaria and meningitis have also declined from 1971-1988. Malnutrition among young children and pregnant and lactating women continues to be a serious problem in Senegal. Rates of malnutrition among children monitored through the PPNS/Catholic Relief Services growth monitoring project were about 28% in 1989. Anemia is common among pregnant women (30-50%) and vitamin A deficiency was found among 40% of children surveyed in Fatick, Kaolack, and Diourbel.

In its Declaration of the National Health Policy-1989, the Ministry of Public Health (now the MOHSA) set forth 6 general health objectives:

- 1) to improve health coverage, particularly in rural areas
- 2) to improve the health of mothers and children
- 3) to develop preventive and educational activities
- 4) to develop a balance between curative and preventive activities
- 5) to develop a balance between human, material, and financial resources
- 6) to master the demographic indicators.

The policy proposes a number of strategic objectives and specific strategies to accomplish each objective. Prominent among these are: to improve the health information system at all levels, to integrate programs that focus on mothers and children, and to develop operational research. Many of the objectives and strategies delineated in this document are compatible with those recommended by this evaluation team.

2. Health system structure of Fatick and Kaolack

As noted previously, the two regions of Fatick and Kaolack were created in 1984 from the region of Sine Saloum. The population of Fatick is 506,844 and that of Kaolack 805,447 (Rensensement General de la Population et de l'Habitat Mai-Juin 1988). Rural population (the target population for the Project) was 454,132 and 625,027, respectively. Population growth per annum was estimated by the Census Bureau to be 1.87% in Fatick and 2.66% in Kaolack, compared to the national mean of 2.77%.

Each regional medical system is directed by the Medecin-Chef de Region (MCR); the MCF for Fatick is Dr. Leonard Coly, and for Kaolack, Dr. Lamine Diop. Each MCR is assisted by a team of supervisors of different services, who are responsible for

regional planning and program implementation, data collection and analysis, and supervision of District level health personnel. (See Appendix II-A-4 for the Organization of the Regional Medical Systems of Fatick and Kaolack.) Fatick is divided into five subsystems, or operational Districts: Fatick, Gossas, Guinguineo, Foundiougne, and Sokone, each with a Health Center and directed by a Medecin-Chef de District (MCD). Kaolack is divided into four Districts: Kaffrine, Kounghoul, Kaolack, and Nioko; each of these also has a Health Center and MCD. The two Regions are served by the Kaolack Regional Hospital, which is 45 km from Fatick town. There are 59 health posts and 295 health huts in Fatick, and 63 and 423 in Kaolack, respectively. (See Appendix II-A-4 for the Distribution of Health Facilities by Region; some numbers vary from those mentioned in the text due to different sources.)

In 1989, there were 489,342 visits at health posts and health centers reported through the Regional Health Information Systems (HIS), 284,640 in Fatick and 204,702 in Kaolack. The number of patients seen in both Regions was 338,389, of which 236,226 were in Fatick and 102,163 in Kaolack, resulting in 1.2 visits per patient in Fatick and 2.0 visits per patient in Kaolack. In Fatick, this number of patients seen represents 46.7% of the population, and in Kaolack, only 12.1%. It should be noted, however, that the completeness of data reported through the Regional HISs is questionable, particularly for Kaolack; this caveat must be kept in mind when considering these results.

There were 2,979 new participants in the Family Planning Program enrolled in the two Regions in 1989 (1,127 in Fatick and 1,852 in Kaolack). This represents contraceptive coverage of about 7% of women of reproductive age. There were 13,474 deliveries assisted by health personnel at the health post and health center levels, resulting in a rate of 22% of all deliveries. The number of women having at least one prenatal visit at a health facility was 21,493, or 35% of all pregnancies. Unfortunately, the number and rate of assisted births at the level of health huts is not known.

Malaria was the most commonly-reported disease among patients seen in both Regions. In Fatick, 32% of all patients seen had a diagnosis of malaria (including communicable and non-communicable diseases); in Kaolack, 90% of the communicable diseases reported were due to malaria (Annex II-A-4). In Fatick, the 4 most frequent diagnoses reported after malaria were (in descending order): respiratory infections, wounds, diarrhea, and stomach ache and vomiting. Measles accounted for only 0.5% of patients seen. In Kaolack, comparable data are not available for all illnesses, but for communicable diseases, after malaria, the most frequently-seen were gonorrhoea, chicken pox, measles (0.01% of total reported), and ear infections. Additional data related to child health indicators are presented in the main text.

ANNEX 3-2

Uncompleted Organigram of Ministry of Health and Social Affairs

Best Available Document

ORGANIGRAMME DU MINISTRE DE LA SANTE PUBLIQUE
ET DE L'ACTION SOCIALE - 30 octobre 1990

MINISTRE DE LA SANTE PUBLIQUE
ET DE L'ACTION SOCIALE
M. Assane DIOP

INSPECTIONS

- Administrative : M. DIA
- Technique :

CONSEILLERS TECHNIQUES

- 1 - Coopération : M. Ndary FAYE
- 2 - Formation Recherche : Dr. Fodé DIOUF
- 3 - Affaires Juridiques : M. Malick DISSE
- 4 - Hôpitaux : M. Ibrahim FAYE
- 5 - Universités : Dr. Doudou BA
- 6 - M. Massoum DIALLO
- 7 - Epidémiologie : Dr. Georges FOURNIER
- 8 - Plans, Proj. : Cdt. Aboubakar THIAM

CABINET

M. Boudouga SILLA

DIRECTION
DE LA SANTE PUBLIQUE

Cdt. Lassine SARR

S.N. d'Hygiène Publique

- Cdt. Ousmane FALL

S.N. des Grandes Endémies

- Dr. Abou Backr BAYE

S.N. de l'Education pour la Santé

- M. Bilal FALL

Protection Maternelle et Infant.

- Dr. Alassane NAKOULMA

Alimentation et Nutrition

- Dr. Massoum Maktar MRAVE

Soins de Santé Primaires

- Cdt. Issaka DIALLO

Médecine Privée

Salariés (Secteur Public) - Conseillers

STENOGRAPHES

- Bureau Contrôle et Visas : Dr. Issa LO

- Centre National
de Transfusion Sanguine : Pr. Lamine DIAXHA

- Centre National
d'App. Orthopédique : Dr. Pierre VERSONDRE

- Pharmacie Nationale
d'Approvisionnement : M. Massoum TOURE

- Projet Santé Rurale/EM : M. Ibrahim KEITA
- Projet Santé Rurale/USAID : M. Ibrahim KEITA

BUREAU

- Plan et Etudes : Mss Hinta BA DIAGNE
- Formation et Recherche : Dr. Fodé DIOUF
- Presse et Documentation : M. Khalifa MRENGUE

Projet Santé Familiale

- Mss Marième DIOP

Projet Bien-être Familial

DIRECTION DE L'ADMINISTRATION
GENERALE ET DE L'EQUIPEMENT

M. Alioune MRAVE

Conseillers Techniques

- Gestion : M. Herve MAISSOT
- Maintenance : M. José BIGN

Affaires Juridiques

Finances

Personnel

Infrastructure et Matériels

DIRECTION

DE L'ACTION SOCIALE

M. Massoum BECK

Prothésiste Sociale

- M. Mays BENE

Secours

Centres d'Education
Non Conventionnés

- M. Anassoum BOYE

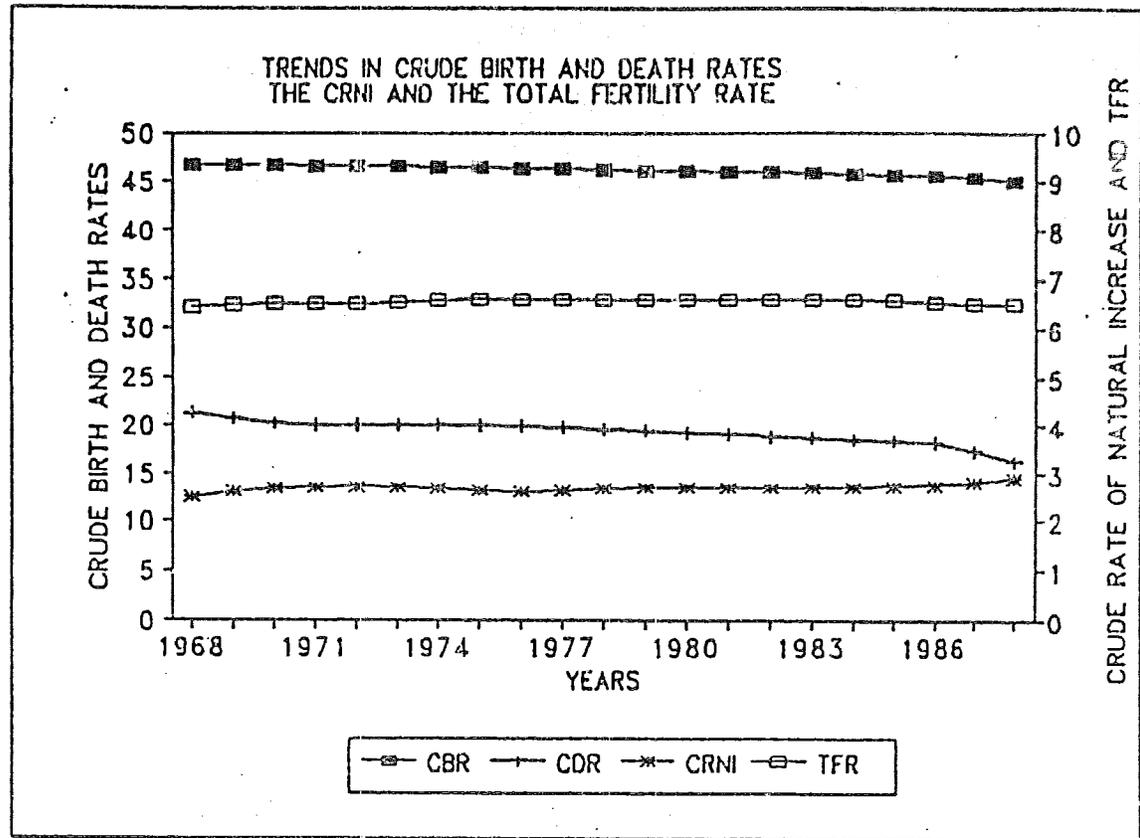
Mandataires

- M. Diouf Agathe CHEYE

ANNEX 3-3

Health and Social Indicators

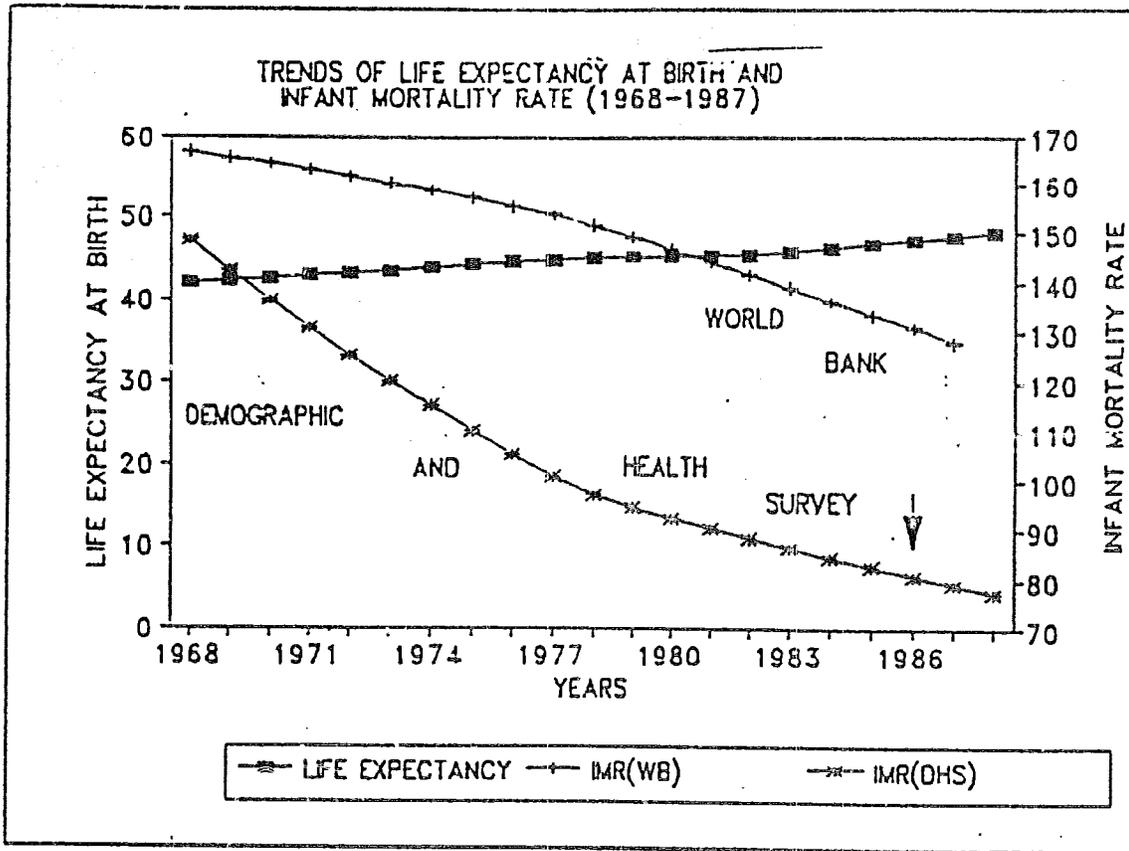
Health and Social Indicators



ANNEX 3-4

Trends of Life Expectancy at Birth and IMR (1968-1987)

- Trends of Life Expectancy at Birth and IMR (1968-1987) -



ANNEX 3-5

Trends in Selected Dem. Indicators

TRENDS IN SELECTED DEM. INDICATORS

(1968 - 1988)

YEAR	RAW DATA							SMOOTHED DATA						
	CBR	CDR	CRNI	TFR	IMR (WB)	IMR (ZDS)	LEB	CBR	CDR	CRNI	TFR	IMR (WB)	IMR (ZDS)	LEB
1968	46.7	21.2	2.5	6.4	166.8	148.6	42.0	46.7	21.2	2.5	6.4	166.8	148.5	42.0
1969	46.7	20.6	2.6	6.5	165.6	142.4	42.3	46.7	20.6	2.6	6.5	165.6	142.4	42.3
1970	46.6	20.0	2.7	6.5	164.4	136.5	42.6	46.6	20.2	2.7	6.5	164.4	136.6	42.6
1971	46.6	20.0	2.7	6.5	163.2	130.9	42.9	46.6	20.0	2.7	6.5	163.2	130.9	42.9
1972	46.6	20.0	2.7	6.5	162.0	125.5	43.2	46.6	20.0	2.7	6.5	161.9	125.5	43.2
1973	46.5	20.0	2.7	6.5	160.4	120.3	43.5	46.5	20.0	2.7	6.5	160.4	120.2	43.5
1974	46.5	20.0	2.7	6.6	158.8	115.1	43.9	46.5	20.0	2.7	6.6	158.8	115.1	43.9
1975	46.4	20.0	2.6	6.6	157.2	110.1	44.2	46.4	20.0	2.6	6.6	157.2	110.1	44.2
1976	46.4	20.0	2.6	6.6	155.6	105.4	44.6	46.4	19.9	2.6	6.6	155.6	105.3	44.6
1977	46.3	19.8	2.6	6.6	154.0	100.8	44.9	46.3	19.8	2.6	6.6	153.7	100.9	44.8
1978	46.2	19.6	2.7	6.6	151.6	96.5	45.0	46.2	19.6	2.7	6.6	151.6	97.2	45.0
1979	46.2	19.4	2.7	6.6	149.2	94.4	45.1	46.2	19.4	2.7	6.6	149.2	94.4	45.1
1980	46.1	19.2	2.7	6.6	146.8	92.3	45.2	46.1	19.2	2.7	6.6	146.8	92.3	45.2
1981	46.1	19.1	2.7	6.6	144.4	90.3	45.2	46.1	19.1	2.7	6.6	144.4	90.3	45.2
1982	46.0	18.9	2.7	6.6	142.0	88.3	45.3	46.0	18.9	2.7	6.6	141.9	88.3	45.4
1983	45.9	18.7	2.7	6.6	139.2	86.4	45.8	45.9	18.7	2.7	6.6	139.2	86.4	45.8
1984	45.8	18.5	2.7	6.6	136.4	84.5	46.2	45.8	18.5	2.7	6.6	136.4	84.5	46.2
1985	45.7	18.3	2.7	6.6	133.6	82.7	46.7	45.7	18.4	2.7	6.6	133.6	82.7	46.7
1986	45.6	18.2	2.7	6.5	130.8	80.9	47.1	45.6	18.1	2.7	6.5	130.8	80.9	47.1
1987	45.5	18.0	2.8	6.5	128.0	79.1	47.6	45.4	17.4	2.8	6.5	128.0	79.1	47.6
1988	45.0	16.0	2.9	6.5	78.0	77.4	48.0	45.0	16.3	2.9	6.5		77.4	48.0

CBR = CRUDE BIRTH RATE
 CDR = CRUDE DEATH RATE
 CRNI = CRUDE RATE OF NATURAL INCREASE
 TFR = TOTAL FERTILITY RATE
 IMR = INFANT MORTALITY RATE
 LEB = LIFE EXPECTANCY AT BIRTH

SOURCES: WORLD BANK. WORLD TABLES (1989 - 1990 EDITION)

WORLD BANK. WORLD DEVELOPMENT REPORT 1990. NEW YORK: OXFORD UNIVERSITY PRESS, 1990.

