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COMMISSION REPORT TO THE COUNCIL OF THE EUROPEAN COMMUNITIES ON THE IMPLEMENTATION AND UTILIZATION OF AID BY THE RECIPIENT ASSOCIATION STATES, COUNTRIES AND TERRITORIES

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A. INTRODUCTION

The purpose of this report, which has been drawn up pursuant to Article 21 of the 1969 Internal Agreement on the financing and administration of Community aid, is to provide the Council of the Communities with information on the utilization of projects financed by the European Development Fund [1].

In 1974 the Commission continued its work of evaluating aid financed by the Community. The utility of this work, which has been carried on continuously since 1966 in cooperation with the authorities of the recipient countries, is becoming more evident every year. It enables the Commission to remedy any shortcomings in the projects and to draw lessons for channelling the new aid granted and integrating it more effectively in the development strategies applied by the various recipient countries.

In 1974 the Commission concentrated on an examination of the use being made of a number of health projects. Development of the social sector is one of the concerns of Community aid and is one of the priorities set in the second Yaoundé Convention.

Furthermore, the Commission's departments had already been able in the past to pinpoint a number of problems which were affecting, often to a large degree, the utilization of health projects, thereby restricting their effectiveness. Certain health projects have already been dealt with in earlier Commission reports to the Council

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1) A description of the way in which aid is being implemented forms part of the Commission report to the Association Council on the administration of financial cooperation during the 1974 financial year drawn up as required by Article 29 of the second Yaoundé Convention (Document VIII/409/75). In addition, a number of projects the implementation of which was giving rise to particular problems were the subject of communications from the Commission's departments to the EDF Committee during the course of the year.

on the utilization of aid[1].

It has now been possible to give greater depth and detail to the partial and summary conclusions drawn as a result of these investigations.

It has been found that the difficulties encountered could rarely be reduced to a single, random factor which could easily be corrected by means of a technical decision. On the contrary, it appeared that in most cases they were the result of complex phenomena and reflected in practice institutional deficiencies at national level. These findings showed that it would be useful, after the completion of a sufficient number of health projects, to evaluate the results systematically.

An examination has therefore been carried out of completed health projects which can be considered representative of the different types of project, and of the countries in which the aid supplied by the EDF in the health field was on a particularly large scale.

This report reviews twenty-four completed projects in the health field[2], of which sixteen were health infrastructure projects (construction of hospitals, health units, dispensaries, other health establishments, etc.) and eight involved temporary operating aid (technical assistance, financing of operating costs)[3]. The projects examined concern the following countries: Cameroon, Dahomey, Madagascar, Mauritania, Niger, Somalia and Upper Volta. The total amount involved in these projects (30 million u.a.) represents 30% of total commitments for health projects from the resources of the three Funds (101 million u.a.).

Financing decisions and disbursements (million u.a.)

Situation at 31 December 1974

	EDF 1st	EDF 2nd	EDF 3rd	Total
Total decisions (commitments)	581	713[5]	817	2.111
of which: health[4] (commitments)	50	28[5]	23	101
health projects examined in this report (disbursements)	16	12	2	30

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1) Report references: 1969: 2767/VIII/EDF/70; 1970: VIII/398/71-EDF/1; 1971: VIII/258/72-EDF/C-3; 1972: VIII/702/73-C/5

2) See list of projects in Annex II/23-24.

3) These consecutive projects were linked to a single hospital construction project in Somalia (General Hospital Mogadishu).

4) Including health campaigns and technical cooperation.

5) Situation at the end of 1971.

A summary of the objectives, design and general results of the projects examined is given in Annex I[1]. The report itself gives a synthesis of the most important points regarding the utilization of the projects financed by the EDF (Chapter B). An examination is then made of the coherence of the projects generally at national level, i.e. the place of the projects in the development of health infrastructure, the availability of staff and of health budgets at national level (Chapter C). A separate chapter is devoted to projects to provide operating aid (Chapter D). The conclusions which can be drawn from the analysis of the investments examined are set out at the end of the relevant sections. A summary and the general conclusions to be drawn from all the points raised form the final chapter (Chapter E).

The content of this report is based essentially on

- the evaluation missions carried out in 1974 in Somalia, Upper Volta and Niger, and in Chad in 1970;
- the evaluation reports drawn up by the EDF Deputy Controllers in agreement with the Governments of the countries concerned: Cameroon, Dahomey, Madagascar and Mauritania.

As regards the information obtained, <u>certain methodological reservations</u> must be made:

- The basic statistics to which the report has to refer are often unsatisfactory and sometimes even contradictory;
- The figures quoted are not always available for the same years, and as a result comparisons (e.g. between budgets) sometimes refer to different years;
- An exact definition of what the figures compared refer to is not always possible.[2]

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1) Pages I/1 to I/22.

2) The various currencies have been converted into CFA Francs, at the exchange rate in force for the relevant year, to facilitate comparisons.

Consequently, the figures quoted are to be considered as providing an indication and in many cases are of value only for the purpose of comparison.

To sum up, it can be seen from the detailed analyses that the majority of EDF investments in the health sector are fully justified. All the investment projects have contributed, to varying degrees, to the development of the health infrastructure. The effects of some of the projects are essentially local (Dahomey, Madagascar), while others are country-wide projects integrated harmoniously into the national health development plans (Upper Volta, Niger). From the technical, functional and operational points of view, the design of the projects can be considered as corresponding in most cases to the country's structural requirements. The effects of the projects therefore seem to be largely positive, but, generally speaking, the use made of the major hospitals is greater than that made of the health units at the intermediate levels and considerably greater than the use made of those at the lower levels of the "public health pyramid".

The effectiveness of certain health units financed by the EDF has been hampered by insufficient operating resources. Staff shortage problems have, however, generally speaking eased over the years. As regards the maintenance of equipment, the specialized staff training programmes instigated and financed by the Community constitute a practical and effective step towards solving the problems encountered. In contrast, the insufficiency of the country's own financial resources to ensure the proper operation of the health units remains the crucial problem. Lastly, the analyses show that the utility and utilization of health projects can be jeopardized unless certain conditions are fulfilled in respect of organization of the health system and in the fields complementary to it: regulations on clearing of patients and admission to hospitals, education, water supply, etc..

B. UTILIZATION OF PROJECTS

I. Activities

An examination of the utilization of EDF-financed projects suggests a number of general points concerning in particular hospital occupancy and the activities of the health units.

1) Hospital occupancy.

Generally speaking, the occupancy rate of the major general hospitals having all resources for diagnosis and medical treatment is higher than that in the medium sized hospitals and health centres. Among the general hospitals, we find the following occupancy rates:

approx. 90% at Majunga (Madagascar), Mogadishu (Somalia), Niamey (Niger)

approx. 100% at Nouakchott (Mauritania), Zinder (Niger)[1)]

In contrast, the "secondary" hospitals and health centres established at the intermediate and lower levels of the public health pyramid generally achieve an average occupancy rate of between 40% and 70%, but with marked differences from one establishment to another within a single country. In Upper Volta, for example, the health centres at Ziniaré and Kongoussi are clearly underutilized (30%) while the health centre at Yako is used to full capacity (100%).