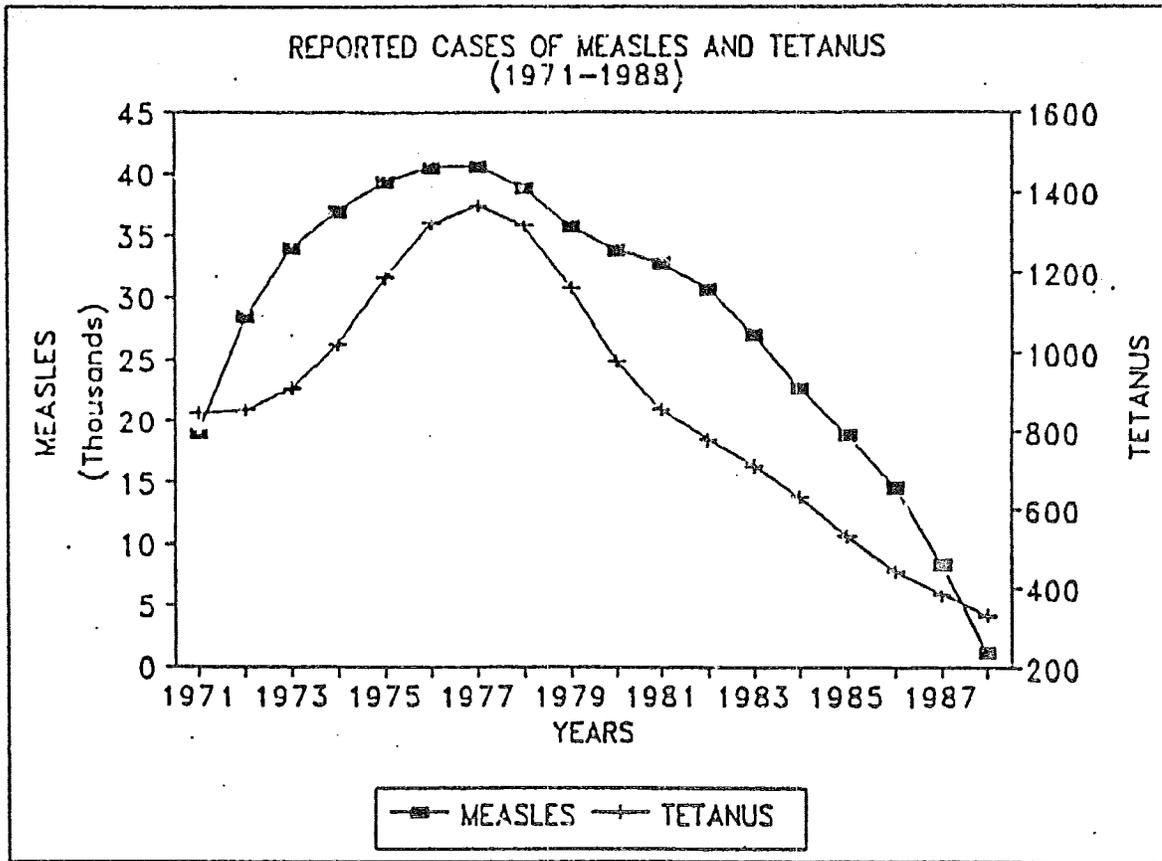
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ANNEX 3-6

Reported Cases Measles and Tetanus

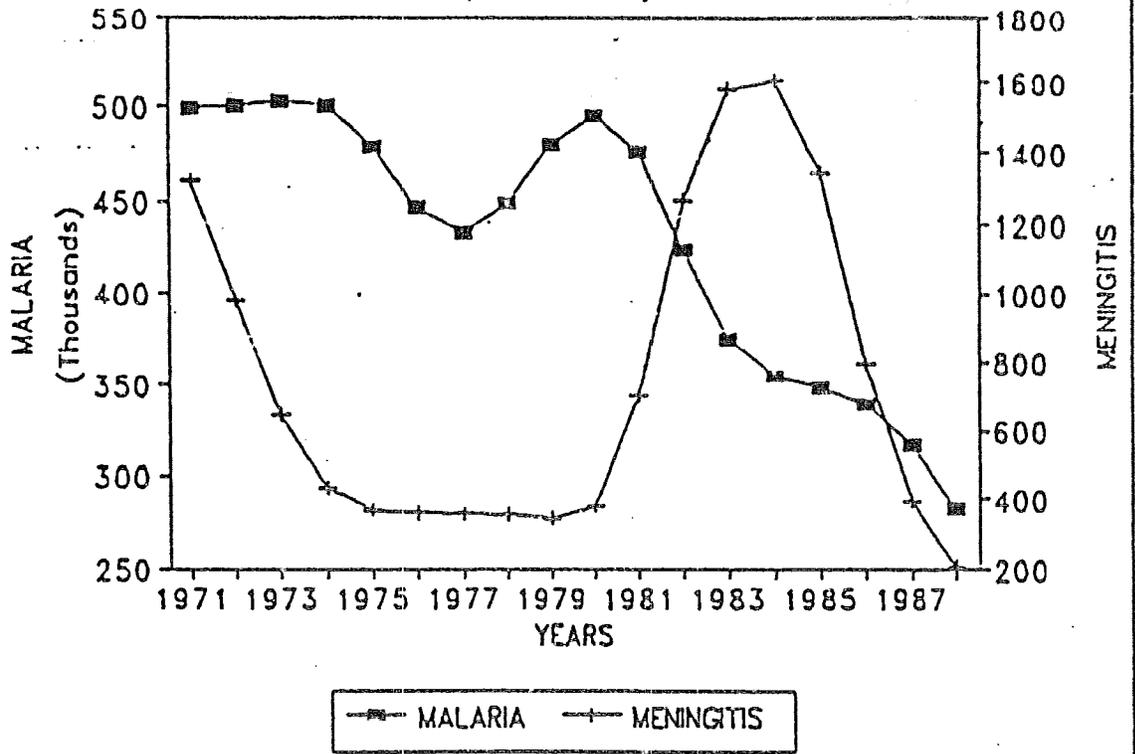
REPORTED CASES MEASLES & TETANUS



ANNEX 3-7

Reported Cases of Malaria & Meningitis

REPORTED CASES OF MALARIA & MENINGITIS
(1971-1988)



ANNEX 3-8

Reported Cases of Measles

REPORTED CASES OF MEASLES

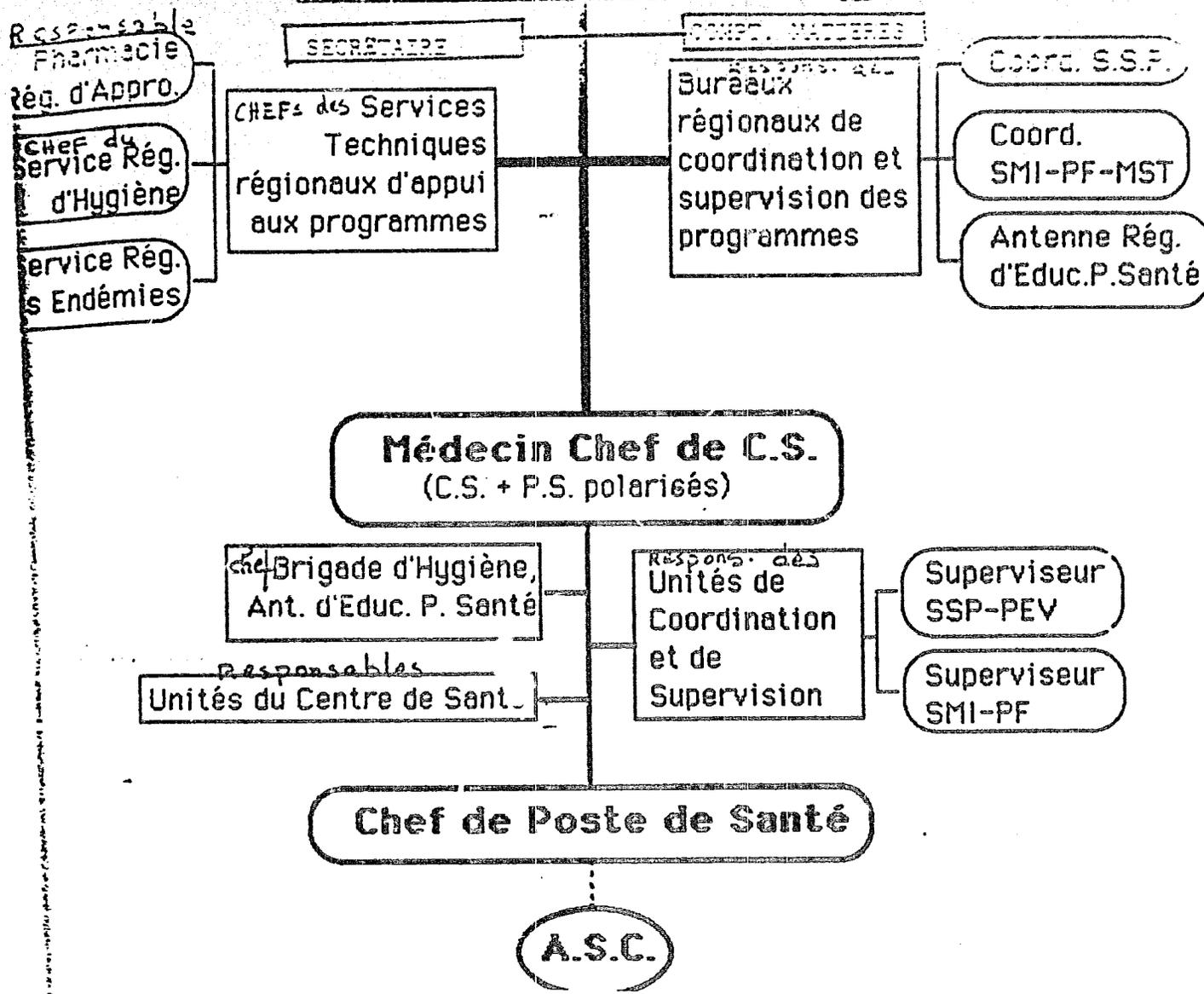
REPORTED CASES OF MEASLES, TETANUS, MALARIA AND MENINGITIS
(1971 - 1988)

YEAR	RAW DATA				SMOOTHED DATA			
	MEASLES	TET- ANUS	MALARIA	MENIN- GITIS	MEASLES	TET- ANUS	MALARIA	MENIN- GITIS
1971	16458	865	499130	1322	19063	843	499130	1322
1972	31185	832	472048	1131	28408	854	500563	983
1973	36788	855	521181	368	34098	904	503114	647
1974	35069	1069	555925	445	37025	1018	500235	433
1975	26567	1086	483773	367	39353	1184	478769	369
1976	46309	1498	443841	247	40637	1321	447514	363
1977	44844	1391	366967	363	40650	1365	433727	361
1978	29383	1334	414031	377	38910	1315	449024	355
1979	39138	1095	508010	358	35808	1160	479619	348
1980	28794	1010	592837	336	33896	976	494917	381
1981	34516	691	498895	360	32827	855	475657	703
1982	32380	704	394287	961	30712	779	424221	1268
1983	26481	1035	374086	4523	27110	710	375492	1581
1984	22612	729	330471	2518	22849	631	354951	1606
1985	18742	422	286855	512	19024	533	348590	1347
1986	18102	355	388476	825	14596	443	339237	795
1987	7900	564	379734	393	8370	381	317379	395
1988	1505	332	251118	206	1145	332	282662	206

SOURCE: HSP, DRPF/DIVISION DE STATISTIQUES. STATISTIQUES SANITAIRES
ET DEMOGRAPHIQUES. 1986 - 1987 ET 1988.

ANNEX 3-9

Organization of Medical Region of Fatick



ANNEX 3-10

Organization of Medical Region of Kaolack

Organization of Medical Region
of Kaolack

II - ORGANIGRAMME STRUCTUREL DE LA REGION MEDICALE

La Région Médicale comprend l'ensemble des structures sanitaires implantées dans la Région administrative. Elle est placée sous l'autorité d'un Médecin-Chef chargé de coordonner toutes les activités medico-sanitaires. Elle dispose ainsi d'un service régional de la Santé comprenant:

- un Bureau des S.S.P.
- un Bureau de l'Alimentation et de la Nutrition
- un Bureau de la S.M.I.
- un Bureau l' E.P.S.
- un Bureau des Affaires Administratives et Financières.

Les services rattachés à la Région Médicale de Kaolack sont:

- le Service Régional des Grandes Endémies
- le Service Régional de l' Hygiène
- le Centre Régional de Formation

ANNEX 3-11

Distribution of Health Facilities

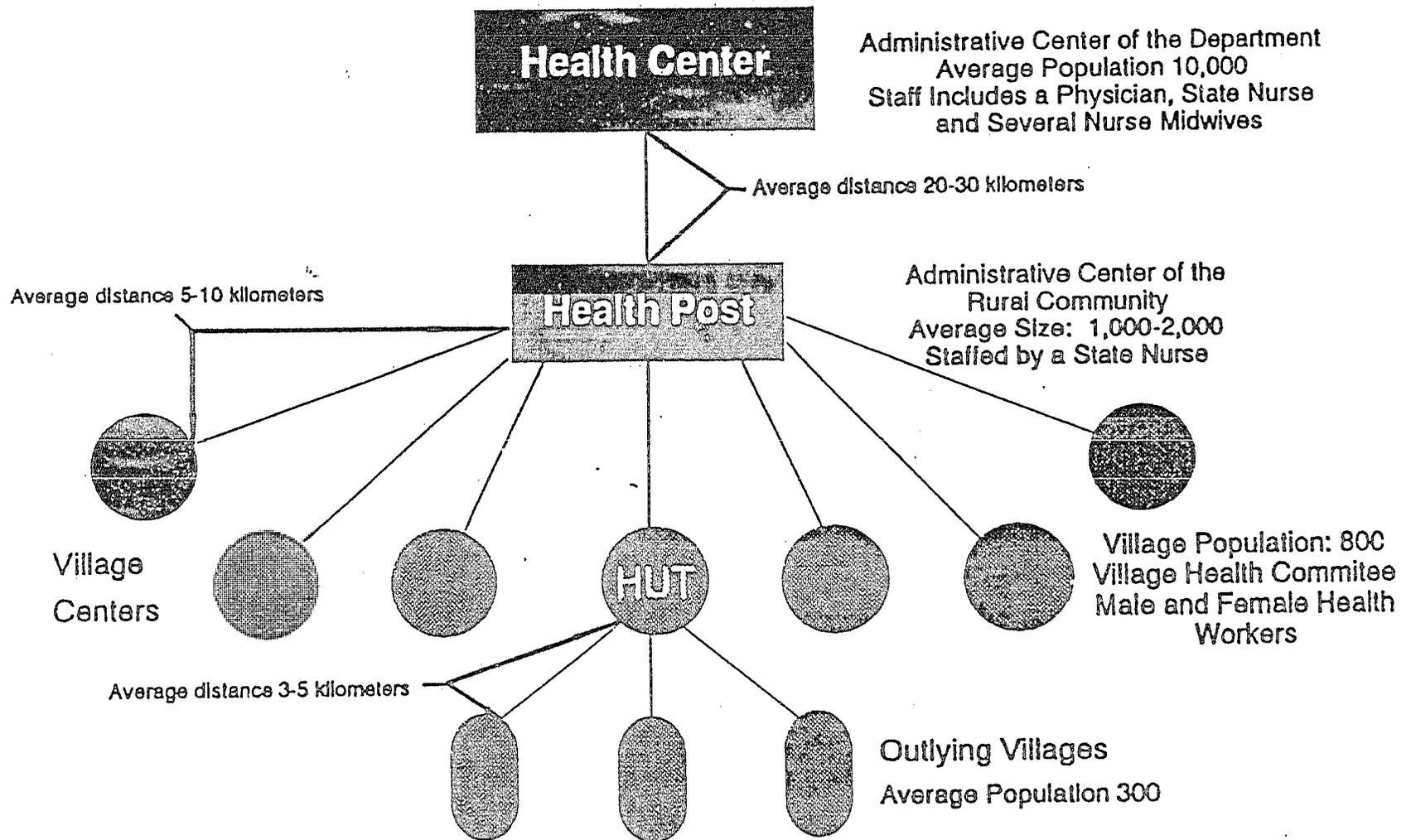
DISTRIBUTION OF HEALTH FACILITIES
Distribution of Health Facilities by Region

	Dakar	Diourbel	Fatick	Kaolack	Kolda	Louga	S'. Louis	Tamba	Thies	Zig.	Total
Population	1,500,459	616,184	506,844	805, 47	593,199	489,529	651,206	383,572	937,412	398,067	6,881,919
Area (Sq. Km.)	550	4,359	7,935	16,010	21,011	29,188	44,127	59,602	6,601	7,339	196,722
Pop/Sq. Km.	2,728	141	64	50	28	17	15	6	142	54	35
Hospitals	6	1	—	1	—	1	3	1	2	1	16
Beds	2,565	139	—	335	—	113	515	115	311	86	4,179
Pop/bed	585	4,435	FK-3,920	2,405	—	4,330	1,265	3,335	3,015	4,630	1,650
Health centers	7	4	5	4	3	4	4	4	9	3	47
Sq. Km./Health Center	79	1,090	1,589	4,002	7,004	7,297	11,032	14,900	733	2,446	4,186
Pop/Health Center	214,351	154,046	101,369	201,362	197,733	122,382	162,802	95,893	104,159	132,689	146,424
Health Post	78	46	58	63	48	59	101	67	71	68	659
Sq. Km./Health Post	7	95	137	254	438	495	437	890	93	108	299
Pop/Health Post	19,237	13,395	8,739	12,785	12,358	8,297	6,448	5,725	13,203	5,854	10,443

ANNEX 3-12

Units in the Rural Health Infrastructure

The Units in the Rural Health Infrastructure



ANNEX 3-13

Nosology Report, Fatick, 1989

Nosology Report
Fatick, 1989

Tableau récapitulatif des symptômes ou affections rencontrés chez les 236.226 con-
tants par ordre de fréquence absolue et relatives.

N° d'ordre	Fréquence Symptômes ou Affections	Fréquence Absolue	Fréquence relative
1	Accès palustre	76.453	32,36
2	Affections respiratoires	16.026	6,78
3	Plaies	13.008	5,51
4	Diarrhées (sans dysenterie)	11.549	4,89
5	Maux d'estomac et Vomissements	9.135	3,87
6	Rhumatisme (Arthromaties typerhumatisme)	7.605	3,22
7	Vers intestinaux	7.384	3,16
8	Autres affections ou symptômes non spécifiés	6.315	2,67
9	Maux de tête isolée	5.533	2,34
10	Maladie de l'oeil et des paupières	5.445	2,30
11	Fièvre d'origine indéterminée	4.457	1,89
12	Autres maladies de la peau	4.253	1,80
13	Dysenterie bacillaire	4.181	1,77
14	Maladies des oreilles	3.200	1,35
15	Syndrome grippal	2.625	1,11
16	M.S.T	2.193	0,93
17	Maladies de la bouche et des dents	2.076	0,88
18	Varicelles	1.674	0,71
19	Anémie	1.658	0,70
20	Rhume et Angine	1.655	0,70
21	Autres maladies des os et des articulations	1.199	0,51
22	Rougeole	1.112	0,47

Nosology Report
 Fatick, 1989 (Cont'd)

23	Malnutrition	1.095	0,46
24	Dysenterie Amibienne	1.015	0,43
25	Brûlure	869	0,37
26	Autres maladies des organes génitaux	689	0,29
27	Convulsions	657	0,28
28	Déshydratation aiguë par diarrhée et/ou par vomissement	617	0,26
29	Hypertension Artérielle	586	0,25
30	Syphilis suspecté	445	0,19
31	Oreillons	320	0,14
32	Coqueluche	254	0,11
33	Morsure et Piqûres veinimeuses	181	0,08
34	Bilharziose	135	0,06
35	Tétanos	84	0,03
36	Epilepsie	73	0,03
37	Hernie inguino-sérrotale	56	0,02

ANNEX 3-14

Annual Report of Infectious Diseases, Kaolack 1989

Annual Report of Infectious
Diseases, Kaolack, 1989

- RAPPORT ANNUEL DES MALADIES TRANSMISSIBLES (1989)

AFFECTIONS	C.M. KAOLACK	NIORO	KAFFRINE	KOUNGHEUL	TOTAL
.Tuberculose	103	28	43	19	193
.Coqueluche	64	36	19	13	132
.Dysentrie	1	15	143	28	189
.Tétanos	46	16	48	1	111
.Poliomyélite	0	0	2	0	2
.Varicelle	690	116	204	90	1.100
.Rougeole	202	183	162	150	697
.Oreillons	150	55	95	47	347
.Trachome	0	10	0	0	10
.Palu	28.830	25.685	11.146	2.778	68.419
.Gonococcie	1.890	<u>2.016</u>	645	504	5.055
.Bilharziome	66	0	32	68	166
					76,321 .../...

ANNEX 4

ANNEX 4-1

Summary of Surveys Related to Diarrheal Disease

Summary of Surveys Related to Diarrheal Disease
Control in Fatick and Kaolack

An important objective of the 1982 Sine-Saloum Study was to determine the incidence of diarrhea in children under 6 years, defined as the occurrence of diarrhea in the two weeks prior to the interview, and treatment of and mortality due to diarrhea. Forty percent of young children were reported to have diarrhea in that period, a rate similar to that found in the same Region in 1983 by Garenne. The following types of treatment were used:

<u>Type of Treatment</u>	<u>Rate (%)</u>
ORT	2
Intravenous fluid	0.2
Antibiotics	55
Traditional remedies	20
No treatment	23

The survey in Sine-Saloum found that the adjusted infant mortality rate due to diarrheal disease was 28/1,000, and for all children under 5, 72/1,000. Diarrheal diseases were responsible for 21.3% of deaths before one year and 23.8% of deaths before 5 years. This, along with respiratory infections, were the two most frequent causes of death in this population.

The mid-term evaluation found that diarrhea in the preceding three months had occurred in 38% of children of surveyed mothers, and 55% of these mothers reported using ORT. Eighty-four percent of mothers knew about the ORT program, 76% having learned about it from a demonstration by the health post nurse or CHW and 6% from the radio. Seventy-nine percent of mothers continued feeding through the period of diarrhea. The evaluation team also reported that they had the strong impression that ORT was known and used in the Project areas outside the test sites.

A variety of other surveys and studies provide additional estimates of the extent of diarrhea and the effectiveness of the DDC program in the two Regions. Findings from the Demographic and Health Survey in Senegal 1986 among children under 5 years in Fatick and Kaolack are presented below:

<u>Finding</u>	<u>Fatick and Kaolack</u>	<u>Dakar</u>	<u>Other Regions Excluding Dakar</u>
Diarrhea (previous 2 wks.)	41%	29%	39%
Any Treatment	74%	72%	66%

ORT	1%	4%
SSS	5%	8%
"Monkey Bread"	24%	16%
Other Medicinal Plants	14%	14%
Western Medicine	50%	45%
Hospital or Dispensary	22%	30%

A 1988 study in the Regions of Fatick, Diourbel, Kolda, St. Louis, and Thies examined the practices of health personnel related to diarrheal disease evaluation and treatment (SANAS 1988). Overall, 93% had reported receiving training in ORT, but only 26% had received a supervisory visit since this training. In Fatick, only 3 near deaths were observed, so the results must be interpreted with caution. The degree of dehydration was evaluated and the treatment plan was chosen correctly in 92% of total cases of diarrhea, with Fatick's health workers performing about the same. Fatick had the highest proportion of UROs (67% vs. 35%) and infant scales in 56% of facilities visited vs. 51% for all Regions combined. The presence of ORS packets was noted in 78% of health structures visited in Fatick, compared with 56% for all Regions combined. Health workers in Fatick responded "yes" most frequently when asked "Do you use antibiotics in the treatment of diarrhea?" (82% vs. range of 67%-78% for the other Regions). In treating all patients with diarrhea, the following treatments were used in Fatick compared with the combined sample (from registers):

	<u>Fatick</u>	<u>Total</u>
ORS Only	27.3%	20.3%
ORS + Other Medications	53.9	37.2
Medications Only	11.5	12.3
Unknown	7.3	30.2

A study on supervision in the Regions of Fatick (F), Kaolack (K), Ziguinchor (Z), Tambacounda (T), and Louga (L) in 1989 (PRICOR 1989) also observed health workers' practices related to management of persons with diarrhea. The health workers in ZTL had a tendency to more often prescribe ORS in packets than those of FK, whereas those in FK prescribed home treatment more often. When home treatment was recommended by workers in ZTL, a larger proportion of correct instructions were given. The health workers of FK were more likely to prescribe medications than those of ZTL. Overall, the management was found to be less than optimal for all Regions; there were no major differences between the performances of the health workers in the two Project Regions compared with the three others.

An observational field study was conducted by SANAS in June 1989 to determine the state of the diarrheal disease control program in Fatick and Kaolack. The team found that although considerable progress had been made in implanting UROs, there were still several problems related to operational difficulties and lack of displayed educational materials. There was generally a good understanding of how to evaluate the hydration status of children with diarrhea, but there was a consistent lack of nutritional status evaluation among these children. Even in the best units, antidiarrheal medications were often prescribed. ORS packets were found in all sites except one. Weaknesses in completing registers and report forms were also noted.

A study of knowledge, attitudes, and practices (KAP) relative to the treatment of diarrhea was conducted by PRITECH in 1989 in all 10 Regions. In Fatick, 32.3% of surveyed mothers reported diarrhea in their child in the past two weeks; this rate was 25% in Kaolack, and the mean for all 10 Regions was 28%. The remaining data were presented only for all regions combined. The percentages of mothers who had heard of ORS and SSS were 62% and 93%, respectively. ORT was used in 34% of cases of diarrhea (21% ORS, 13% SSS), often associated with use of medication. Home treatment consisted of traditional remedies (21%), SSS (18%), modern medications (6%), ORS (5%), and traditional healer (1%). Only 26% of mothers prepared SSS correctly, compared with 89% who prepared ORS correctly. More than half of the mothers thought that ORS stops diarrhea. In the rural areas, health personnel were the most frequent source of information about ORS (54%), followed by family and friends (7%); only 2.5% of mothers reported hearing about ORS from CHWs. The comparable figures for information about SSS were 67% for health personnel, 13% from family/friends, and <1% from CHWs. The radio was also a large source of information--35%.

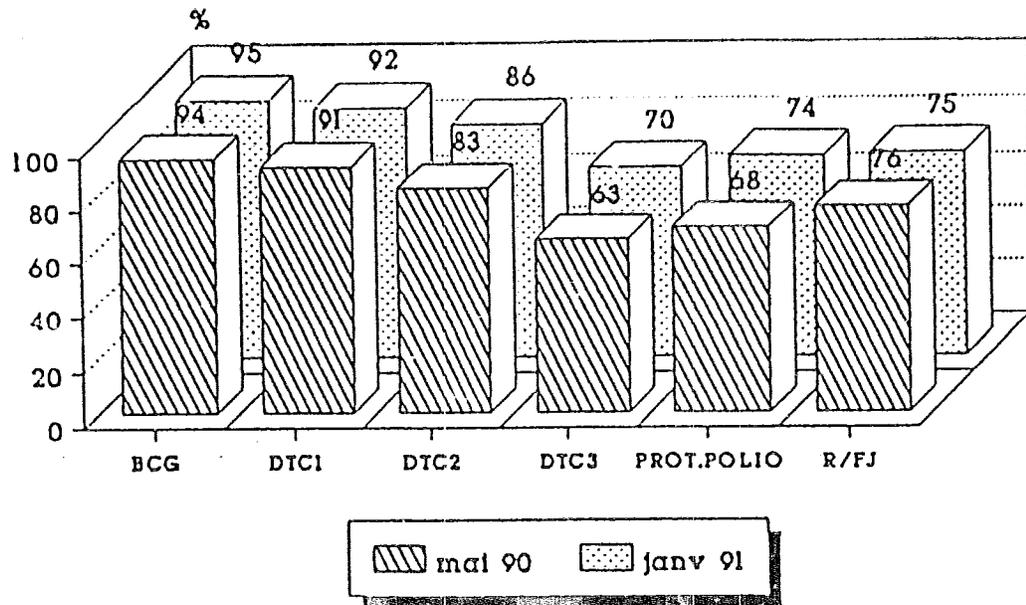
Another team evaluated the status of diarrheal disease programs in Kaolack, Fatick, Tambacounda, Diourbel, and Louga in 1990 (SANAS 1990). The team reviewed data from the HIS of each Region and reported that there was a 15% reduction in the number of cases of diarrhea between 1988 and 1989 (13,543 vs. 11,549) in Fatick, and a 33% reduction between 1987 and 1989 in Louga. Medications were used in most health facilities in association with ORT in treating diarrhea. In Kaolack, the Regional Pharmacy had a good stock of ORS packets, but none were found in the Health Center and health posts of Kaolack District. A lack of retraining was noted for all Regions in the past two years, except for Louga, which had regular retraining from the World Vision project.

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ANNEX 4-2

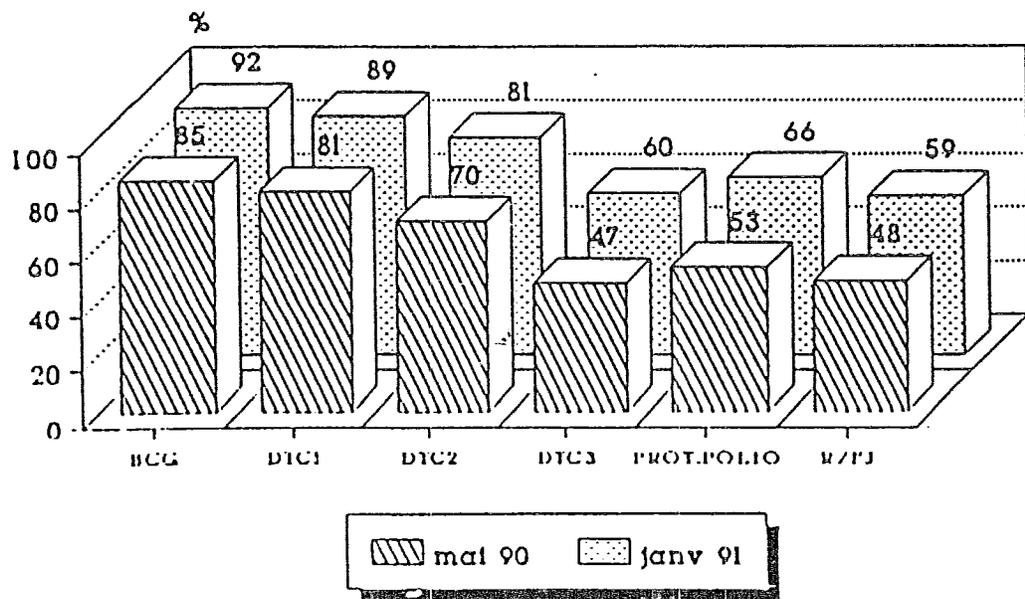
Vaccination Coverage, February 1991, MOHSA

Couverture vaccinale par antigène
Sénégal - enfants 12-23 mois
Comparaison mai 90 - janvier 91



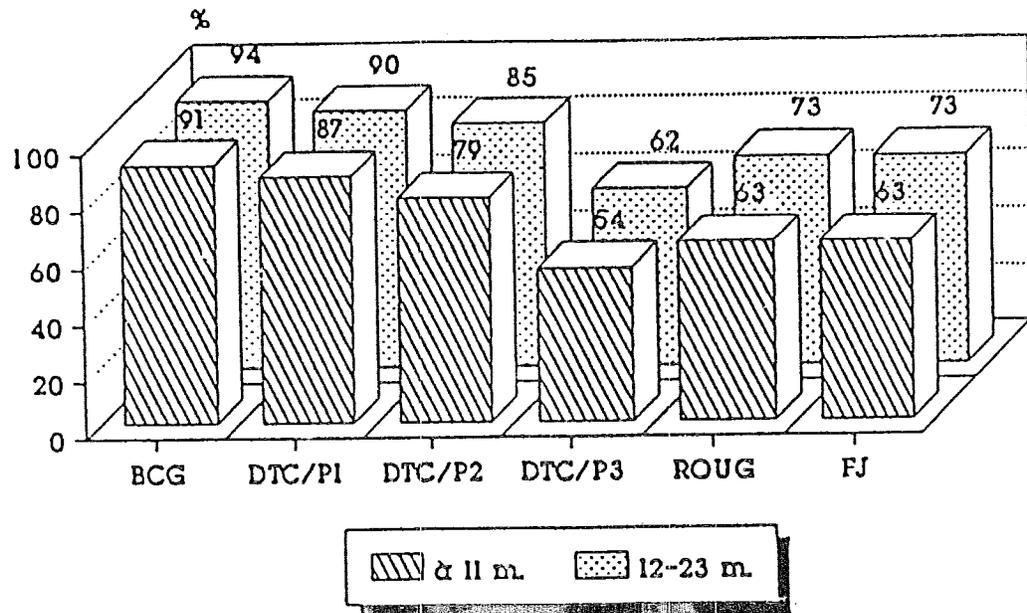
Sénégal janvier 1991

Couverture Vaccinale par Antigène
enfants à 11 mois - Sénégal
Comparaison mai 90 - janvier 91