The lower occupancy rate at the intermediate level is generally accompanied by a short average period of hospitalization (approximately 10 days), which in no case exceeds 15 days. In the general hospitals, on the other hand, the patientsare hospitalized on average for between 20

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1) By comparison: 80% at Ouagadougou and 100% at Bobo Dioulasso (Upper Volta), hospitals non financed by the EDF.

and 25 days, Naturally, an excessive inflow of patients may oblige a hospital to make a sharp cut in the average period of hospitalization, as has been the case in Nouakchott (Mauritania) and at Ouagadougou (Upper Volta), where it does not exceed 10 to 12 days.

2) Other activities

It is not possible from the figures available to pinpoint any general trends for other activities (consultations, operations, childbirths, etc.). The number of consultations carried out seems to depend essentially on the reputation and medical attraction of the establishment, which are based on the qualifications and reputation of the medical and non-physician or ancillary medical staff. The examples of Upper Volta and Niger show that in general the activities of the health units at the intermediate level are greater if the units are managed by a doctor and not by a male nurse.

3) Summary

An analysis of the various findings relating to the activities of medical establishments underlines basic and obvious points: the use made of a health unit depends

- on the condition and maintenance of the building, the fixed installations and the medical equipment,
- the number, qualifications, initiative and dynamism of the medical, non-physician or ancillary medical and auxiliary staff,
- the financial resources that the unit can call on for its operation,
- the additional material resources that the unit can obtain: medicaments, small-scale medical equipment, etc.,

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- the function assigned to the medical unit within the public health pyramid,
- the fulfilment of certain additional conditions necessary for smooth operation (regulations on clearing of patients and admission to hospital, road conditions, availability of transport, etc.);
- the location of the unit in relation to population density and distribution and to other establishments in the health pyramid or the private sector,
- its medical potential in relation to the density and distribution of the population served (here, the regional distribution has a greater influence than the population total),
- the continuity and regularity of the health services supplied (the rotation of expatriate staff for example, a frequent practice, does not establish a strong basis of confidence between doctors and patients),,
- simultaneous and complementary activities in the fields of preventive medicine, health education, hygiene, health protection for mothers and children, etc., and the intensity and continuity of these activities,
- the interest or lack of interest on the part of the local authorities,
- in the short-term, the timetable determined by the economic activities of the population (harvests, possibilities of temporary paid work in the fields, market days, vaccination of cattle, etc.).

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II. Maintenance of buildings and equipment

The maintenance of buildings and equipment is one of the weakest points in the utilization of all projects carried out.

1) Buildings

In general it is found that the buildings are maintained in a fairly regular and satisfactory way in the major hospitals and in the health units run with external aid. In contrast, maintenance is often insufficient or even non-existent in health units at the intermediate and lower levels.

Generally speaking the maintenance of internals (plastering, painting, window and door frames, etc.) is more neglected than the maintenance of the body of the buildings.

Although the Governments have become aware of the need to maintain buildings, the funds available are often insufficient or are used to finance other construction work considered more important or more urgent. In the majority of the AASM, it is the Ministry of Public Works which decides the order of priority for maintenance work in all sectors, but without always having objective criteria.

2) Equipment

Generally speaking the degree to which equipment is maintained is in inverse relation to its complexity (extreme cases are refrigerating, electrical and heating plants, lifts, sophisticated medical equipment, etc.). The often rapid deterioration of equipment is due in particular to

- the insufficient quantity and quality of maintenance staff,
- the indifference of the users (medical and ancillary medical staff, administrative staff), who are often ill-prepared for the use of European-type equipment (lack of information and understanding, lack of motivation and initiative) ,

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- the slenderness of maintenance budgets,
- the absence of technical and management structures at national level, in particular the absence of general maintenance schedules and of work and control cards in hospital units.

This too is a more serious problem for the medical units in rural areas, since the various measures adopted at national level and foreign aid projects (EDF, WHO, bilateral aid, etc.) have helped bring about an appreciable improvement in the maintenance situation in the major hospitals.

To avoid prolonged breakdowns, more account should be taken of after-sales service in the choice of hospital equipment. The suppliers of equipment could be obliged, under more strict conditions than in the past, to guarantee the after-sales service of their equipment. In particular, they could be obliged in the general conditions of supply contracts to,

- give users a practical demonstration of the operation of items of equipment,
- to specify the steps to be taken to make use of the after-sales service,
- supply a very simple guide or maintenance cards which can be easily assimilated by both the user and maintenance staff,
- supply a catalogue for the acquisition of any spare parts required.

3) Programmes for the training of maintenance staff

The Commission is aware of the fact that the solution of maintenance problems is an essential condition for the proper functioning and full utilization of a hospital, - drawing on the conclusions of an examination of the use being made of certain hospital projects - has suggested and financed a number of programmes for the training of maintenance staff[1]. These programmes provide for:

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1) Cameroon: training of general-purpose maintenance workers and repair technicians for mobile support, supervision and maintenance teams (see Annex I/21 and 1971 report on the utilization of aid)
Mauritania: organization of a maintenance service and training of user, maintenance and management staff (see Annex I/9);
Chad: in the course of implementation
Somalia: being studied

- the advanced training of the workers in service in the medical units to carry out current maintenance work,
- the training of specialists to detect faults and carry out more complex repair jobs,
- the creation, within the Ministry of Health, of appropriate structures for the organization of maintenance work,
- the creation of mobile teams at national level,
- the education of the medical and ancillary medical staff to make rational use of equipment,
- making the administrative staff aware of maintenance and organizational problems and the running of a small stock of spare parts.

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III. Staff of the health units

The figures available on the number of staff allocated to the various health units show up only a few very general trends. The allocation of medical and ancillary medical staff at national level is carried out by the Ministry of Health and by the relevant subordinate administrative department. Then, within each administrative subdivision, the allocation of staff to the various services (hospitals, health centres, mobile teams, preventive medicine services, etc.) is the responsibility of the senior doctor in charge. Consequently, the number of staff allocated to the various units at each of the various levels can be very unequal.

1) Staff numbers in the health units

From an examination of the way in which the various health units are being used, it is found that the ratio of total staff and doctors to capacity is very favourable for the general hospitals at Mogadishu (420, including 31 doctors, for 600 beds), and at Nouakchott (200, including 10 doctors, for 230 beds). The ratio is much lower for all the other units investigated; however, the differences noted between one unit and another do not reveal, any perceptible correlation with the level of activities of each unit.

Generally speaking, nearly all the health units have a number of staff which corresponds to a de facto equilibrium resulting from the local conditions of utilization and the possibilities of the country. This is not to say, however, that this number is "normal" or "sufficient", for on what basis should the number of staff required be determined? Should it be on the basis of the technical requirements of the existing installations and equipment? Should it be according to a pre-determined ratio of qualified staff to the population served, that is according to the criterion of theoretical

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health requirements? There is a risk that in the evaluation of a particular unit it will be held that the staff allocated to it is insufficient by European standards or by other theoretical standards pre-determined or on the basis of the subjective on-the-spot assessment of those in charge even though the actual number of staff may be objectively suited to the specific conditions of the country. The question therefore arises of whether the number of staff is insufficient in the majority of units reflects a general gap between the initial idea and the country's possibilities. Or is the number of staff too great by comparison in the major hospitals mentioned above?

Somalia, for example, has provided its Mogadishu hospital with a staff bigger than the African norm, and this seems to be the result of a political choice rather than of necessity. However, this has directly created an imbalance at national level in favour of the general hospital and to the detriment of all the other units. There again, it must be added that the number of staff means little in itself when we do not know the qualifications of this staff. No judgment can be made on this latter point until more detailed investigations are undertaken.

2) External technical assistance

The majority of the hospitals financed by the EDF have expatriate doctors; the efforts to replace these doctors are not very far advanced except in the Mogadishu general hospital (25 Somalis out of 31 doctors) and in the hospitals in Madagascar (taking the country as a whole, 617 out of the 667 doctors are Malagasy).

In the other countries, it would be absolutely impossible to maintain the current level of activities without the great numbers of doctors provided by technical assistance schemes. French doctors, for example, help in the running of the hospitals at Nouakchott (Mauritania), Zinder (Niger) and Victoria and Garoua (Cameroon); there are German doctors working in the hospitals at Gaoua (Upper Volta), Tahoua (Niger),

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and Belgian doctors in the hospital at Dosso (Niger).

In nearly all the countries the provision of national ancillary medical staff is much further advanced; nevertheless, a number of European nurses and health assistants are allocated particularly to units run by foreign technical assistance.

3) Preventive medicine staff

Generally speaking the units responsible for preventive medicine, in particular the mobile teams (e.g. in Upper Volta and Niger) do not have all the staff that they need. In Niger, for example , where the EDF has financed the creation of six centres as fixed bases for the mobile medical teams[1]), the shortage of staff in the mobile teams for the detection and prevention of disease is proving a real obstacle to the implementation of the necessary action that is planned. These mobile teams are not able to carry out a regular programme for the detection of certain diseases throughout the population covered, which means that they often work as emergency treatment rather than detection units[2]).

1) Hygiene and mobile medicine teams (Equipes d'hygiène et de médicine mobile EDHMM).

2) In the Gaoua health sector in Upper Volta, the one detection team in operation, consisting of seven members, can cover the whole population of 350.000 only every 4 or 5 years.

IV. Budgets of the health units

1) Preliminary remarks

In order to obtain an idea of the general level of operation, hospital budgets are considered below from the angle of expenditure effected, no account being taken of the origin of the financial resources. This origin will be analysed separately. Staff costs will be considered only in exceptional cases, given that the level of such costs depends on the breakdown between national staff and foreign staff (financed by the various technical assistance schemes).

The operating budgets (staff excluded) give an indication of the requirements of and the resources available to the establishment. A number of reservations regarding this method must be made, however:

- medicaments account for different amounts depending on whether they are
  - bought directly from European suppliers (e.g. general hospital in Mogadishu) 1),
  - supplied through the intermediary of an import organization (e.g. the Office National des Produits Pharmaceutiques et Chimiques in Niger), but without being exempted from customs duties,
  - partly supplied in kind by the Ministry or by other aid organizations (Upper Volta);
- the feeding of patients accounts for different amounts according to whether it is covered by international food aid (Upper Volta, Niger);
- the maintenance of buildings may be either charged against the hospital's budget or taken care of by the Ministry of Public Works from its own budget;

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1) Through the Ministry of Health; since they are not subject to the import procedures of the ASPIMA (State Agency for the production and importation of medicaments), their cost price is approximately 50% of the Somali market price.

- in no case was it possible to obtain a breakdown of the budgets between the various activities of the hospitals; consequently the figures calculated for the operating budgets for each bed and each day's hospitalization constitute only a very rough approximation and can be of comparative value only.

2) Operating budgets

From an examination of a number of projects financed by the EDF and from various other sources of information, it can be seen that as a general rule the operating budgets (staff excluded) expressed in terms of operating costs per bed per annum[1)]

- are relatively high for the general hospitals in Nouakchott (230 beds), Niamey (700 beds) and Mogadishu (600 beds): between CFAF 180.000 and CFAF 320.000;
- are average for the general hospitals in Zinder (Niger, 450 beds), Bobo-Dioulasso and Ouagadougou (Upper Volta, 700 and 730 beds respectively) and Majunga (Madagascar, 550 beds): between CFAF 100.000 and CFAF 160.000 ;
- are relatively low in Cameroon for all regional, departmental and arrondissement hospitals (capacity of between 30 and 300 beds) : between CFAF 30.000 and CFAF 90.000 ;
- are also low for the departmental hospital centres at Tahoua and Maradi in Niger (136 and 166 beds respectively)and in the hospital at Manakara (Madagascar, 150 beds) : between CFAF 80.000 and CFAF 100.000.

The first conclusion reached is that the general hospitals seem to be better provided with operating funds than the intermediate level hospitals[2)]; this conclusion remains valid even if one takes into account the greater needs of the major hospitals as a result of their more extensive equipment, their greater number of specialized services and their more ambitious operating conditions.

There are a number of exceptions, however: in Upper Volta, the two secondary hospitals in Gaoua (120 beds) and Fada N'Gourma

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1) Reference years: Nouakchott: 1972, Niamey and Zinder: 1975, Mogadishu: 1973, Bobo Dioulasso and Ouagadougou: 1973, Majunga: 1974, Cameroon 1970/71, Tahoua and Maradi: 1974, Manakara: 1974.

2) the insufficiency of the operating appropriations, especially for the bush medical units, was mentioned in the 1969 report on the utilization of aid (p.49), particularly in respect of the Central African Republic.

(130 beds) have an operating budget per bed of between CFAF 200.000 and CFAF 300.000[1]. The reason for this is that both of these hospitals constitute the first stage in a larger project. The operating costs of the present hospitals are therefore made to look excessively high because of the relatively large amount of equipment, which is geared to the final planned capacity. The same reasons could apply to the very high operating costs per bed (CFAF 330.000) of the Nouakchott hospital. Another interpretation would be that the operating costs of the two secondary hospitals in Upper Volta are covered by foreign aid at too high a level compared with the operating resources that would normally be available to health units in that country.