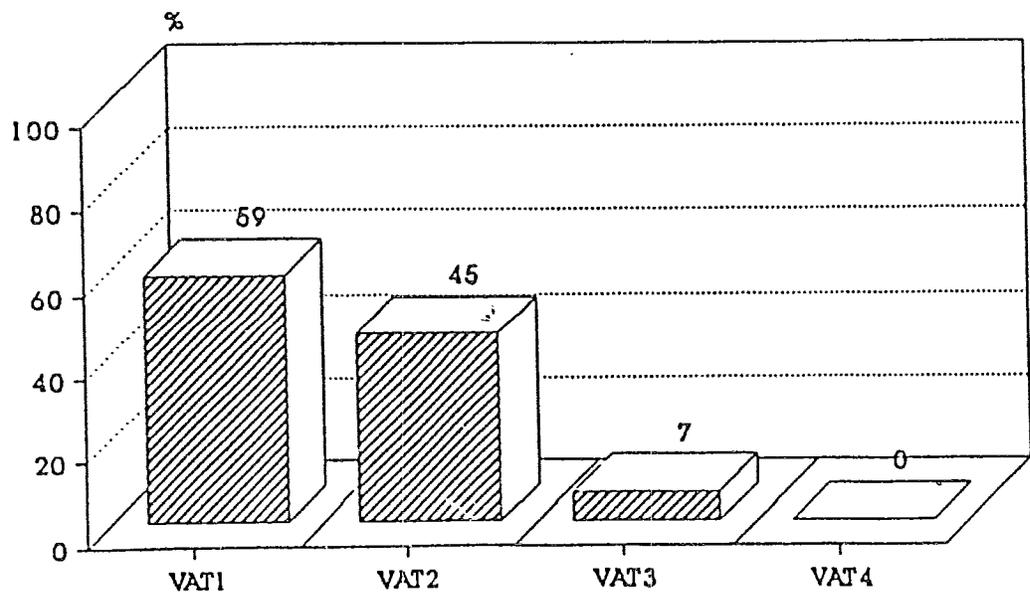
Sénégal janvier 1991

Couverture Vaccinale par Antigène Région de Fatick



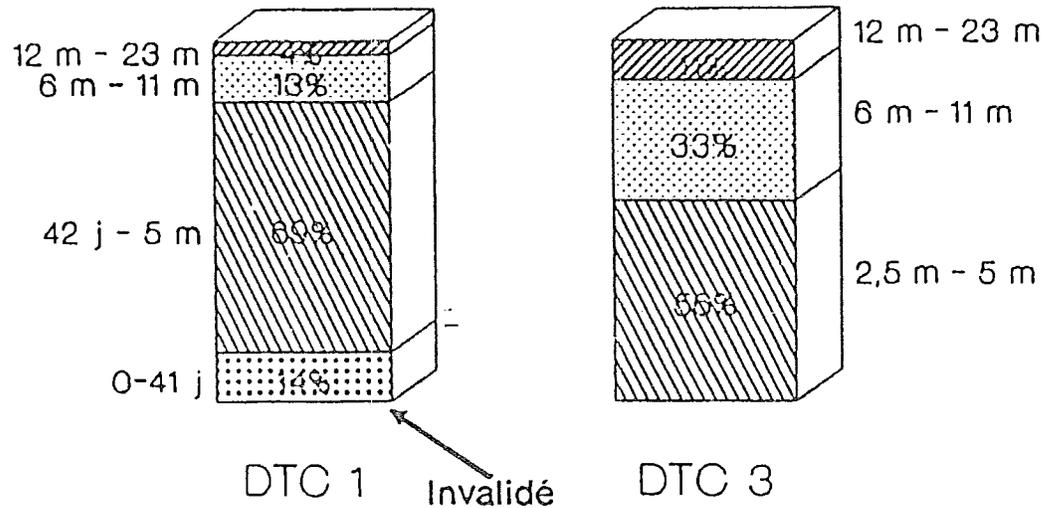
Sénégal janvier 1991

Couverture Vaccinale Antitétanique Femmes Ayant Accouc. l'Année Précédente Région de Fatick



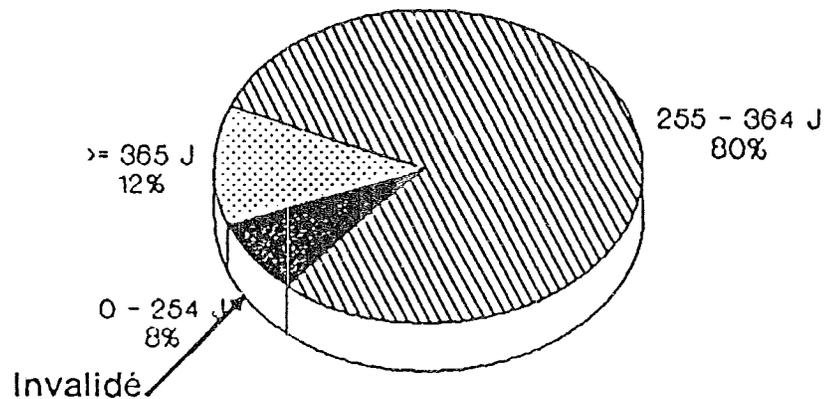
Sénégal janvier 1991

REPARTITION DES ENFANTS SELON L'AGE DE VACCINATION AVEC LE DTC1 ET LE DTC3 REGION DE FATICK



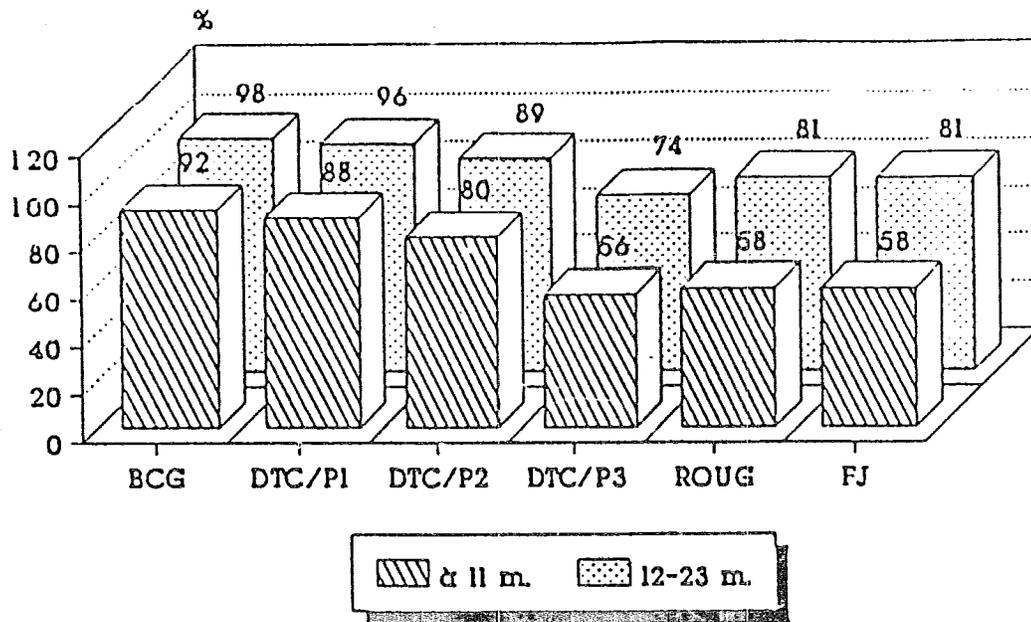
Sénégal Janvier 1991

REPARTITION DES ENFANTS SELON L'AGE D'ADMINISTRATION DU VACCIN ANTIROUGELEUX REGION DE FATICK



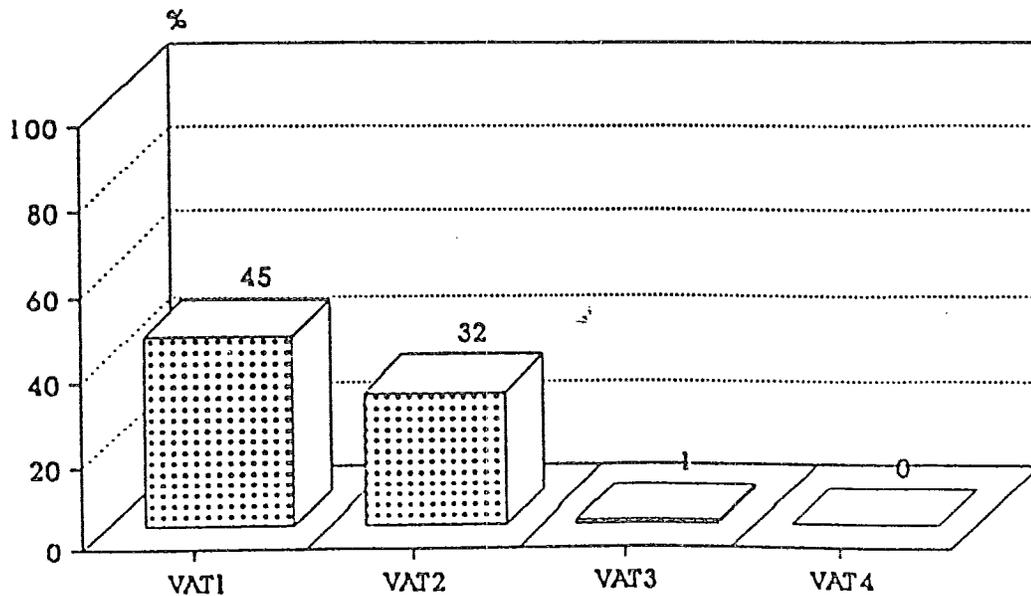
Sénégal Janvier 1991

Couverture Vaccinale par Antigène Région de Kaolack



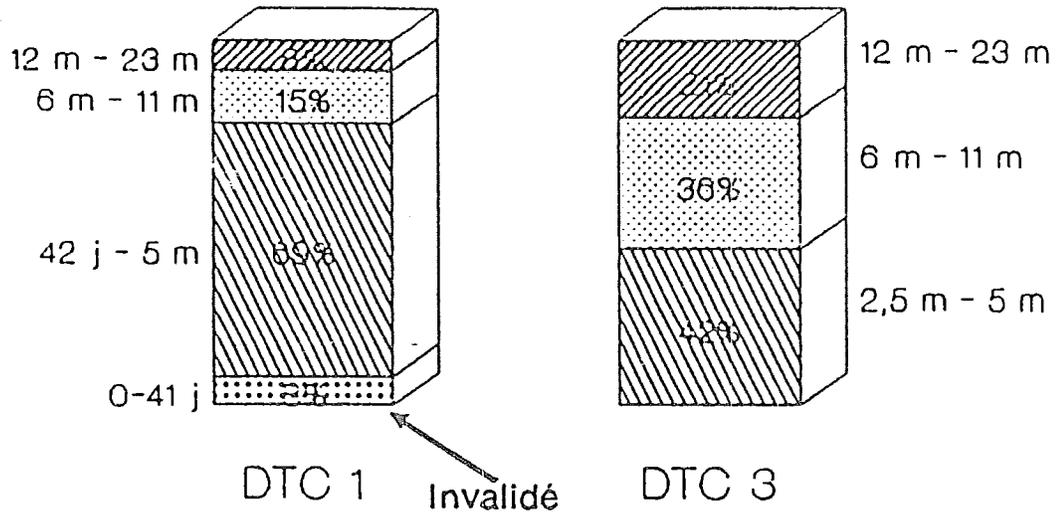
Sénégal janvier 1991

Couverture Vaccinale Antitétanique Femmes Ayant Accouc. l'Année Précédente Région de Kaolack



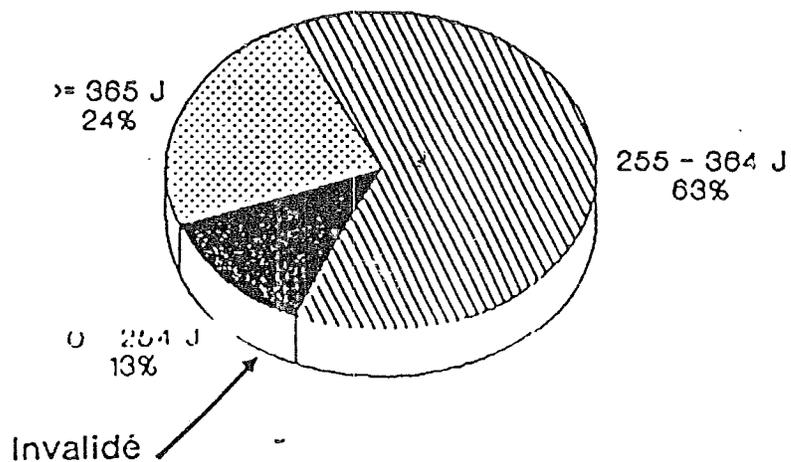
Sénégal janvier 1991

REPARTITION DES ENFANTS SELON L'AGE DE
VACCINATION AVEC LE DTC1 ET LE DTC3
REGION DE KAOLACK



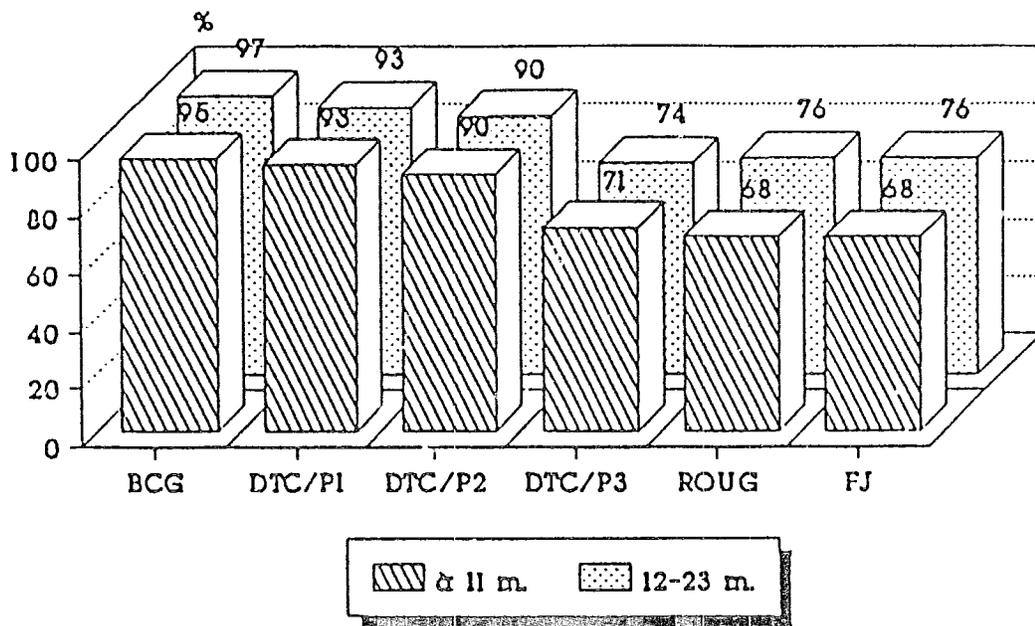
Sénégal Janvier 1991

REPARTITION DES ENFANTS SELON L'AGE
D'ADMINISTRATION DU VACCIN ANTIROUGELEUX
REGION DE KAOLACK



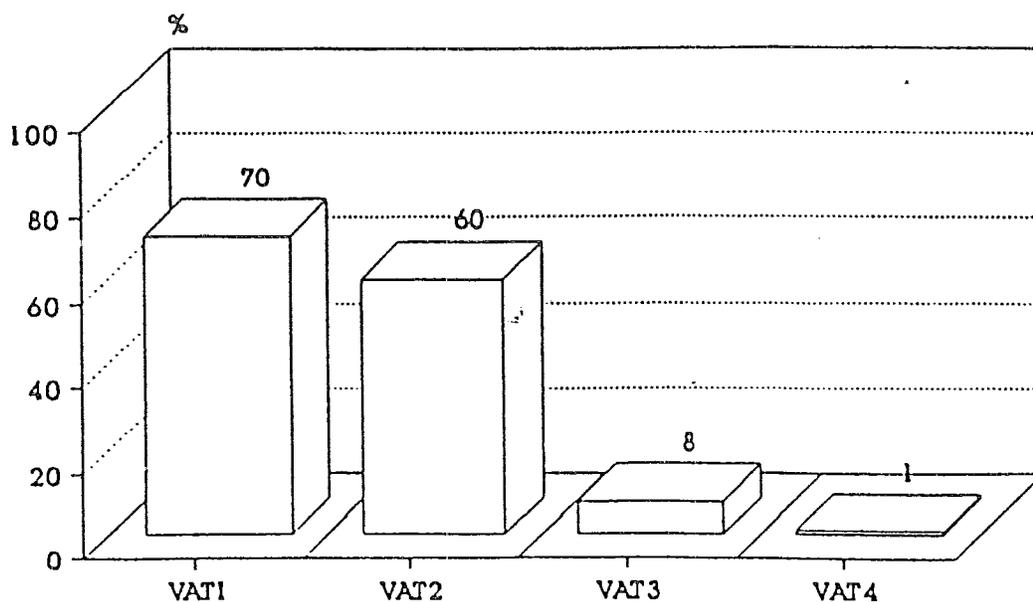
Sénégal Janvier 1991

Couverture Vaccinale par Antigène Région de Dakar



Sénégal janvier 1991

Couverture Vaccinale Antitétanique Femmes Ayant Accouc. l'Année Précédente Région de Dakar



Sénégal janvier 1991

ANNEX 5

ANNEX 5-1

Long, Medium and Short Term Trainees

Long-Term Training

Year Study began	Name of Participant	Program, Location (code below)	Current Loc. (code below)
------------------------	---------------------------	-----------------------------------	------------------------------

Physicians

1985	Ndiaye, Abdoulaye	PH Harvard	MCR Louga
1986	Diallo, Issakha	PH Tulane	Dir, SSP, DSP
1986	Drame, Boubacar	PH Econ Inst Boulder	Army
1986	Lioume, Mandiaye	Ph.D. Tulane	still in US
1987	Thiam, Abdoukari	PH Tulane	CT (MCH), DSP

Technical Supervisors

1984	Camara, Mamadou	Med Allied Pharmacy, Tallahassee	KK Regional Pharmacy
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Nurses

1986	Mboup, Sangone	IH, Boston U.	still in US
1987	Diop, Mbaye	HE Tulane	DSP
1988	Faye, Aida Lo	PH Tulane	Private Cons.
1988	Thiam, Aboubakry	PH Econ Inst Boulder	DSP

Social Workers

1987	Dioum Ramatoulaye	PH Tulane	EPS Supervi- sor FK Region
1988	Ly, Oumar	HE Tulane	studying HM CESAG

Nutritionist

1987	Diene, Serigne Mbaye	Ph.D. Tulane	Still in US
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DSP Public Health Division of Health Ministry
E Epidemiology
EPS Education pour la Sante
FK Fatick
HE Health Education
HM Health Management
IH International Health
KK Kaolack
SM Systems Management
MCR Medecin-Chef Regional, Regional Medical Chief
MS Master in Science
PH Public Health
SSP Soins de Sante Primaires, Primary Health Care

1989

Coulibaly, Bilal	BMAAdmin Atlanta	Dir ENIIE Dakar
Diallo Issakha MD	PH/CH Harvard	Dir SSP/DSP
Diop, Abdoul	BM Pittsburg	
Diop, Cheikh Tidiane	BMA Atlanta	CT
Diouf, Fode DSP	PH Boston U	CT/DSP
Mbaye, Alioune	PH Boston U	
Sylla, Bandoubou	BMA Atlanta	Dir Cabinet/DSP
Toure, Mamadou	BMT Pittsburg	PNA/Dakar

1990

Ba, Abdoulaye MD	PH, HospAdm Boston U	Army
Dia, Mounamadou DSP	BMA Atlanta	Army
Dia, Mounamed E. Habib DSP	BMA Atlanta	Cabinet, DSP
Faye, Ibrahima DSP	BMA Atlanta	CT/DSP
Faye, Ndary DSP	BMA Atlanta	CT/DSP
Fofana, Amady	PH Hosp Adm Boston U	Supv, SSP, Tambacounda

*Identified by Dr. Issakha Diallo.