The operating costs per day's hospitalization in the general hospitals generally correspond to the operating costs per bed. They are influenced, however, by the average period of hospitalization, and are between CFAF 950 and CFAF 550 for the hospitals in Nouakchott, Niamey and Mogadishu and between CFAF 450 and CFAF 350 for the hospitals in Zinder, Ouagadougou and Bobo Dioulasso.

A second general view to be drawn is that there is no apparent correlation between, on the one hand, the operating budgets of the hospitals and, on the other hand, the per capita total health expenditure and per capita health operating expenditure of the countries concerned. In Cameroon, the per capita health expenditure (CFAF 650) and the per capital health operating expenditure (CFAF 172) by no means signify an adequate level of operation in the hospitals, whereas in Upper Volta despite the low level of budget resources (CFAF 165 and CFAF 22 per capita respectively), the major hospitals operate at a fairly high level. This phenomenon is explained by the fact that the hospitals' budgets reflect the requirements of these health units rather than the financial resources of the country, for the budgets of the units are not in all cases provided solely by the health budget. Because of this, it is necessary to analyse the origin of the funds.

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1) These operating costs per bed are in fact higher than those of the country's two general hospitals.

3) Sources of budget funds

The "budgets" of the hospitals come from a fairly wide range of sources. In general, they include the following :

- the Ministry of Health with more or less regular amounts for
  - the national medical, ancillary medical and administrative staff and the majority of the auxiliary staff and labourers,
  - the operation of the units at the higher and intermediate levels;
- the regional and local authorities with amounts which vary according to the tax revenue actually collected, these amounts being used for
  - a proportion of the auxiliary and labouring staff,
  - the medicaments, small-scale equipment, fuel, etc. used by the intermediate and lower level units and in particular by the rural dispensaries ;
- bilateral financial aid to meet operating, maintenance and repair costs ;
- fairly irregular sources of multilateral financial aid, for example the Cheysson Fund for the purchase of medicaments and medical equipment, WHO for certain campaigns against endemic diseases, etc. ;
- irregular aid from private organizations (e.g. the Lyons Club) and other sources (e.g. CARITAS, MISEREOR, Deutsches Aussätzigen-Hilfswerk, etc.).

The additional aid in kind from all sources must also be taken into account.

This includes

- at national level, in Upper Volta for example, the "Contribution Patriotique" and the National Lottery for the purchase of ambulances,
- at international level, the aid in the form of medicaments and equipment supplied by private, philanthropic, religious and other organizations, and food aid from various sources.

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In certain countries, only a very small part of the operating costs of the health units is financed from the country's own budget resources (health budget and local authorities). It is only with financial and other aid that the existing health units can be operated in a satisfactory way. For all these reasons, the actual budgets of the various units are very variable, irregular and often difficult to determine.

4) De facto balance of the operating budgets

To sum up, a very fragile balance has been achieved in the operating budgets of the medical units in the majority of the countries thanks to various sources of external aid. It appears that there is a tendency for

the Governments to allocate their available financial resources, in decreasing order of priority, to the major hospitals, then to the intermediate level units and finally to the basic establishments. Inversely, the local authorities are called on to ensure the operation firstly of the intermediate level units and then of the basic units, in particular the dispensaries.

Consequently, external aid fills in the gaps at national level and must in most cases be directed to the rural areas. Conversely, aid for an upper level unit may free budget resources for the lower levels. For example: French operating aid has been supplied regularly and continuously over a number of years to the health sector in Upper Volta. Because one half of this aid was earmarked for the two general hospitals in Ouagadougou and Bobo Dioulasso, budget resources could be transferred by the Ministry of Health to other units and to social medicine. There is therefore a sort of system of communicating vessels, in which the distribution of the budget resources is determined by the order of "preferences" laid down (e.g. in favour of the major hospitals) and the conditions governing the allocation of external aid.

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5) Level of operation

The existence of a de facto balance in the operating budgets in no way means that the budgets are suited to the requirements as originally conceived. In many units current operations are far from reaching the level originally aimed at. It is possible to evaluate the exact recurring expenses only by taking account of all the influencing factors, in particular the characteristics of the technical and architectural design, the technical installations and medical equipment, the operating conditions of the electricity and water supplies and the housekeeping installations (kitchen, laundry), etc..

6) Structure of the budgets

The information obtained is sufficient only for very general conclusions on the distribution of the budgets. On average, the operating budgets of the major hospitals breakdown as follows:

50% is used for medicaments and small-scale medical equipment (with variations of approximately 20% depending on the purchasing possibilities) ,

25% is used for feeding patients (with variations of approximately 40% depending on the use made of food aid) .

The cost of medicaments (and small-scale medical equipment)per day's hospitalization is between CFAF 200 and CFAF 250 for the general hospitals[1] in Bobo Dioulasso, Ouadougou and Mogadishu and over CFAF 250 for the general hospitals[2] in Niamey and Zinder (Niamey: CFAF 365).

It has not been possible to calculate a corresponding figure for the intermediate level hospitals.

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1) 1973 figures
2) 1975 figures

7) Revenue

Nearly all the countries have introduced a system of charges in the major hospitals (e.g. Upper Volta, Niger)[1] or even in the majority of their hospital establishments (e.g. Madagascar). In Somalia, all medical services have been provided free of charge since 1972.

In general, the charges apply to the number of hospitalization days (and not to operations). There are various categories, and the charges range up to a maximum of CFAF 3.000 per day in Madagascar and CFAF 2.400 per day in Upper Volta. Normally, there are special terms for civil servants, who pay a reduced charge (e.g. in Niger), generally about 20% of the normal rate, which is deducted from their salary, while the remaining 80% or so is paid by the State.

There are other rates for outpatients (CFAF 500 in the major hospitals in Upper Volta), for childbirth (flat-rate charge of CFAF 300 in Upper Volta) or even for the health education schemes untertaken on the initiative of certain doctors[2].

The revenue thus obtained is sometimes quite considerable; at the Nouakchott hospital for example, it corresponded in 1970 to the hospital's operating budget. At the regional hospital at Majunga (Madagascar), such revenue amounted to 60% of the operating budget (1973), while it did not exceed 10% in the hospitals at Manakara and Fort Dauphin (Madagascar).

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1) For example: in Upper Volta, the two general hospitals at Ouagadougou and Bobo Dioulasso and the secondary hospital at Ouahigouya. In Niger, the two general hospitals at Niamey and Zinder.

2) For example, a "charge" of CFAF 25 per month is required for participation in the maternity and child health courses at the health centre in Yako, Upper Volta.

In Niger, the total revenue of the two general hospitals represents only 5% of the health operating budget. In Upper Volta, the corresponding figure for the revenue of the two general hospitals is 20%, while the revenue of the third paying hospital (Ouahigouya)is practically zero.

The problem of the charges system is that the hospitals have no financial autonomy, and all the revenue must be paid into the Treasury. In spite of the relatively favourable impression given by the above figures, there is a risk that because of this rule the hospitals will have no motivation to collect the charges from the patients. It would be interesting to see whether it would not be possible to increase this revenue by giving the hospitals some financial autonomy.

Moreover, there is the question of principle of whether there is a danger, with the charges system, of putting the health services effectively out of the reach of the majority of the population. Experience has shown, however, that in spite of the relatively high rates charged in Madagascar, for example , approximately 20% of the patients use the system. The example of the hospital at Fort Dauphin (Madagascar) has in fact shown that the paying clientèle prefers the private hospital at Manambara (23km away),despite the higher level of charges[1].

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1) See Annex I/4

V. Medicaments

A discussion of the many problems connected with the supply and distribution of medicaments would exceed the framework of this report. As a result, only a few interesting points will be mentioned.

The prescription and supply of medicaments is generally free of charge for patients treated in the medical units. Out-patients, on the other hand , buy them at their own expense from pharmacies (for example, in Upper Volta and Somalia). These principles seem, however, to be applied in a very flexible manner. A formula that is full of promise has been introduced in Niger : it was found that 60% of all the recorded cases of infection can be treated with five medicaments, and a system of village pharmacies and of village first-aid public health workers has been set up. This scheme is part of a major programme of social and preventive medicine, and has the following advantages: it can be run economically via the sale of these five medicaments at a unit price of CFAF 5 and it is playing a useful part in the health education of the population.

As far as the supply of medicaments is concerned, private aid is often ineffective. Fairly often one finds in the health units unused and unusable quantities of medicaments sent by private and philanthropic groups, etc.. For this aid to be of maximum use, it is important:

- that it be adapted to the particular requirements of Africa,
- that the number of types of medicaments be reduced to a practical minimum suited to the pharmaceutical experience of the national ancillary medical staff.

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Better results could be obtained if this private foreign aid were sent directly to the doctors on-the-spot so that they could detail their particular requirements.

Similarly, it is very much in the interest of the Governments to make a strict selection of the various types of medicament, since this alone can ensure a rational and effective use both of imported medicaments and of the budget resources that are spent. It would be interesting to study these problems in depth, especially the operating conditions of the supply pharmacies and questions relating to the utility and profitability of the pharmaceuticals produced in a number of African countries.

It would also be of interest to study the possibilities of using traditional medication based on local low-cost raw materials. This would make it possible to reduce the expenditure on imported medicaments but would presuppose a special effort to study such local medicaments scientifically and instruct medical staff in their use.

C. OVERALL COHERENCE OF THE PROJECTS AT NATIONAL LEVEL

After taking a look at how the projects financed by the EDF are operating, it is essential to situate them in the context of the overall national effort in the health field and to measure their efficiency in the light of the strategies adopted by the relevant authorities. Consequently, an examination will be made of: the place and function of the health units that have been set up, their contribution to the development of infrastructure and their consistency with the health development plans. Naturally, this evaluation cannot be made without taking into consideration the operating resources (staff, funds) that are available, since these effectively determine the degree of efficiency and, ultimately, the operating level of any health unit.

I. Place of the projects in the development of the health infrastructure

1) Isolated projects

a) Health units in Dahomey and Madagascar

The projects carried out from the resources of the first EDF in Dahomey and Madagascar involved the improvement, modernization and extension of existing hospitals or health units. Their common and main objective was to improve the equipment and premises of these units so as to:

- ensure improved quantitative and qualitative output from the staff,
- cope better with regional and local health needs.

These isolated projects are the result of choices made on the basis of presumed needs and priorities and are not integrated into a development plan or health policy. It was only in the years following independence that the majority of the AASM formulated their health requirements more systematically.

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The definition of the objectives and resources of a national health policy has made it possible to tailor subsequent projects to development plans.

For this reason, the utility and efficiency of isolated projects carried out during the early years of the EDF's existence can be judged only on the basis of local criteria. Even though the design might appear suited to the local situation, it is not necessarily so at national level, for there is a danger that any isolated project produced in this ad hoc way will be put to the best possible use only if the existing health infrastructure into which it is fitted constitutes a coherent, functional system that can be improved, modernized, added to, enlarged and given a better internal balance.

Of course any consideration of the existing infrastructure must not ignore the private sector establishments. Clearly insufficient account was taken of this aspect in the case of the reconstruction of the hospital in Fort Dauphin (Madagascar) - hence the fairly low degree of utility of this project[1].

b) National hospitals in Mauritania and Somalia

The projects for the construction of new general hospitals in Mogadishu (Somalia) and Nouakchott (Mauritania) had quite different objectives: in Somalia, the aim was to replace the old general hospital (Di Martino); in Mauritania a new general hospital had to be built in a new capital city.

In the absence of an overall health policy, the objectives of these projects were dictated by an existing special situation. In Somalia, the priority, and in fact sole, objective of the Italian Trusteeship Administration was to replace the old general hospital. In Mauritania, the almost complete lack of a health infrastructure and the excessive number of cases where seriously ill patients were taken to Senegal or Mali made the creation of a general hospital a matter of priority. Since they reflected basic necessities at national level, these two projects were not isolated projects in the sense referred to earlier;

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1) See Annex I/4 and 1971 report on the utilization of aid (pp 42-43).

in fact, although they were not integrated in a truly structured and coordinated health system, they merely anticipated the objectives of a future health policy[1].

In the two countries in question, these hospitals constitute real national hospitals with a high degree of specialization and with all the necessary resources for diagnosis and treatment. The Mogadishu hospital, however, does not really fulfil the role that should be played by a hospital at the top of the health pyramid since it takes patients from the interior of the country only on an occasional rather than a systematic basis. In fact, it serves the population of the capital almost exclusively. In Nouakchott this local function was an integral part of the original plan, but the outpatient activities have overwhelmed the hospital to such an extent that the proper functioning of the whole unit has been handicapped.

One may wonder whether the essentially "local" use of a national hospital does not constitute a waste of its professional capacity and of its precious and costly equipment. The existence of an institutional barrier (rules on admission)[2] could

- guarantee a rational use of health units at all levels,
- make it possible to reserve the national hospital for those patients who require specialized tests and treatment.

In the light of the above, the question arises of whether the decision to construct a national hospital in these two countries was justified. In Somalia, for the reasons given, any alternative solution was excluded from the start, and any reflection on such possibilities can only be speculative, since its purpose would be to reconstruct in retrospect the reasoning on the choice which had to be made. Even taking these reservations into account, it would have been possible, instead of building a new hospital, to restore, modernize and possibly extend the old general hospital in spite of its state of disrepair. ./.

1) Such a policy was formulated in the case of Mauritania, when the decisions were taken by the Community on the extension of the general hospital and the creation of a polyclinic at Nouakchott.

2) For further details, see section 3, on pages 30/31.

The latter choice would not have been at all unrealistic, as is proved by the fact that the old hospital, which was destined for demolition, is still operating.