BM Business Management
BMT Business Management Training
CH Community Health
CHU Centre Hospitalier Universitaire, University Hospital Center
CT Conseiller Technique
DSP Public Health Division of Ministry
EPS Education pour la Sante
FK Fatick
FP Family Planning
HE Health Education
JSI John Snow International
KK Kaolack
MCD Medecin-Chef de District, District Medical Chief
MCH Maternal Child Health
MCR Medecin-Chef Regional, Regional Medical Chief
PH Public Health
PNA Pharmacie Nationale d'Approvisionnement, Dakar
RTC Regional Training Center
SD Special Diseases
SSP Soins de Sante Primaires, Primary Health Care
UGP Unite de Gestion des Projets (Project Office for USAID)

Year/Trainee	Medium-Short Term Course/Inst.	Current Function when known*
1984		
Camara, Mamadou	MAP Tallahassee	KK Reg Pharmacy
Cisse, Chouaibou	PH/FP Columbia	retired
Diallo, Boubacar	CH Chapel Hill	CESAG
Diatta, Sebastiana	PH/FP Columbia	Dakar
Diene Ismaila Thiouye	PH/FP Columbia	abroad
Diop, Djariatou Thiam	CH Chapel Hill	abroad
Gaye, Alioune	CH Chapel Hill	
Loume, Mandiaye	PH Control Spec Dis.	
Samb, Maty Cisse	CH Chapel Hill	UGP, Dakar
1985		
Brochet, Michelle	CH Chapel Hill	Pikine Project
Camara, Mekhessine	BusMgt Pittsburg	
Diene, Serigne Mbaye	Ph.D Tulane	studying US
Faye, Aida Lo	Eng, Georgetown	private consult.
Loume, Mandiaye	PH MCH	
Sarr, Papa Amadou	CH, Chapel Hill	private practice
Seye, Oumar	CH, Chapel Hill	Dakar
Toure, Mamadou	BM Pittsburg	Dakar
Wade, Alassane	PH, Control SD	Dakar
1986		
Coly, Malang	PH/FP Columbia	MCR,FK Region
Diaffate, Abdoulaye	CH Harvard	MCD, Guing. FK
Diagne, Malick	CH/CESAO, BE	
Diakhate, Fakjima	PH/CH Harvard	Sup. Gossas, FK
Diallo, Youssouf	PH/CH Harvard	FK
Dieng, Aboubacar	PH/CH Harvard	deceased
Diop, Mbaye	CH Chapel Hill	EPS, DPS
Dioum, Ramatoulaye	PH/CH Harvard	Reg. Sup, EPS FK
Faye, Oumar	CH Chapel Hill	CHU
Gueye, Amadou	CH Chapel Hill	CHU
Gueye, Lamine	CH Chapel Hill	
Kebe, Mbaye	PH Harvard	Army
Ly, Abdoulaye	CH/PH Harvard	studying CESAG
Ly, Oumar	PH/FP Columbia	studying CESAG
Mbodji, Aboukarim	CH/PH Harvard	
Ndao, Doudou	CH/PH Harvard	abroad (perm.)
Ndiaye, Birame	CH Chapel Hill	
Ndiaye, Nbor	CH/PH Harvard	SSP, Nioro FK
Niang, Malick	BM Pittsburg	
Sarr, Amadou	CH Chapel Hill	private pract.
Seck, Alassane	CH/CESAO BF	
Seck, Lamine	CH/PH Harvard	CESSI
Seck, Mamadou	BM Pittsburg	
Sonko, Yaya	CH/PH Harvard	
Sylla, Matar	CH/PH Harvard	

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Tabar, Francois	CompInfo Sci MSH /Boston U	Stat Div, DSP
Thiam, Aboubakry	PH MCH Boston U	CT, DSP
Thiam, Aninata	CH/PH Harvard	
Wade, Mamadou	CH Chapel Hill	Reg. Training Center KK

1987

Coly, Leonard	PH/FP Columbia	SANAS
Coly, Rachel	PH/FP Columbia	
Diakhate, Moussa	BMT JSI	Dakar
Diallo, Oumar	BMT JSI	Dakar
Diop, Adama Diagne	BMT JSI	Dakar
Diop, Atta Ndiaye	Comp/InfoSci Harvard	SANAS
Diop, Fatoumata	PH/FP Columbia	
Gueye, Marieme	C/ISS Harvard	private
Guillabert, Jeanne Amelie	BMT JSI	Dakar
Johnson, Bassirou	BMT JSI	Training FK
Kasse, Saco	BMT JSI	Dakar
Ly, Abdoulaye	PH/FP Columbia	Dakar
Mbaye, Issa	BMT JSI	KK
Mboup, Nogaye	PH/FP Columbia	
Ndam, Doudou	HE, Boston U	
Ndiaye, Haby	HE, Boston U	abroad
Ndour, El Hadj Habib	BMT JSI	FK
Sall, Abibou	BMT JSI	private
Samb, Abdoulaye	C/ISS Harvard	SANAS
Sarr, Malamine	BMT JSI	TechSupv/KK
Soubou, Coumbala Ana	BMT JSI	abroad
Toure, Mounir	HE Boston U	abroad

1988

Badji, Mohamed	CH/CESAO BF	
Diafate, Abdou	PH/FP ISTI	FK
Diouf, Semou	CH/CESAO BF	
Fall, Mor	CH/CESAO BF	Dist/FK
Fall, Ousmane	PH/FH ISTI	RTC/KK
Ndiaye, Cheikh Abdoul	CH/CESAO BF	Dist/
Ndiaye, Saraou	PH Misc Harvard	private
Nbing, Abdou	CH/CESAO BF	Dakar
Niass, Mbalo	CH/CESAO BF	Dist/FK
Sagne, Ibrahima	CH/CESAO BF	Dist/FK
Samb, Ibrahima	?	
Samb, Maty Cisse	C/ISS MSH Boston U	UGP/Dakar
Sanbou, Pierre Marie	CH/CESAO BF	
Seck, Mamour	CH/CESAO BF	
Sene, Abdou	PH/FP ISTI	
Sene, Medoune	CH/CESAO BF	FK
Sy, Thierno	?	
Thian, Moussa Cire	CH/CESAO B	

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ANNEX 5-2

Cabinet Tall Study of Kaolack Training Center, 1991

CABINET TALL STUDY
OF KAOLACK TRAINING
CENTER MARKETABILITY

Summary of key points in "Cabinet Mamadou Tall" study (1/89)

Study objectives and methodology

The study was designed to provide necessary info to plan for self-financing of the Training Center. In particular, the study was to:

- indicate the amount of revenue Center needs to generate each year;
- recommend a financial management system.

The study included:

- 1) a market analysis of demand for training services;
- 2) a financial analysis of break-even volume at various prices;
- 3) an organizational analysis of the Center's operations.

Interviews were conducted with Regional and District medical personnel, past participants of training programs, and MOH/other GOS services or external organizations which might be potential clients of the Center (CRS, World Bank, USAID, etc.).

Comparative prices and services of "competitors" were also researched.

Findings

- 1) The study reviews the structure and organization of the Center, providing an organizational chart, job descriptions, and a description of management systems in place while the Center was still being financed by AID.
- 2) At the time of the study, the Center had 11 personnel:
 - 1 Director
 - 2 Trainers (one resp for library, the other for AV lab)
 - 3 Support staff (secretary, accountant, documentation asst.)
 - 5 Other staff (driver, 2 guards, 1 manceuvrre, 1 cleaner)
- 3) Director was Mr. Fall (since 2/87); Mr. Toure was the AV lab manager and Mr. Ndao was in charge of library. Mr. Toure and Mr. Ndao were trained 5 weeks in U.S. and had additional AV training in Dakar (unspecified length).

paid salaries worth 27%. Personnel accounts for 58% of total expenditures (about 5.4 million) whereas supplies, transport and other services account for the remaining 42% (about 3.9 million). See p. 12 for financial statement.

These figures are somewhat inconsistent with figures used later in the text. Elsewhere in the report (p. 53) the authors calculate personnel expense to be 9.9 million per year (for the 11 staff described in point 2 above). It is possible that the Center did not have a full contingent of staff in 1987-1988, which would explain the much higher estimate of recurrent personnel expense used later in the report for the break-even analysis.

Investment Expense. The study lists investments, in order to calculate depreciation. The total investment cost amounted to about 57 million CFA (\$345,000) for the training building renovation and new dormitory (35 million); furniture and office equipment (18 million); AV equipment (22.5 million); dormitory equipment (14.5 million) and vehicle (7 million). The annual depreciation expense is estimated to be 14 million CFA (\$50,000).

- 9) Based on data collected from interviews with former and prospective clients of the Center, the study describes expressed client preferences concerning lodging, meals, classrooms and equipment. The study classifies potential clients into three groups (favorable, neutral, and "haut de gamme"), based on this information, and discusses what improvements or changes the Center would need to make to target each group. In the same section, the relative merits of competitors are discussed (2 hotels and the Centre des Oeuvres de la Mission Catholique).
- 10) The study discusses several ways to improve marketing of Center. It also provides estimates of demand, by market segment.
- 11) The financial analysis portion of the study evaluates the Center's performance under three different scenarios:
 - a) status quo: no improvements to Center;
 - b) "standing": improvements valued at 9.8 million CFA, targeted to attract the most favorable market segment, (some new classroom furniture and equipment, air conditioners, food service);
 - c) "grand standing": improvements worth 4 million on top of the 9.8 million "standing" improvements, or a total of 13.8 million CFA. Targeted to make Center more like a hotel (i.e. bathrooms added to individual rooms in dormitory);
- 12) The study concludes that the second option ("standing") is the most profitable for the Center. [Note that the Center's

- 4) Buildings and equipment available at time of study are described in the report.
- 5) Statute of Center. This seems to be a big part of the Center's difficulties. The statute in effect in 1989 did not allow the Center, in principle, to lead revenue-generating activities. In fact, the Center was allowed to charge for services because it was still technically part of the USAID rural health project. There was confusion on this point, however, which the Tall study blames for the low level of receipts received to date in 1989.
- 6) Charges. The revenue-generating activities of the Center included lodging, rental of classrooms, and rental of the "minicar" vehicle. Charges were 5,000 CFA/day for access to all classroom facilities; 3,500 CFA/day to rent vehicle; and 3,000 CFA per night for lodging for persons outside of Kaolack and Fatrick or 1,000 CFA/night for Project area residents. The MOH was not charged for rental of the classrooms.
- 7) Receipts: Between June 1987 and May 1988 (11.5 months), the Center generated about 5 million CFA in receipts (\$18,000 at 281 = \$1.00). Including bank interest earned, the total amount of revenue in May 1988 was about 5.3 million CFA. According to the Tall report, these revenues were generated from the following training sessions:
- 1 Ops Research Seminar (2 weeks, June 87)
 - 1 Health Statistics Seminar (1 week, Sept. 87)
 - 2 Financial management & acctg seminars (2-4 days each, Sept. 87)
 - QRT Seminar (4 days, Oct. 87)
 - Applied Training Techniques Seminar (2 weeks, Nov. 87)
 - Training of Trainers for Literacy (3 weeks, Dec. 87)
 - 2 EPI Seminars (no dates)
 - 2 Seminars for the Unite de Gestion (no dates)
 - Seminar for the GZI (no dates)
 - Seminar Maison Familiale (no dates)
 - Seminar P.S.F. (no dates)
 - Seminar on management of "programme d'etude pour la sante", for MOH staff (no dates)

It is not clear whether any of these seminars were actually facilitated by the staff of the training center, or whether the clients merely rented the Center's facilities. [From discussions with Wade in Kaolack, I tend to think the Center did more renting than organizing the training itself.]

- 8) Recurrent Expenses. The Center's expenses from July 1987 through May 1988 (11 months) totaled about 8.6 million (about \$30,700). If this amount is annualized, total expenses rises to about 9.4 million (\$33,500). Through 1988, 73% these expenses were financed by AID, while the GOS

Director told the evaluation team that he invested 4 million CFA to add bathrooms to the dormitory, money which he somehow was able to get out of the blocked account at the USB. This was not recommended by the study; in fact, the study only analyzed the bathrooms-addition as a supplement after other improvements had been implemented (i.e. a move from "standing" to "grand standing"). Thus there was not a sound economic/financial reason to construct the bathrooms for the dormitories. The money might have been better spent on per diems for training.]

- 13) Financial Management/Administration. The study notes that the Center (in 1988) was still under the Direction of Research, Planning and Training (DRPF), of the MOH. This meant that expenses had to be authorized by this direction. Receipts of the Center, according to the legal statute as it stood in 1988, meant that once AID left, the Center would have to turn over its receipts to the GOS treasury. Financial accounting would be handled by the "Centre des Etablissements Publics," which would mean that the Center would not have access to its own financial data except through cumbersome procedures and delays.

The study notes that power is centralized in the Center, which isn't good for speedy operational decisions, and that there are no written procedures or good financial record-keeping systems in place.

- 14) Future Status. The study examines the options for transforming the Center into an autonomous entity while maintaining its affiliation with the MOH. The study notes that the Center could become an "Etablissement Public a caractere Industriel ou Commercial" (other examples include: Office National de Formation Professionnelle, Caisse de Perequation et de Stabilisation des Prix (CPSP)); or it could become a "Societe Nationale." The study describes what each of these categories implies, and its advantages and disadvantages. The study doesn't recommend one over the other (at least not in an obvious way).

ANNEX 5-3

Summary of Training RHDS, 1978-1983

Summary of Training in RHDS I, 1978-1983

During the first phase, training was carried out in a temporary training center which was considered inadequate for the anticipated expansion of the project into Kaffrine and Fatick departments.

During this early period and into part of the Second Phase, the Project benefited from a very dynamic trainer who grouped committee members in a training site village enabling other villagers to come by giving them 10,000 CFA for the entire training period so that they could hire a horse and cart to take them to and from training each day.

The 1982 evaluation noted that 48 HPNs, 44 sanitation workers, and 756 CHWs had received refresher training. 87% of the CHWs had had polyvalent training. In quality checking carried out in the evaluation, the majority of CHWs met the standard of answering correctly 80% of the technical questions. More than 90% of the HPNs had trained health committees and it was estimated that 378 health committees were "trained".

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ANNEX 5-4

Kaolack Training Center Courses Offered, 1984-1989

KAOLACK TRAINING RECORDS
1984-1989

Year	Type of Training	Number of Participants	Target Group	Length Training in Days
1984	-Pedagogy	na	HPN/SF	13
1985	-Health Mgt	na	MC/CM--KK	30
	-Refresher, Tech	22	HPN/MR	3
	-Mgt Pharm Depots	na	HPN	2
	-Planning	na	Supv/SF-CM	3
	-Health Education*	na	Reg. EPS	5
	-Pedagogy	na	HPN/SF	15
	-Animation/Orient	na	HPN/SF, new staff	12
	-Computer mgt	19	Supv/MR/Drs	2
	-EPI	17	HPN/CM Supv, test zones	5
	-EPI	na	MC/CM--KK, FK	na
	-Group Dynamics	17	Reg Supv	6
	-Oper. Research	17	Drs	12
1986	-Animation/Orient	na	New Personnel FK ?	12
	-Animation/Orient	28	New Personnel KK ?	12
	-Management	25	Supv/HPN	2
	-Days of Reflexion Tech Components	46	Supv/Drs--Reg, Dept	4
	-Audio Visuals	16	Supv/Personnel--KK/FK	15
	-Audio Visuals	4	EPS/Trainers--KK/FK	15
	-Days of Reflexion Tech Components	38	Reg Supv/Drs CM	2
	-Refresher on Chloroq-ORT	23	HPN/CM Supv	3
	-IEC-EPI	21	EPS, Social Developm	3
	-Training of Trainers	na	Reg. Supvs	6
	-Training in Pedagogy	na	Supv-Dept/SMI/PF	12
1987	-Applied Res	17	MC-CM/Supv Reg	15
	-Planning, Mgt, Evaluation	na	SSP Supv	12
	-Animation, Orient	na	HPN/SF	5
	-Statistics	37	na	8
	-ORT	68	na	8
	-Pedagogy	25	na	15

1988	-Laboratory	15	Health Center Lab	
			Workers	15
	-Health Educ	38	Reg EPS	21
	-Animation, Orient	22	HPN/SF	15
1989	-Health Committee			
	Management	30	Health Committee members	5
	-Supervision	10	HPN/SF	15

*Sponsored by the World Bank

Key: CM Circonscription Medicale, Medical District/Dept.
 EPI Expanded Program of Immunization
 EPS Education pour la Sante, Health Education
 FK Fatick Region
 HP Health Post
 HPN Infermier Chef de Poste, Health Post Nurse
 IEC Information, Education and Communication
 KK Kaolack Region
 MR Monitrice Rurale, rural promoter
 na not available
 ORT Oral Rehydration Therapy
 SF Sage-Femme
 SMI/PF Sante Maternelle Infantile MCH/Family Planning
 SSP Soins Sante Primaire, Primary Health Care

ANNEX 6

ANNEX 6-1

MIS Organigram and Data Flow

ANNEX 6-2

Activity Report of Health Posts

STATISTIQUES

RAPPORT D'ACTIVITES
DES FORMATIONS SANITAIRES

POSTE DE SANTE

(incluant les cases de santé)

Région de _____ Département de _____

Centre de santé de _____

Poste de santé de _____

Mois de _____ 19 _____

Remarques

- 1) Les informations concernent les postes et cases de santé y compris les maternités rurales.
- 2) Les rubriques « morbidité » et « mortalité » concernent le poste de santé (public ou privé).
- 3) Toutes les rubriques pour lesquelles l'information ne peut être notifiée, mettre :
 - * « non disponible » si les données n'ont pas été saisies ou exploitées.
 - * « NSP » si la rubrique est sans objet pour votre poste.

Signature du Chef de poste

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LES MOYENS

1. MOYENS FINANCIERS (du poste de santé)

1.1. ETAT

Médicament : _____ Carburant : _____
 Fonctionnement : _____ Investissement : _____
 Matériel : _____

1.2. AUTRES FORMES DE PARTICIPATION

1.2.1. Population : Remplacer les pointillés des colonnes (2) et (3) respectivement par le nombre de maternités rurales et de cases qui ont effectivement fourni les données.

Rubriques	au niveau du poste de santé (1)		au niveau des Maternités rurales (2)		au niveau des cases de santé (3)	
	Montant	% *	Montant	% *	Montant	% *
1. SOLDE ANTERIEUR						
2. RECETTES						
3. DEPENSES (Totales)		100 %		100 %		100 %
(a) Cotisation APS		%		%		%
(b) Carburant		%		%		%
(c) Evacuation		%		%		%
(d) Médicaments		%		%		%
(e) Motivation du personnel		%		%		%
(f) Dépenses diverses		%		%		%
4. DISPONIBLES						

* Mettre dans cette colonne le pourcentage pour chaque type de dépenses par rapport aux dépenses totales du type d'infrastructure considéré.

Exemple : % de cotisation APS au niveau du poste de santé = $\frac{(a) \times 100}{(3)}$; avec :

(a) = montant cotisation APS au niveau du poste de santé

(3) = montant des dépenses totales au niveau du poste de santé

Le même calcul doit être fait pour (b), (c), (d), (e) et (f).

1.2.2. Commune - Communauté rurale - ONG

Contributions effectives en francs CFA par rubrique. (Préciser chaque fois la valeur des contributions en nature reçues)

Rubriques	Commune	Communauté rurale	ONG
a) Carburant			
b) Médicament			
c) Eau			
d) Electricité			
e) Téléphone			
f) Investissements			
g) Dépenses diverses			
Total			

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5. ACTIVITES DES POSTES DE SANTE

5.1. ACTIVITES CURATIVES : CONSULTATION DU CHEF DE POSTE

Groupes d'âges	Nouveaux cas vus et traités	Consultations	Evacuations vers le C.S.
- 5 ans			
5 - 14 ans.....			
15 ans et +			
Age non déterminé.....			
TOTAL.....			

5.2. INFORMATIONS RELATIVES A LA MATERNITE RURALE

5.2.1. Hospitalisation

Nombre de lits disponibles : _____ dont installés dans les salles d'hospitalisation : _____

Nombre de femmes hospitalisées : _____ Nombre de journées d'hospitalisation : _____

Nombre d'évacuations : _____ Nombre de femmes évadées : _____

5.2.2. Décès à la maternité

Nombre total de décès de femmes : _____ dont suite :

a) Accouchement : _____ b) avortement : _____ c) grossesse pathologique : _____

Nombre de décès de nouveaux-nés : _____

5.2.3. Accouchements et avortements

Nombre d'accouchements à la maternité : _____

Nombre d'accouchements à domicile vus :

Nombre total d'enfants nés vivants : _____ dont poids inférieur à 2500 grammes : _____

Nombre de morts-nés : _____ Nombre d'avortements (de femmes vues) : _____

5.3. ACTIVITES DE PROMOTION

5.3.1. Informations relatives aux activités d'E.P.S.

Activites	Nombre	Cible	Thèmes principaux
Causeries			
Entretien			
Projection			
Exposition.....			
Enquête.....			
Autres			

5.3.2. Informations relatives aux activités d'hygiène et d'assainissement

Nombre de rats détruits : _____

Nombre de bâtiments dératisés : _____

Nombre de maisons abritant des gîtes larvaires : _____

Nombre de gîtes détruits : _____

Superficies murales traitées (m²) : _____

Montant des amendes : _____

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B) ENFANTS

5.4.4. Consultations d'enfants sains

Groupes d'âges	Consultants	Consultations	Evacuations vers le C.S.
0 - 11 mois			
12 - 23 mois			
2 - 4 ans			
5 - 14 ans			
Age non déterminée			
Total			

5.4.5. Surveillance pondérale et nutritionnelle

ii) (Poidu / Ago)

Degré de malnutrition	0 - 11 mois	12 - 23 mois	2 - 4 ans	Age non déterminé	Total
Inf. à 60 %					
60 à 80 %					
Sup. à 80 %					

b') RVO

Nombre de cas de diarrhée (total) : _____ Nombre de cas de diarrhée référés vers le C.S. : _____

Nombre de cas de diarrhée traités : _____ Nombre de cas de diarrhée référés par les cases : _____

5.4.6. Vaccinations des enfants dans le cadre du PEV

a) effectuées au niveau des Postes de santé (Centre fixe et stratégie avancée)

Groupes d'âges	0 - 11 mois	12 - 23 mois	2 ans et plus	Age non déterminé	Total
B.C.G.					
DTCP 1.					
DTCP 2.					
DTCP 3.					
Rougeole					
Fièvre jaune.					
Enfants complètement vaccinés. ...					

b) effectuées au niveau des Villages desservis par les Postes de santé (équipe mobile)

Groupes d'âges	0 - 11 mois	12 - 23 mois	2 ans et plus	Age non déterminé	Total
B.C.G.					
DTCP 1.					
DTCP 2.					
DTCP 3.					
Rougeole					
Fièvre jaune.					
Enfants complètement vaccinés. ...					

ANNEX 6-3

Activity of Health Centers

STATISTIQUES

RAPPORT D'ACTIVITES

CENTRE DE SANTE

(incluant les postes et les cases de santé)

Région de Département de

Centre de santé de

..... semestre année civile : 19 ____

Du mois de au mois de

Remarques

- 1) De la page 2 à la page 7, les informations concernant l'ensemble de la « CM » à savoir : le centre de santé, les postes de santé (publics et privés), les cases de santé se trouvant dans la localité.
- 2) De la page 8 à la page 16, les informations concernant le centre de santé uniquement.
- 3) De la page 17 à la page 25, les informations concernant les postes et cases de santé. Cette partie devra être remplie sur la base des rapports envoyés par les Postes de santé (publics et privés) y compris les maternités rurales notamment pour la page 18.
- 4) Toutes les rubriques pour lesquelles l'information ne peut être notifiée, mettre :
 - * « non disponible » si les données n'ont pas été saisies ou exploitées.
 - * « NSP » si la rubrique est sans objet pour votre « CM ».

Signature du Médecin-Chef de C.S.

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QUELQUES OUTILS D'EVALUATION

I. POPULATIONS DESSERVIES PAR LE CENTRE DE SANTE ET LES POSTES DE SANTE

- I-1 Population totale =
- I-2 Enfants âgés de 0-11 mois =
(plus ou moins égal au nombre de femmes enceintes par an)
- I-3 Enfants âgés de moins de 5 ans =
- I-4 Enfants âgés de moins de 15 ans =
- I-5 Femmes âgées de 15 à 49 ans =
- I-6 Personnes âgées de 60 ans et plus =

II NOMBRE DE VILLAGES

- II-1 Villages à moins de 5 km = Population =
- II-2 Villages entre 5 et 10 km = Population =
- II-3 Villages à 10 km et plus = Population =

III INDICATEURS

Nombre de nouveaux cas par habitant = $\frac{\text{nouveau cas}}{\text{Population totale}}$

Taux de couv. mensuels par antigène = $\frac{\text{enfants vaccinés durant le mois}}{\text{Population-cible du mois}}$

exemple : Population-cible 0-11 mois = 480
enfants vaccinés en janvier au DTCP 1 = 30

taux de couverture DTCP 1 = $\frac{30 \times 12}{480} = 75 \%$

Taux d'achèvement mensuels DTCP = $\frac{\text{enfants vaccinés durant le mois au DTCP (2 ou 3)}}{\text{enfants vaccinés durant le mois au DTCP 1}}$

exemple : pour la même zone, le nombre d'enfants vaccinés au DTCP 3 = 15

Taux d'achèvement mensuels DTCP 3 = $\frac{15}{30} = 50 \%$

NB : Le taux de couverture mensuels pour le DTCP 3 est égal au :

Taux de couverture mensuels du DTCP 1 x le taux d'achèvement du DTCP 3

Dans ce cas-ci, le taux de couverture mensuels pour le DTCP 3

est égal à : $75 \% \times 50 \% = 38 \%$

interprétation : Pour améliorer ce taux de couverture de 38 % du DTCP 3, les éléments de calcul montrent que le taux d'achèvement (50 %) est faible, justifiant une amélioration du système de rendez-vous ou de l'accueil des mamans plutôt qu'un effort de mobilisation.

Pour les consultations prénatales et les consultations des nourrissons sains, d'une manière générale, le mode de calcul et d'interprétation des taux de couverture est le même.

LES MOYENS
MOYENS FINANCIERS (du centre et des postes de santé)
1.1 BUDGET DE L'ETAT (montants en F.CFA)

MÉDICAMENT (1)	Dotation (1)	Montants alloués et livrés			
		au CS (2)	aux PS (3)	CS + PS (4) = (2) + (3)	% (4) : (1)

DEPENSES PERMANENTES (2)	Dotation (1)	Montants des factures			
		du CS (2)	des PS (3)	CS + PS (4) = (2) + (3)	% (4) : (1)
		Eau (a)			
Electricité (b)					
Telephone (c)					

CARBURANT (3)	Dotation (1)	Montants consommés au niveau			
		du CS (2)	des PS (3)	CS + PS (4) = (2) + (3)	% (4) : (1)
		Liaison (a)			
Evacuation (b)					
Campagne de masse (c)					

FONCTIONNEMENT (4)	Dotation (1)	Montants consommés au niveau			
		du CS (2)	des PS (3)	CS + PS (4) = (2) + (3)	% (4) : (1)

1.2. AUTRES FORMES DE PARTICIPATION

1.2.1. Population: Remplacer les pointillés des colonnes (3) et (4) respectivement par le nombre de postes et de cases qui ont effectivement fourni les données.

Rubrique (1)	(2)		(3)		(4)	
	au niveau du CS		au niveau des P.S.		au niveau des Cases	
	Montant	% *	Montant	% *	Montant	% *
1) SOLDE ANTERIEUR						
2) RECETTES						
3) DEPENSES (totales)						
(a) Cotisation APS		100 %		100 %		100 %
(b) Carburant		%		%		%
(c) Evacuation		%		%		%
(d) Médicaments		%		%		%
(e) Motivation du personnel		%		%		%
(f) Dépenses diverses		%		%		%
4) DISPONIBLE						

* Mettre dans cette colonne le pourcentage pour chaque type de dépenses par rapport aux dépenses totales du type d'infrastructure concernée (C.S., C.P. et Cases)

Exemple : % de cotisation APS au niveau du C.S. = $\frac{(a) \times 100}{(3)}$; avec :
 (a) = montant cotisation APS au niveau du C.S.
 (3) = montant des dépenses totales au niveau du C.S.

Le même calcul doit être fait pour (b), (c), (d), (e) et (f).

1.2.2. Commune : Contributions effectives en Francs CFA par rubrique (Préciser chaque fois la valeur des contributions en nature reçues).

Rubriques	au niveau du CS	au niveau des PS
a) Carburant.....		
b) Médicaments.....		
c) Eau.....		
d) Electricité.....		
e) Téléphone.....		
f) Investissements.....		
g) Dépenses diverses (Matériel).....		

Préciser le montant total des prévisions budgétaires de la Commune pour le secteur santé :

Montant CFA

1.2.3. Communautés Rurales : Contributions effectives en Francs CFA par rubrique (Préciser chaque fois la valeur des contributions en nature reçues).

Rubriques	au niveau du CS	au niveau des PS	au niveau des cases
1) PREVISIONS BUDGETAIRES.....			
2) DEPENSES (Totales).....			
a) Carburant.....			
b) Médicaments.....			
c) Investissements.....			
d) Dépenses diverses.....			

Préciser le montant total des prévisions budgétaires du Conseil rural pour le secteur santé :

Montant en francs CFA

OBSERVATIONS

1.2.4. ONG (Organismes non gouvernemental) : Contributions effectives en Francs CFA par rubrique (Préciser chaque fois la valeur des contributions en nature reçues).

Rubriques	au niveau du CS	au niveau des PS	au niveau des cases
a) Carburant.....			
b) Médicaments.....			
c) Eau.....			
d) Electricité.....			
e) Téléphone.....			
f) Investissements.....			
g) Dépenses diverses (Matériel).....			

Préciser le montant total des prévisions budgétaires des ONG pour le secteur santé :

Montant en francs CFA

2. LES INFRASTRUCTURES DE LA « CM »

2.1. LES POSTES DE SANTE

Nombre total de postes de santé :

2.1.1. Ancien(a) poste(s) fermé(s).

Nom du poste de santé	Date fermeture	Motif	Observations

2.1.2. nouveaux postes de santé ouverts

Nom du poste de santé	Date ouverture	Construit par			Observations
		Etat	Population	ONG	

2.1. 3.Postes de santé en construction

Nom du poste de santé	Construit par		
	Etat	Population	ONG

2.2. LES MATERNITES

a) dans les communes

b) hors des communes

Nombre de maternité(s) rattachée(s) au centre de santé :

Nombre de maternité(s) rattachée(s) aux postes de santé :

Nombre de maternité(s) isolée(s) géographiquement :

2.3. LES CASES DE SANTE

Nombre de cases de santé : / dont fonctionnelles :

2.4. AUTRES INFRASTRUCTURES

Créé(s)

Sous secteur des Grandes Endémies = Oui : Non :

Sous Brigade d'hygiène = Oui : Non :

Nombre de centre P.M.I. =

Nombre de léproseries =

Nombre de villages psychiatriques =

Nombre d'Unités de réhydratation Orale (URO) . =

Nombre de C.R.E.N. (1) =

(1) C.R.E.N. = Centre de Récupération et d'Education Nutritionnelles.