This shows that where there is an existing infrastructure which includes a national hospital the question of replacement must be carefully studied. Everything must be done to either replace the old establishment integrally and completely or to introduce new capacities step-by-step to replace those of the old hospital at the same time. Any parallel operation of the two is harmful, except, if really necessary, where there is a strict and systematical allocation of the respective functions and responsibilities to avoid competition.

In Mauritania any theoretical alternative to the construction of a national hospital would appear to have been unrealistic. The country had an absolute need for a hospital unit provided with specialized services for diagnosis and treatment in order to accomodate all the seriously ill patients who were previously taken to hospitals in neighbouring countries. The prudence shown in designing the project as the first part of a larger hospital seems to be one of the reasons for its remarkable success. By giving the hospital an initially small capacity, the Government was able to ensure its proper functioning. Moreover, the design proved sufficiently flexible to enable extensions to be made without difficulties or interruptions in the hospital's operation.

2) Comprehensive projects (Upper Volta, Niger)

The projects financed from the resources of the first and second EDFs in Upper Volta and Niger had as their common objectives:

- the improvement and modernization of the existing units belonging to a geographically well established health infrastructure (Niger),

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- the remedying of the shortcomings as to quality and quantity in the existing hospital infrastructure (Niger and Upper Volta),
- the improvement or creation of working conditions for activities in the field of mobile medicine (Niger) or for campaigns against endemic diseases (Upper Volta).

These projects involved the building, extension or improvement of a number of health units. They were designed to form the integral parts of a hierarchical and coordinated system, so that all the health units are the constituent parts of a pyramid-shaped whole.

It is clear that the implementation of such large-scale projects is dependent on the existence of a health development plan, the pattern of which can be static (as in the case of Upper Volta) or dynamic (as in Niger).

Although Upper Volta did not have any well defined health policy in 1961, the Government lost no time in concentrating all its efforts on the development and improvement of the rural hospital infrastructure, particularly as a modern urban hospital infrastructure had recently been built up with French aid[1]. All these efforts were based on the objectives formulated by a general plan for the future. With the aid of this plan, it was possible to take balanced decisions for the purposes of EDF investment on:

- the volume of the first instalment of investments,
- the capacity and location of the units at the various levels of the health infrastructure.

However, the static nature of this general plan involved the risk of introducing imbalances since the various stages of its implementation were not defined. Logical and coherent as the plan might seem, its implementation in stages

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1) New building of the general hospital at Ouagadougou, modernization and extension of the general hospital at Bobo Dioulasso and of the secondary hospital at Ouahigouya.

or in sections depends on the availability at any given moment off

- qualified staff (doctors and ancillary medical staff),
- the country's own financial resources.

In Upper Volta, these two conditions were not completely fulfilled at the time the projects were completed, in particular as regards the two secondary hospitals in Gaoua and Fada N'Gourma.

In Niger , on the other hand, a more detailed programme for the reorganization of the health infrastructure was drawn up by a specialized committee. The "Prospects for the ten-year period 1965-1974" adopted by the Government set out the priorities of a health policy and made it possible to direct investment in accordance with certain guiding principles, which included: priority for those investments which could increase the efficiency of the services while entailing only a minimum of additional recurring expenditure; priority for the renovation of old buildings in a state of disrepair; the principle of building up new units only when the qualified staff was available. By its dynamic nature, the general plan for the future made it possible

- to determine in a very flexible way the stage-by-stage adjustments - concerning quality and quantity - to the investment programme in the light of special and local health requirements,
- to regulate in a very flexible way the planned extension and modernization,
- to adapt in the best possible way the socio-economic and technical characteristics of the projects to the country's staffing and financial capacities.

The projects have fitted harmoniously into the existing infrastructure, and it has been possible for the cost of the additional financing and staff to be borne mainly from the country's own resources.

The "Prospects for 1965-1974" had another essential advantage for the development of the health infrastructure in Niger.

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The Government had planned to base the priorities of the health policy on social medicine, particularly mobile and preventive medicine, and health education. Consequently, the health structures were designed to permit the administrative and operational integration of curative and preventive medicine. The hygiene and mobile medicine teams, whose new buildings were financed by the EDF and established in the administrative departments, are active in the fields of medical treatment (by supervising the activities of the treatment units within each department) and of preventive medicine and disease detection for the rural population. It appears that this integration is far harder to achieve in those countries in which the health infrastructure is based essentially on hospital medicine (e.g. Upper Volta).

The project carried out in Niger raises yet another interesting point. In 1962, the Niger Government submitted to the EDF a project for the construction of a new hospital at Niamey. However, a study of all the problems involved showed that the situation of the country's health infrastructure was such that a series of extension and modernization projects was preferable. It was therefore decided to opt for an alternative which proved to be particularly effective and economical. In Somalia, on the other hand, such an option was not possible, as it was said hereabove. It is probable, however, that the construction, improvement and modernization of a number of health units outside the capital would have made it possible to create a better balance of hospital capacity at national level. If it is possible to compare these two similar initial situations, the choice made in Niger seems to have been of greater benefit for the health situation of the country as a whole.

3) Complementary conditions

A comparison between the projects carried out in Upper Volta and Niger reveals another important aspect. In spite of the prudent nature of the decision on the number and capacity of the units

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to be set up in Upper Volta, certain imbalances must be noted as seen in relation to the objectives of the plan for the future. The low occupancy rate of the two secondary hospitals (Gaoua and Fada N'Gourma) could lead to the conclusion that their capacity and medical equipment are out of proportion to the requirements of the population served[1]. The main reason for this under-occupancy, however, is rather that the functional relationship envisaged between the various levels of the "health pyramid" has not been achieved in practice. The role of intermediary clearing-centres, which was to be played by the two secondary hospitals, is short-circuited by the two general hospitals, which have the attraction of being better equipped.

In Niger, by way of contrast , the existing pyramid-shaped health infrastructure is supplemented by strict rules laying down that in principle no patient is hospitalized and no out-patient is accepted unless he can prove that he has been cleared by a lower unit. Accordingly, the two general hospitals do in fact constitute the top of the pyramid which is reserved for the seriously ill patients sent up from a lower level.

The conclusion to be drawn from this is that it is not sufficient merely to create a coherent and logical pyramid-shaped infrastructure to ensure that the various levels perform their allotted functions. For the hierarchical, coordinated infrastructure to be able to function under optimum conditions, the clearing and admission of patients must be governed by rules which ensure that the proper channels are respected. In the absence of such rules, there is a risk that the use made of the health infrastructure will be unbalanced.

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1) On the assumption of the same conditions as at present, it would in fact have been sufficient to construct a type B, i.e. more advanced, health centre (as at Tenkodogo) with operating possibilities and an adequate hospital capacity in place of each of the two secondary hospitals that were built. This is proved by the fact that the type B health centre at Yako (35 beds) operates at a higher level of activity than Gaoua and Fada N'Gourma in spite of its location 108 km from the general hospital at Ouagadougou.