3.2. INFORMATIONS RELATIVES A LA MATERNITE

3.2.1. Hospitalisation

Nombre de lits disponibles : dont installes dans les salles d'hospitalisation :

Nombre d'hospitalisees : Nombre de journees d'hospitalisation :

Nombre d'evacuations : Nombre de femmes evadees :

3.2.2. Decès à la maternité

Nombre total de deces de femmes :

dont :

- a) suite accouchement :
- b) suite avortement :
- c) suite grossesses pathologiques :

Nombre total de decès de nouveaux-nés :

3.2.3. Accouchements et avortements

Nombre d'accouchements à la maternité :

Nombre de dystocies :

dont césariennes :

Nombre d'accouchements à domicile vus :

Nombre total d'enfants nés vivants :

dont

 poids inférieur à 2500 grammes :

 poids supérieur à 2500 grammes :

Nombre total de morts-nés :

Nombre total d'avortements constatés :

3.3. ACTIVITES DE PROMOTION

3.3.1. Informations relatives aux activités d'E.P.S.

Activites	Nombre	Cible	Thèmes principaux
Causeries
Entretien
Projection
Exposition
Enquête
Autres

3.3.2 Informations relatives aux activités d'hygiène et d'assainissement

Nombre de rats détruits :

Nombre de bâtiments dératés :

Nombre de maisons abritant des gîtes larvaires :

Nombre de gîtes détruits :

Superficies murales traitées (m²) :

Montant des amendes :

3.4. ACTIVITES PREVENTIVES

A) ADULTES

3.4.1. Consultations prénatales

Nombre de nouvelles grossesses :

dont a haut risque

Nombre total de consultations

nombre de vaccinations

V A T 1 :

V A T 2 :

3.4.2. Consultations post-natales

Nombre de consultantes :

Nombre total de consultations :

3.4.3. Planification familiale

3.4.3.1. Contraception

a) utilisation des méthodes

	Pillule	D. I. U.	Condom	Autres	Total
Nouveaux acceptants du programme					
Anciens acceptants du programme					
Abandons du programme suivant la dernière méthode					

b) Changements de méthode

	Méthode actuelle				Total
	Pillule	D. I. U.	Condom	Autres	
Pillule					
D. I. U.					
Condom					
Autres					

c) Produits contraceptifs

	Pillule	D. I. U.	Condom
Quantités reçues				
Quantités distribuées				
Quantités périmées				
Quantités en stock				

3.4.3.2. Lutte contre la stérilité et les MST

b) MST

a) Stérilité

	Cas dépistés	Cas guéris
Hommes		
Femmes		
Total		

	Affection	Cas dépistés
1 ^{re} cause		
2 ^e cause		
3 ^e cause		
Autres MST sans précision		
TOTAL MST dépistées		

B) ENFANTS

3.4.4. Consultations d'enfants

Groupes d'âges	Consultants	Consultations	Evacuations
0 - 11 mois			
12 - 23 mois			
2 - 4 ans			
5 - 14 ans			
Age non determine			
Total			

3.4.5 Surveillance pondérale et nutritionnelle

a) (Poids / Age)

Degre de malnutrition	0 - 11 mois	12 - 23 mois	2 - 4 ans	Age non determine	Total
Inf. à 60 %					
60 à 80 %					
Sup. à 80 %					

b*) RVO (enfants de : 0 - 4 ans)

Nombre total de cas de diarrhée :

Nombre de cas de diarrhée traités :

Nombre de cas de diarrhée hospitalisés :

Nombre de cas de diarrhée référés par les postes :

Nombre de cas de diarrhée référés par le Centre :

3.4.6. Vaccinations des enfants dans le cadre du PEV

Groupes d'âges	0 - 11 mois	12 - 23 mois	2 ans et plus	Age non déterminé	Total
B.C.G.					
DTCP 1					
DTCP 2					
DTCP 3					
Rougeole					
Fièvre jaune					
Enfants complètement vaccinés					

MORBIDITE (Centre de santé)

Nosologie (C.I.M. 1975)		- 1 an	1 - 4 ans	5 - 14 ans	15 - 54 ans	55 & +	Total
001	Choléra.....						
002	Fièvres typhoïde et paratyphoïde.....						
004	Dysenterie bacillaire.....						
006	Amibiase.....						
009	Infections intestinales mal définies.....						
009.3	Diarrhées infectieuses.....						
011-012	Tuberculose appareil respiratoire.....						
020	Peste.....						
022	Charbon.....						
023	Brucellose.....						
030	Lépre.....						
032	Diphthérie.....						
033	Coqueluche.....						
034	Angine à streptocoques et scarlatine.....						
036	Infections à méningocoques.....						
037	Tétanos.....						
045	Poliomyélite aiguë.....						
050	Variole.....						
052	Varicelle.....						
055	Rougeole.....						
060	Fièvre jaune.....						
070	Ictère (jaunisse).....						
071	Rage (cas avec décès).....						
072	Oreillons.....						
076	Trachome.....						
077	Conjonctivites à virus et chlamydia.....						
084.0	Accès palustres pernicioeux.....						
084	Autres accès palustres non pernicioeux.....						
090-097	Syphilis.....						
098	Infections gonococciques.....						
098-4	Ophthalmie du nouveau-né.....						
099	Autres maladies vénériennes.....						
102	Pian.....						
120	Bilharziose.....						
125.3	Onchocercose.....						
125.7	Infection à ver de Guinée.....						
125.9	Filariose sans précision.....						
129	Parasitoses intestinales.....						
133	Gale.....						
240-242	Goitre.....						
250	Diabète sucré.....						
* 260-263	Malnutrition... (Autres).....						
280-285	Anémies.....						

Nosologie (C.I.M. 1975)		- 1 an	1 - 4 ans	5 - 14 ans	15 - 54 ans	55 & +	Total
001	Choléra.....						
002	Fièvres typhoïde et paratyphoïde.....						
004	Dysenterie bactérienne.....						
006	Amibiase.....						
009	Infections intestinales mal définies.....						
009.3	Diarrhées infectieuses.....						
011-012	Tuberculose appareil respiratoire.....						
020	Peste.....						
022	Charbon.....						
023	Brucellose.....						
030	Lèpre.....						
032	Diphthérie.....						
033	Coqueluche.....						
034	Angine à streptocoques et scarlatine.....						
036	Infections à méningocoques.....						
037	Tétanos.....						
045	Poliomyélite aiguë.....						
050	Variole.....						
052	Varicelle.....						
055	Rougeole.....						
060	Fièvre jaune.....						
070	Ictère (jaunisse).....						
071	Rage (cas avec décès).....						
072	Oreillons.....						
076	Trachome.....						
077	Conjonctivites à virus et chlamydia.....						
084.0	Accès palustres pernicieux.....						
084	Autres accès palustres non pernicieux.....						
090-097	Syphilis.....						
098	Infections gonococciques.....						
098-4	Ophtalmie du nouveau-né.....						
099	Autres maladies vénériennes.....						
102	Pian.....						
120	Bilharziose.....						
125.3	Onchocercose.....						
125.7	Infection à ver de Guinée.....						
125.9	Filariose sans précision.....						
130	Parasitoses intestinales.....						
133	Gale.....						
240-242	Goitre.....						
250	Diabète sucré.....						
260-263	Malnutrition... (Autres).....						
280-285	Anémie.....						

MORTALITE (Centre de santé)

Nosologie (CIM 1975)		- 1 an	1 - 4 ans	5 - 14 ans	15 - 54 ans	55 & +	Total
320	Méningite purulente (bactérienne)						
345	Epilepsie						
346	Migraine						
260-379	Maladies de l'œil et de ses annexes						
380-389	Maladies de l'oreille						
390-392	Rhumatisme articulaire aigu						
401	Hypertension artérielle						
430-438	Maladies vasculaires cérébrales						
455	Hémorroïdes						
458	Hypotension						
460	Rhume						
463	Angine (amygdalite aiguë)						
480-486	Pneumonies						
487	Grippe						
490	Bronchite						
493	Asthme						
530-537	Maladies œsophage, estomac et duodenum						
540-543	Appendicite						
550-553	Hernies abdominales						
583	Néphrite et néphropathie						
484-486	Insuffisance rénale						
600-608	Maladies organes génitaux de l'homme						
614-629	Maladies organes génitaux de la femme						
709.9	Maladies de la peau						
729.0	Rhumatisme						
771.3	Tétanos du nouveau-né						
780.6	Fièvre d'origine indéterminée						
784.0	Mal de tête						
787.0	Vomissements						
797	Sénilité						
800-825	Fractures						
870-897	Plaies						
940-949	Brûlures						
960-979	Intoxication médicamenteuse						
260	Kwashiorkor						
261	Marasme						
	Autres causes de décès						
	Total décès par âge						

Synthèse des rapports d'activités des Postes et Cases de Santé

4. ACTIVITES DES POSTES DE SANTE

4.1. ACTIVITES CURATIVES : CONSULTATIONS DU CHEF DE POSTE

Malades vu par le Chefs de Poste	Nouveaux cas vus et traités	Consultations (nouveaux + anciens cas)	Evacuations vers le CS
- 5 ans			
5 - 14 ans			
15 ans et +			
Age non déterminé			
TOTAL			

4.2. INFORMATIONS RELATIVES A LA MATERNITE RURALE

4.2.1. Hospitalisation

Nombre de lits disponibles : dont installés dans les salles d'hospitalisation :
 Nombre de femmes hospitalisées : Nombre de journées d'hospitalisation :
 Nombre d'évacuations : Nombre de femmes évadées :

4.2.2. Décès à la maternité

Nombre total de décès de femmes : dont suite :
 a) Accouchement b) avortement c) grosse pathologique

Nombre de décès de nouveau-nés :

4.2.3. Accouchements et avortements

Nombre d'accouchements à la maternité :
 Nombre d'accouchements à domicile vus :
 Nombre total d'enfants nés vivants : dont poids inférieur à 2500 grammes :
 Nombre de morts-nés : Nombre d'avortements (de femmes vues) :

4.3. ACTIVITES DE PROMOTION

4.3.1. Informations relatives aux activités d'E.P.S.

Activités	Nombre	Cible	Thèmes principaux
Cultures			
Entretien			
Projection			
Exposition			
Enquête			
Autres			

4.3.2. Informations relatives aux activités d'hygiène et d'assainissement

Nombre de rats détruits : Nombre de gîtes détruits :
 Nombre de bâtiments dératisés : Superficies murales traitées (m²) :
 Nombre de maisons abritant des gîtes larvaires : Montant des amendes :

4.4. ACTIVITES PREVENTIVES EFFECTUEES PAR LE POSTE DE SANTE

A) ADULTES

4.4.1 Consultations prénatales

Nombre de nouvelles grossesses :

dont à haut risque :

Nombre total de consultations :

Nombre de vaccinés :

VAT 1

VAT 2

4.4.2. Consultations post-natales

Nombre de consultantes :

Nombre total de consultations :

4.4.3. Planification familiale

4.4.3.1. Contraception

a) utilisation des méthodes

	Pillule	D. I. U.	Condom	Autres	Total
Nouveaux acceptants du programme					
Anciens acceptants du programme					
Abandons du programme suivant la dernière méthode					

b) Changements de méthode

	Méthode actuelle				Total
	Pillule	D. I. U.	Condom	Autres	
Pillule					
D. I. U.					
Condom					
Autres					

c) Produits contraceptifs

	Pillule	D. I. U.	Condom
Quantités reçues				
Quantités distribuées				
Quantités périmées				
Quantités en stock				

4.4.3.2. Lutte contre la stérilité et les MST

a) Stérilité

	Cas dépistés	Cas guéris
Hommes		
Femmes		
Total		

b) MST

	Affection	Cas dépistés
1 ^{re} cause		
2 ^e cause		
3 ^e cause		
Autres MST sans précision		
TOTAL MST dépistées		

B) ENFANTS

4.4.4. Consultations d'enfants sains

Groupes d'âges	Consultants	Consultations	Evacuations vers le C.S.
0 - 11 mois			
12 - 23 mois			
2 - 4 ans			
5 - 14 ans			
Age non déclaré			
TOTAL			

4.4.5. Surveillance pondérale et nutritionnelle

a) (Poids / Age)

Degré de malnutrition	0 - 11 mois	12 - 23 mois	2 - 4 ans	Age non déterminé	Total
Inf. à 60 %					
60 à 80 %					
Sup. à 80 %					

b) RVO

Nombre de cas de diarrhée (total) :

Nombre de cas de diarrhée référés vers le C.S. :

Nombre de cas de diarrhée traités :

Nombre de cas de diarrhée référés par les cases :

4.4.6. Vaccinations des enfants dans le cadre du PEV

a) effectuées au niveau des Postes de santé (Centre fixe et stratégie avancée)

Groupes d'âges	0 - 11 mois	12 - 23 mois	2 ans et plus	Age non déterminé	Total
B.C.G.					
DTCP 1					
DTCP 2					
DTCP 3					
Rougeole					
Fièvre jaune					
Enfants complètement vaccinés					

b) effectuées au niveau des Villages desservis par les Postes de santé (équipe mobile)

Groupes d'âges	0 - 11 mois	12 - 23 mois	2 ans et plus	Age non déterminé	Total
B.C.G.					
DTCP 1					
DTCP 2					
DTCP 3					
Rougeole					
Fièvre jaune					
Enfants complètement vaccinés					

MORBIDITE (Poste de santé)

Nosologie (C.I.M. 1975)		- 1 an	1 - 4 ans	5 - 14 ans	15 - 54 ans	55 & +	Total
001	Cholera.....						
002	Fièvres typhoïde et paratyphoïde.....						
004	Dysenterie bacillaire.....						
006	Amibiase.....						
009	Infections intestinales mal définies.....						
009.3	Diarrhées infectieuses.....						
<u>011-012</u>	<u>Tuberculose appareil respiratoire.....</u>						
020	Peste.....						
022	Charbon.....						
023	Brucellose.....						
030	Lepre.....						
<u>032</u>	<u>Dipterie.....</u>						
<u>033</u>	<u>Coqueluche.....</u>						
034	Angine à streptocoques et scarlatine.....						
036	Infections à meningocoques.....						
<u>037</u>	<u>Tétanos.....</u>						
<u>045</u>	<u>Polionmyélite aiguë.....</u>						
050	Varirole.....						
052	Varicelle.....						
<u>055</u>	<u>Rougeole.....</u>						
<u>060</u>	<u>Fièvre jaune.....</u>						
070	Ictère (jaunisse).....						
071	Rage (cas avec décès).....						
072	Oreillons.....						
076	Trachome.....						
077	Conjonctivites à virus et chlamydia.....						
084.0	Accès <u>palustres</u> pernicioeux.....						
084	Autres accès <u>palustres non</u> pernicioeux.....						
090-097	Syphilis.....						
098	Infections gonococciques.....						
098-4	Ophthalmie du nouveau-né.....						
099	Autres maladies vénériennes.....						
102	Pian.....						
120	Bilharziose.....						
125.3	Onchocercose.....						
125.7	Infection à ver de Guinée.....						
125.9	Filariose sans précision.....						
129	Parasitoses intestinales.....						
133	Gale.....						
240-242	Coupe.....						
250	Diabète sucré.....						
260-263	Malnutrition (Autres).....						
280-285	Anémies.....						

MORTALITE (Poste de santé)

Néologie (CIM 1975)		- 1 an	1 - 4 ans	5 - 14 ans	15 - 54 ans	55 & +	Total
001	Cholera						
002	Fievres typhoïde et paratyphoïde						
004	Dysenterie bacillaire						
006	Amibiase						
009	Infections intestinales mal définies						
009.3	Diarrhees infectieuses						
011-012	Tuberculose appareil respiratoire						
020	Peste						
022	Charbon						
023	Brucellose						
030	Lèpre						
032	Dipterie						
033	Coqueluche						
034	Angine à streptocoques et scarlatine						
036	Infections à meningocoques						
037	Tétanos						
045	Polioomyélite aiguë						
050	Variole						
052	Varicelle						
055	Rougeole						
060	Fièvre jaune						
070	Ictère (jaunisse)						
071	Rage (cas avec décès)						
072	Oreillons						
076	Trachome						
077	Conjonctivites à virus et chlamydia						
081-084	Autres acides paludéens non pernicieux						
084	Autres acides paludéens non pernicieux						
090-097	Syphilis						
098	Infections gonococciques						
098-4	Ophthalmie du nouveau-né						
099	Autres maladies vénériennes						
102	Pian						
120	Bilharziose						
125.3	Onchocercose						
125.7	Infection à ver de Guinée						
125.9	Filarose sans précision						
129	Parasitoses intestinales						
133	Gale						
240-242	Goitre						
250	Diabète sucre						
260-263	Malnutrition (Autres)						
280-285	Anémies						

MORTALITE (Posto de santé)

Nosologie (C.I.M. 1975)		- 1 an	1 - 4 ans	5 - 14 ans	15 - 54 ans	55 & +	Total
320	Meningite purulente (bacterienne)						
345	Epilepsie						
346	Migraine						
260-379	Maladies de l'œil et de ses annexes						
380-389	Maladies de l'oreille						
390-392	Rhumatisme articulaire aigu						
401	Hypertension arterielle						
430-438	Maladies vasculaires cerebrale						
455	Hémorroïdes						
458	Hypotension						
460	Rhume						
463	Angine (amygdalite aigue)						
480-486	Pneumonies						
487	Grippe						
490	Bronchite						
493	Asthme						
530-537	Maladies œsophage, estomac et duodenum						
540-543	Appendicite						
550-553	Hernies abdominales						
583	Néphrite et néphropathie						
484-486	Insuffisance renale						
600-608	Maladies organes génitaux de l'homme						
614-629	Maladies organes génitaux de la femme						
709.9	Maladies de la peau						
729.0	Rhumatisme						
771.3	Tétanos du nouveau-ne						
780.6	Fievre d'origine indéterminée						
784.0	Mal de tête						
787.0	Vomissements						
797	Sénilité						
800-825	Fractures						
870-897	Plaies						
940-949	Brûlures						
960-979	Intoxication medicamenteuse						
260	Kwashiorkor						
261	Marasme						
	Autres causes de décès						
	Total décès par âge						

ANNEX 7

ANNEX 7-1

Counterpart Fund Analysis

ANALYSIS OF ESTIMATED EXPENDITURES FROM COUNTERPART FUND
 FY 1987 to FY 1991 (as of April 24, 1991)
 (In thousands of CFA)

	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991
Budget Request	150,000	100,000	110,000	50,000	119,000
Budget Approved by MOEF	150,000	100,000	?	50,000	53,000
Budget Received by MSPAS	0	50,000	50,000	50,000	52,790
EST. EXPENDITURES					
Off. supplies & printing	0	4,121	11,325	14,516	9,343
Vehic. repair & maint.	0	6,982	1,480	10,638	9,452
Indemnities, key staff	0	3,540	3,120	3,120	1,841
Contract salaries w/fr.	0	19,373	18,394	13,017	14,972
Bldg rep., proj.-related	0	0	2,398	8,132	0
Bldg rep., non-project	0	0	11,613	0	1,664
Travel expense (per d.)	0	0	669	0	480
Carburant	0	0	0	0	5,560
Telephone	0	0	0	0	290
Unexplained	0	0	0	0	6,139
Total Expenditures	0	33,916	50,000	49,523	47,441
Cumulative Expend. to Dat	0	33,916	83,916	133,439	180,880
Balance Avail. 4/91	0	0	0	0	5,349
Returned to Treasury	0	16,084	0	477	0

SOURCES: Budget requests and budget approved amounts are from files kept by AID, memoranda entitled "Programme annuel d'utilisation des credits: budget d'investissement"

Actual amounts received by MSPAS, and expenditures by category, are from the counterpart fund journal at the UGP. Indemnities paid to key personnel are calculated from the original "Arrete" which came out each year, stating how much each person is entitled to monthly. Benefits for key staff (e.g. taxes) are included with contract salaries and benefits due to lack of time, but there is sufficient information in the journal to separate fringe by type of employee if a more detailed analysis is desired. Carburant expenditures is in the form of "bons" (vouchers), of which an unknown quantity remain in FY 1991.