Naturally, the existence of such rules does not in itself prevent the clearing and admission of patients being hampered in practice by

- insufficient transport (cars, fuel),
- roads permanently or temporarily (during the rainy season) unusable,
- absence or shortage of qualified staff.

As a result, it is clearly necessary, when projects are designed , to examine with a great deal of attention ways of meeting these complementary conditions.

4) Summary

To sum up the success of a health investment project depends on its harmonious and functional integration into a coherent and internally balanced infrastructure. At all levels, the existence of a (dynamic) health development plan setting out the various stages of implementation makes it possible to determine precisely the volume of investment to be made and to adapt such investment flexibly in the light of the country's capacity as regards staff and funds. However, the coherence and functional logic of the infrastructure cannot guarantee its full utilization at all levels unless the necessary complementary conditions are also fulfilled.

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II. Personnel at national level

(1) Doctors

Examination of use is being made of projects financed by the EDF show that there is generally a certain de facto balance between the number of doctors assigned to a medical unit and the capacity of that unit - which does not mean that occasionnally a total lack of doctors will not be found in some units[1]. However, at national level,

- this situation may in fact only appear to be a real balance ; the lack of a certain number of doctors, theoretically necessary, may hinder important possible activities ;
- the de facto balance is achieved, in most countries, only thanks to the fairly massive amount of aid from external technical assistance; moreover it is a very delicate balance. The number of expatriate doctors as a percentage of the total number of doctors varies considerably from one country to the next : 85 % in Niger and Mauritania, 10 % in Madagascar.

Moreover, this apparent balance does not reflect the fact that at national level:

- the average ratio of doctors to population is generally still very low and varies, for the countries examined, between one doctor for 11 000 inhabitants (Madagascar), and 50 000 inhabitants (Niger) and even 66 000 inhabitants (Upper Volta) ;
- there is a high concentration of doctors in the big towns and general hospitals to the detriment of the rural areas; this is shown by the following figures for the number of inhabitants per doctor:

	Somalia	Niger	Upper Volta
total for the country	19 000	50 000	66 000
capital city	3 300	2 800	8 000[2]
remainder of country	43 000	119 000[3]	138 000

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(1) Found for example in Cameroon and Chad in 1970
(2) Average for Ouagadougou and Bobo Dioulasso
(3) Outside of Niamey and Zinder

- there is a major imbalance in nearly all the countries, namely the high proportion of doctors assigned to curative medicine to the detriment of preventive medicine.

(2) Ancillary medical staff and management staff

Generally speaking the statements made about doctors also apply to nurses and midwives, subject to the following reservations:

- the number of expatriate nurses has been reduced to a minimum following the accelerated training of national ancillary medical staff;
- the variations from one country to another in the ratio of ancillary medical staff to population are less pronounced than for doctors, varying between one nurse for 2 800 inhabitants in Dahomey and one for 6 100 inhabitants in Somalia; moreover, the concentration of ancillary medical staff in the big towns is much less accentuated.

Although the various countries may at present have enough nurses, midwives, etc., this is not the case with specialized ancillary medical staff (laboratory technicians, anaesthetists, radiographers, dental mechanics, etc.). The numbers and quality of maintenance and administrative staff are generally speaking also inadequate. Since each State cannot provide itself with a school for each speciality, it will be necessary to find inter-State solutions.

(3) Problem of the shortage of medical staff

From the above findings it may be concluded that in most of the countries medical technical assistance is still used to compensate the lack of national staff, particularly doctors. This foreign technical assistance staff is generally fully integrated into the public service, which should normally imply that jobs are shared out fairly between expatriate and national doctors. What actually happens is that:

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- most national doctors are assigned to hospitals in the big towns (or to the Ministry of Health);
- most expatriate doctors are assigned to medical units in rural areas (in Mauritania, for example, out of 9 regional centres only one is run by a Mauritanian doctor).

This disturbing situation is attributable to a number of factors:

- First of all, over half the medical students at present in Europe are unwilling to return to enter the public service of their country of origin because:
  - they consider the remunerations offered to them inadequate;
  - they are afraid of political and economic fluctuations in their countries of origin;
  - they are afraid of the physical working conditions awaiting them, which are hardly comparable with those in Europe[1];
- If qualified doctors do return they tend to remain in the capital or in the big towns, disdaining the rural and/or preventive medicine departments; the training received in Europe has shown them th gap existing between these two kinds of medicine;
- Moreover, since most of the doctors are aiming to become specialists, only the big hospitals are able to offer them adequate work opportunities. One may well ask to what extent these young European-trained African doctors influence the general tendency of the Governments to wish to construct big sophisticated hospitals;
- Thus, during the early years of independence an imbalance arose among the national doctors in favour of specialists and to the detriment of the general practitioners. Yet, it is general practitioners which Africa needs most.

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[1] Private practice might encourage them to return; however, in most countries the purchasing power is not high enough to enable the number of private practices which are profitable (by European standards) to be increased.

(4) A few considerations on possible measures

One may well ask whether the balance achieved between tasks assumed by the States themselves and those taken care of by foreign aid is not unhealthy; it might bring States to neglect certain essential tasks which the national doctors feel little inclination to accept. What conclusions should be drawn from this situation? What measures are to be taken or have already been taken to remedy these shortcoming?

(a) The training of doctors

It is widely accepted now that doctors must be trained in African rather than European universities, with curricula tailored to specific African health needs and to the tasks of all-round practitioners rather than specialists. Doctors must also be psychologically prepared for the working and living conditions awaiting them. The most highly qualified doctors may then in exceptional cases specialize on completion of their studies, or rather after a number of years'practice, through periods of training in Europe.

University training in Africa has already started: a number of medical faculties have been set up (for example: Ivory Coast, Madagascar, Senegal, Zaire), or are starting up (Dahomey, Cameroon, Niger, Somalia, Togo). It would be interesting to carry out a special study to find out to what extent these medical faculties meet the specific African needs, what will become of them when the required number of doctors is met in a few years time[1] and how the health budgets will be able to cope with the additional expenditure resulting therefrom.

It might be a good idea for the authorities responsible to consider separate training for two types of African doctors for

hospital medicine,

medicine or medical assistance for rural areas.

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[1] For example, the new medical faculty in Mogadishu will turn out approximately 50 doctors per year after a four year course. For the sake of comparison, the country at present has a total of 153 doctors, including 58 foreigners.

(b) Assignment of doctors to rural medicine

It would be interesting to study possible ways of making medical graduates devote a specific number of years to rural health care, for example by making authorization to practise subject to that condition or by means of civic service.

A formula of this kind is applied in Somalia, where doctors cannot be promoted, assigned to hospitals in Mogadishu, or awarded grants to specialize, etc., until they have worked for several years in the bush. Most countries, however, hesitate to apply such measures since they might make young doctors keep away from their countries even more.