This statement is not audited, and should be considered approximate only. See Notes to Financial Statement for other comments.

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Notes to Financial Statement

Contract Salaries with Fringe. Due to time constraints, contract salaries and fringe (which mainly includes tax and health insurance premium) was used as a "catch-all" expense category (except in 1991, as explained below), i.e. all other expenditures were tabulated first and what was left was assumed to be contract salaries and fringe. This may be an overestimate, therefore, if any expense items from other categories were mistakenly left out.

Contract salaries in 1991 were summarized from the payroll ledger, plus an estimated 7% fringe (estimate given by Gestionnaire). The actual fringe expense transactions were recorded in the cash journal, but there wasn't time to tabulate them.

Project vs. Non-project Building Repair.

1989

Project related: Extension for Pharmacy in Fatick (2.208 m. CFA) and repairs to the CM Sokone (0.690 m. CFA)

Non-project related: Repairs to Division of Personnel in MSP (1.789 m. CFA), Urologie Service, Hosp. Dantec (3.230 m. CFA), Cobalt Treatment Unit, Hosp. Dantec (0.961 m. CFA), repairs to unspecified building (0.663 m. CFA)

1990

Project related: Repairs to UGP building (4.431 m. CFA), Kaolack Training Center improvements (3.700 m. CFA)

1991

Non-project related: Repairs to DAGE building (0.941 m. CFA), Ecole Infirmiers d'Etat, computer room (0.723 m. CFA)

Telephone.

This expense is for telephone installation/repair, but not for service. In fact, no fixed expenses are paid with the BNI (electricity, water, telephone service). It isn't clear why.

Unexplained Expense.

Because in 1991, actual salaries and an estimated fringe percentage were used to calculate the contract salary and fringe expense, no "catch-all" category was used. This means there was an unexplained balance once explained expenses were subtracted from the total of expenditures to date. This may be fringe, but seems extremely high. Perhaps there were unusual medical expenses.

COUNTERPART FUND
 PROJECT VERSUS NON-PROJECT RELATED CONTRACTUAL SALARIES
 IN CFA
 (Payroll as of March 31, 1991)

Project vs. Non-project *	Est. Monthly Expense **	Percent
Project	897,795	53%
Non-Project	792,934	47%
Total	1,690,529	100%
Actual payroll		
March 1991	1,703,837	

NOTES:

-
- * Whether a position was project-related or not was decided by the evaluation team, based on location or service in which person was employed (see following table). In fact, it is likely that the secretary at the RM of Fatick is actually employed at a health center, and that the staff at Kounghoul health center are not performing project-related activities; however, at least they are employed in the project area.
 - ** Est. salaries (excluding allocations & bonuses) were used in some cases, where actual salary data were difficult to obtain quickly. This accounts for the difference between the two payroll numbers (total of project vs. non-project estimates, and actual payroll March 1991--a difference of less than 1%).

CONTRACT SALARY EXPENSE PER MONTH, COUNTERPART FUNDS
(not all salaries include allocations & primes)
March 1991

PROJECT RELATED	No.	Salary	Total Expense

Unite Gestion de Projet			
Cleaning staff	2	53,057	106,114
Driver	1	57,275	57,275
Accounting Assist.	1	62,982	62,982
Centre de Formation Kaolack			
Support staff	8	?	406,239
Region Medicale Fatick (C.S.?)			
Secretary	1	53,057	53,057
C.S. Kounghoui			
Clerk	2	53,057	106,114
Nursing Aid	1	53,057	53,057
SANAS			
Secretary	1	53,057	53,057

TOTAL PROJECT RELATED	17	NA	897,795

NON-PROJECT RELATED			

Minister's Cabinet			
Secretary	2	53,057	106,114
Driver	1	57,275	57,275
Hopital d'Enfant Albert R.			
Nurse's Aid	4	53,057	212,228
Electrician	1	49,075	49,075
Centre Hosp. de FAN (Dakar)			
Nurse's Aid	1	53,057	53,057
Kolda Region			
Secretary	1	53,057	53,057
Clerk	1	53,057	53,057
Electrician	1	53,057	53,057
Casamace Region			
Clerk	2	53,057	106,114
E.P.S.			
Watchman	1	49,300	49,300

TOTAL NON-PROJECT RELATED	15	NA	792,334
=====			
TOTAL STAFF	32	NA	1,690,629
=====			

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COUNTERPART FUND
 BONUS PAYMENTS TO KEY STAFF (in CFA)
 1987 - 1991

As indicated by official "Arrrete" or found in cash journal.
 THIS TABLE IS UNAUDITED AND MAY NOT BE COMPLETELY ACCURATE.

Staff Member	Position	Monthly Bonus	Dates Received (estimated)
Aliboune Mbaya	Directeur, DAGE	50,000	Between Jul 1987 - Jun 1989 payments were made by these staff, but exact time periods for each are unclear.
"	"	50,000	
Mamadou Toure	Admin., DAGE	50,000	
El Hadji Wade	Comptable, DAGE	55,000	Jul 1987 - Jun 1988
"	"	50,000	Jul 1988 - Jun 1989
"	"	50,000	Jul 1989 - Apr 1990
Diello Issakha	Dir. Tech, Fatick	55,000	Jul 1987 - Jun 1988
"	"	50,000	Jul 1988 - Jun 1989
"	"	50,000	Jul 1989 - Apr 1990
"	"	50,000	May 1990 - Oct 1990
Bassirou Jonnson	Dir. Tech, Kaolack	55,000	Jul 1987 - Jun 1988
"	"	50,000	Jul 1988 - Jun 1989
Babacar Drame	"	50,000	Jul 1989 - Apr 1990
Lamine Diop	"	49,400	May 1990 - Mar 1991
Mati Cisse Samb	Coord., Fatick	35,000	Jul 1987 - Jun 1988
"	"	30,000	Jul 1988 - Jun 1989
"	Coord., Kaolack	30,000	Jul 1989 - Apr 1990
"	Coordinatrice	49,700	May 1990 - Mar 1991
Sebastiana Diatta	Coord., Kaolack	35,000	Jul 1987 - Jun 1988
"	"	30,000	Jul 1988 - Jun 1989
"	Coord., Fatick	30,000	Jul 1989 - Apr 1990
Abdulaye Ba	Conseil Tech., UGP	59,400	May 1990 - Oct 1990
Emile Diouh	Gestionnaire, UGP	34,850	May 1990 - Mar 1991

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GOS Counterpart in Rural Health II Project (685-0242)

Background Information

The Grant Agreement didn't detail the amount of the GOS contribution. After several negotiations between USAID and MSPAS we finally obtained the following amounts (see budget repartition in attachments).

1986/87:	150,000,000 CFA)	
1987/88:	100,000,000)	requested by MSPAS; 230,000,000 released
1988/89:	110,000,000)	
1989/90:	50,000,000	
1990/91:	<u>119,000,000</u>	(requested by MSPAS); <u>80,000,000</u> recorded by Plan
Total:	529,000,000 CFA	360,000,000

From 1986 to 1989: USAID had never been involved of the GOS counterpart budgets repartition. We never knew how the funds had been used despite multiple HPNO requests.

In January 1990 the UGP coordinator submitted to us the proposals for the utilization of the budget for FY 1989/1990 and 1990/1991. After our comments re those proposals the coordinator let us know that because of the deadline to submit the budget for FY 1989/1990 to the Ministry of Plan and Cooperation he sent the proposal without our suggestions and promised to work closely with us before finalizing the budget for FY 1990/1991 (see attached letter). Nothing happened since there.

Recommendations

1. Involvement of USAID in the process of the GOS budgets counterpart repartition.
2. Use the counterpart funds to support technical activities of the project as supplement to USAID funding and not only for the operations expenses (salaries of temporary personnel; indemnities; office supplies; etc...).
3. Inform USAID of the process of disbursement (expenditures; location; timing of the utilization; balance; etc...).

N°	Intitulé opérations	GESTIONS		Total cumulé	Engagements	Disponible	Gestion 1988/1989	TOTAL
		1986/1987	1987/1988					
1	Achat de véhicules	28.000.000	-	28.280.000.000	-	28.000.000	-	28.000.000
2	Mobilier + Matériel de bureau ✓	46.000.000	-	46.000.000	45.989.000	11.000	6.000.000	6.011.000
3	Main d'oeuvre + salaires ✓	18.000.000	7.000.000	25.000.000	21.253.772	3.746.228	29.000.000	32.746.228
4	Imprimés + fournitures de bureau	6.000.000	4.000.000	10.000.000	9.989.980	10.020	11.000.000	11.010.020
5	Carburant	9.000.000	10.000.000	19.000.000	8.999.375	10.000.625	8.000.000	18.000.625
6	Entretien véhicules	9.000.000	8.000.000	17.000.000	7.458.299	9.541.701	5.000.000	14.541.701
7	Réfection locaux	10.000.000	9.000.000	19.000.000	1.182.882	17.817.118	5.000.000	22.817.118
8	Eau - électricité - téléphone	6.000.000	5.000.000	11.000.000	8.886.435	2.113.565	13.000.000	15.113.565
9	Achat gaz	-	5.000.000	5.000.000	1.999.925	3.000.075	8.000.000	11.000.075
10	Frais de déplacement	8.000.000	6.000.000	14.000.000	-	14.000.000	-	14.000.000
11	Achat de molyettes + pirogues	-	40.000.000	40.000.000	25.422.830	14.577.170	-	14.577.170
12	Réparation molyettes + pirogues	-	6.000.000	6.000.000	-	6.000.000	-	6.000.000
13	* Achat de médicaments	10.000.000	-	10.000.000	10.000.000	-	25.000.000	25.000.000
TOTALS.....		150.000.000	100.000.000	250.000.000	141.182.498	108.817.502	110.000.000	218.817.502

ANNEX 8

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ANNEX 8-1

Suggestions for Improving Transfer of Skills
During the Health Care Financing Study

Suggestions for Improving Transfer of Skills
During the Health Care Financing Study
and Remarks on Data Collection at Maternities and Health Huts

The health care financing study is looking for management information for decision making on operational and management control levels, rather than focusing solely on the strategic/policy levels (i.e. seeking data for policy reform). The feeling which comes through in the background discussion and introduction to the study purpose is that we have something out there that seems to be working (i.e. alternative financing arrangements), but the successes are "uneven" and in some sense inexplicable. We want to learn more about what works and how to do it better. Some of the decisions the study is going to shed light on are listed in the scope of work:

- o How to improve the sustainability of expanded preventive and curative health services provided in primary and secondary health facilities. Related questions are why 'auto-gestion' works better in some facilities (and in some regions) than in others, and what factors are correlated with high rates of cost recovery and utilization.
- o What are potential areas for improving the management and administration of community participation funds.
- o How (within a limited budget) to improve the quality of health committees.
- o How can we improve efficiency and quality of services.
- o How to allocate scarce resources among different types of health facilities.

These are certainly very important health management decisions, and the study has been adequately designed to collect and organize the relevant information to make them. The evaluation team is concerned, however, that the results of the study may not reach the true decision makers. The study should therefore take special care to link the collection of data with the people who will be using those data to make decisions. A single final report would be an appropriate output to the study if the ultimate decision makers were policy makers in Dakar, but they are not. One of the key features of the Senegalese health care system is that decision making is decentralized, a feature that the multi-million dollar RHDS II/CS project, Phase II sought to reinforce. Pricing structures and levels are decided at the facility level, even as far down as the health posts and health huts, and show a remarkable degree of innovation and variety, at least in the two regions visited by the RHDS II/CS evaluation team. A single health post may collect and spend over 1 million CFA per year in user fee revenue. While health committee members play important roles in this resource allocation process, the people taking the operational lead are the Medecin Chef and Superviseurs at the district level and the Infirmier Chef de

Posts (ICPs) at the health post level. These are the people who need the information which will be produced from the Comparative Health Facility Study.

To link data collection to the users who need it most critically, the study should a) include decision makers in the data collection and analysis process; and b) provide training to health management decision makers in how to collect, read and use financial information for decisions about service provision and resource allocation.

The team suggests that the study proceed as planned to sample a number of facilities in all regions except Kaolack and Fatick (taking into account our concerns regarding maternities and health huts described below). In the Kaolack and Fatick regions, however, the study should combine data collection with financial management training and dissemination activities, by holding several seminars to train all health facility staff as "study enumerators" capable of implementing the revenue, cost, and utilization questionnaires each in his or her own facility. The majority of health centers and health posts in the two regions should be included. Once trained, the staff would return to their facilities, complete the study questionnaires, and gather any other supporting documentation requested by the study research team (e.g. interview health committee members for "case studies," collect data from health huts). The staff would then come back together for a follow-up seminar to review and analyze the data collected, and to "brainstorm" together about how to make better management decisions on the basis of the new financial information. The final study report would then contain not only tables of the data from the region's sampled facilities, but a synthesis of what the Senegalese health staff felt were the real "success factors" in health committee, health hut, and other facility performance, and their own approaches or solutions to the problems of sustainability in the health sector.

In adding these design elements, the study will be a true transfer of technology in health financing, and will have immediate benefits in improving financial sustainability of service delivery. The final report should then include an action plan and recommendations for how to transfer some of these training and skill enhancement exercises to other regions of the country.

On the technical design side, the evaluation team discusses below several concerns about collecting data from maternities and health huts.

o Maternities. Based on our data collection from Fatick and Kaolack, many rural maternities are operating at very, very low capacity (e.g. 5 deliveries a month). Yet, quite a lot of investment spending (at least in Kaolack) goes into maternity units. For example, we found that in the 1990-1991 budget for the Communautes Rurales (i.e. local government budgets) of Kaolack, about 44% of all health expenditures (\$6 of 15.1 million CFA) were for construction, repairs and equipment for rural maternities. Most are operated by the same staff that operate the health post.

The... of... that one... the most important...
...maternal... they are integrated...
...into the national health plans...
...issues of maternity...
...concerns... Yet... of the use...
...units... home deliveries... absolutely must be...
...addressed before these units can be...
...Maternal mortality... is a very important health problem...
...reported maternal mortality was about 1,500 per 100,000...
...The regions must develop and budget for ways to...
...educate women or entice women to come to the maternity units to...
...deliver...
...2011 RCHS...

The evaluation team recommends that maternities be selected on a non-random basis for inclusion in the study, to be sure that a few which are operated as independent facilities and at medium-to-high capacity are included. In addition, the study should not stop at the level of facility recurrent cost financing issues, but should directly address the additional investment and operating resources needed to develop a coherent, comprehensive health planning strategy for maternal mortality reduction.

Health huts. A similar concern arises with health huts. Data collection at the health hut level is complicated by the diverse nature of health hut operations and structure, as well as frequent lack of regular reporting mechanisms. Problems the RHDS II/CS evaluation team encountered in visits to 24 huts which would make a costing or quantitative study difficult, including:

Intermittent activity. When the community health workers, or CHWs, run out of drugs or have to work in their fields, operations often slow or stop for periods of time, starting up later when drugs arrive or the planting season is over. Yet, CHWs might always be "on-call" to the communities, leaving their fields to come bathe a wound in soap and water (when no other supplies or medications exist). This is no small health service in areas where traditional medicine may treat wounds by rubbing dirt in them. It is difficult, though, to define when the "hut" is operating.

Confusion in identifying how a functioning health hut is defined. Some are considered non-functioning by health post nurses because the physical structure has long since fallen down; however, CHWs are continuing promotive health activities, and delivering of babies out of their homes or elsewhere within the community. Others are considered non-functioning because the health post nurse has never received written reports; however, consultation books and records of fee payments are being kept at the local level.

Community "volunteer" status of the health worker. Issues of motivation of the CHWs feature prominently in the RHDS II/CS evaluation report. Outside of the TBAs, most CHWs (secourists and village animatrices) are receiving no remuneration or "encouragements" at all. Although there is a

costs of their time spent in health promotion or curative activities. It seems excessive to design a push/pull study to try to estimate this cost.

The team fears that the study may attempt to treat health huts like facilities, when in fact they are really a very, very grassroots phenomenon. It is our opinion that there is too much variability in huts to permit generalizable conclusions to be drawn from a study focused on costs, revenue and utilization. A more helpful exercise for the study would be to perform an operational inventory of health huts, starting from the typology which we will be including in the RHDS II/CS evaluation report.

Items of interest which could be recorded include:

- o Date started/periods of continued operation;
- o Does hut exist physically?;
- o Personnel working (is the TBA also acting as secourist?);
- o Are CHWs rewarded? How? (note especially innovative solutions);
- o Services offered: Village pharmacy working? treating wounds? ORT? vaccinations? malaria prophylaxis campaigns? "causeries" (health education)? sanitation/hygiene?
- o How are services organized and offered?
- o When there are drugs available, number of visits per month in rainy season (hivernage) versus the rest of the year;
- o Average revenue hivernage/non-hivernage;
- o Prices of drug items offered, or per visit prices;
- o Description of pricing and payment systems? How are prices determined? Who is responsible?;
- o Initial capitalization and current capitalization, in drugs and cash;
- o Number of deliveries by TBA per year;
- o Population and population of satellite villages served by hut;
- o Where does hut get drug supply?
- o How is drug order determined?

This section of the report should be integrated with the case studies on community participation and health committees (at the health hut level it is very hard to separate the two anyway), to provide a better understanding of the community organization and service delivery issues involved, as well as sociological insights about what works and what doesn't. The study should be careful to include one or two health committees functioning at the health post and district levels as well, though, to highlight possible differences in structure and role which may have an influence on performance.

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