(c) Improvement of working conditions

It would probably be a good idea to examine all the real opportunities for further improving doctors' working conditions, especially in rural areas, for example by:

- greater incentives to work in the bush, by awarding bonuses, providing cars, improving accomodation, etc. and by setting up a minimum social and cultural infrastructure (schools, etc.),
- making adequate qualified ancillary medical staff available;
- guarantees regarding the provision of regular and adequate medical supplies, medical equipment, etc.;
- guarantees regarding current maintenance of existing installations, etc.

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(d) Remplacement of expatriate doctors

As long as there continues to be a shortage of national doctors any medical treatment which does not necessarily require the services of a qualified doctor should be provided by assistant doctors or ancillary medical staff. The example of Niger seems of interest here: in 1974 the Ministry of Health grouped all the country's doctors together in the chief towns of the departments, where they are responsible, throughout the department,

- for the control and supervision of medical care,
- within the mobile medical service, for the detection and prevention of disease[1].

The area health centres and the dispensaries are therefore run exclusively by nurses. This rational utilization of staff goes hand-in-hand with the increasing availability of ancillary medical personnel.

In this field, considerable progress has been achieved in virtually all the AASM which have set up one or more training schools for this category of personnel. Moreover, the Community is making a considerable contribution to this development, the EDF having financed the building of several nursing schools (e.g. Cameroon, Dahomey, Mauritania, Somalia).

(5) Summary

To sum up, during the early years of national independence, the use made of the medical units financed by the EDF suffered from the shortages of staff and funds. Thanks to the many measures taken by Governments and the various contributions of aid from outside organizations for training, the problems of medical and ancillary medical staff have been considerably reduced; but the problems of availability of operating funds remain.

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[1] This scheme was outlined in the 1970 report (p. 85) on the utilization of aid.

III. Health budgets at national level

(1) Preliminary remarks

In order to provide a fair comparison of health expenditures in the countries examined, only the ordinary health budgets have been considered, without account being taken of appropriations for capital projects or local authority budgets. The ordinary health budgets do not, for example, include:

- the costs of hospital treatment for public officials (borne by the relevant ministries),
- the costs of transporting and providing hospital treatment for the poor (borne by local authority budgets).

In view of the discrepancies - which are sometimes considerable - between forecasts and allocations made, account has been taken insofar as possible only of actual expenditure.

(2) Characteristics of the budgetary situation

Following the analysis of the amounts spent by the various medical units[1], the budgetary structures of the public health sector as a whole are considered below. The following characteristics are found:

(a) Overall meagreness of the public health budgets

In most States the growth of the health budgets since the early 1960s, expressed in current CFA francs, has lagged behind the growth of appropriations in the national budget. Consequently, the health budget's share of the overall national budget has fallen considerably: in Upper Volta from 13.3 % to 7.2 %, in Cameroon from 8.6 % to 5.4 %, and less sharply in Niger (from 8.7 % to 7.8 %) and Dahomey (from 12.6 % to 10.5 %). The only exceptions[2] have been Congo, Ivory Coast and Mali, where (at least up until 1970) the health budgets grew more than the national budgets.

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[1] See Chapter B, IV, page 14 et seq. ./.

[2] Source: SEDES, preliminary study on the trend in health expenditure in the African States and Madagascar - April 1972.

According to the study referred to[1], the health budgets, converted into constant CFA francs, have tended to remain stationary in most countries (e.g. Central African Republic, Madagascar[2], Chad) or even to decline (e.g. Upper Volta, Niger, Senegal, Togo). The only States with adequate growth in their health budgets were Congo, Ivory Coast and Gabon.

Despite the growth in health budgets in current CFA francs, annual per capita health expenditure has fallen, for the States examined, to a current level of between CFAF 165 (Upper Volta) and CFAF 650 (Cameroon), with an average of CFAF 330 - 450 (Madagascar[2], Somalia, Mauritania, Dahomey). There appears to be no correlation between this level of average expenditure and the health budget's share of the national budget, which varies from one country to another, e.g. below 6 % for Cameroon and Mauritania, between 6 % and 8 % for Upper Volta, Somalia and Niger, and over 10 % for Dahomey.

We can add that appropriations for education in a number of countries are greater and growing faster than health appropriations (e.g. Upper Volta, Niger, Dahomey, Gabon, Ivory Coast).

(b) Imbalance between staff and operating expenditure

In all the States examined, the staff budget, as a percentage of the health budget, has been rising fairly sharply since the early 1960's and is currently around 50 % in Niger, 50 % to 60 % in Mauritania, Madagascar and Somalia, 75 % in Cameroon and Dahomey, and 85 % in Upper Volta.

The result of this is that virtually identical health budgets (e.g. Niger and Upper Volta) may hide considerable differences in the amount of the non-staff operating budgets (four times greater in Niger than in Upper Volta) and per capita operating expenditure for health (five times higher in Niger than in Upper Volta).

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[1] See footnote [2] (page 39) ./.

[2] Central health budget alone, without account being taken of the substantial health budgets of the Provinces.

Consequently, thanks to the reasonable distribution of its health budget (approcimately half earmarked for operating expenditure) Niger seems to be in a better position to ensure, by its own resources, that its hospital facilities are properly run; in Upper Volta, however, because of the low operating appropriations (15 %), there is a fundamental imbalance between the financial requirements of existing hospitals and their own resources.

Another comparison should be made: the ratio of hospital beds to inhabitants is fairly low in both countries: one bed per 1 430 inhabitants in Niger and one bed per 2 210 inhabitants in Upper Volta. Although there is a better balance in Niger between existing hospital infrastructure and the country's own financial resources, the ratio of beds to people in Upper Volta - although low - still seems to be higher than would be expected from the appropriations earmarked for operating expenditure.

(c) Meagreness of local authority appropriations

In virtually all the States, the local authorities meet part of the medical establishments' running costs. In general, however, these financial contributions lack continuity and are irregular; besides in most of the French-speaking States the amounts involved seem to be quite low. In Upper Volta for example, the total amount may be estimated at approximately 10 % of the central operating budget for health. In Madagascar, on the other hand, the budgets of the Provinces include considerable appropriations for health, almost reaching the level of the national health budget[1].

[1] In 1972, a total of CFAF 4 319 million was provided for public health spending, of which CFAF 2 319 million from the budget and CFAF 2 000 million from all the budgets of the Provinces.

(d) Imbalance between expenditure on curative medicine and on preventive medicine

In the absence of adequate and precise information all that can be said is that there is a general tendency for a country's appropriations for preventive medicine to be extremely low. In Cameroon, for example, of the 1974/75 operating budget for health (CFAF 1 223 million) only 1.3 % was earmarked for preventive medicine and 3 % to cover the whole of rural and preventive medicine and the campaign against epidemics. The situation is certainly no better in other countries. It may be estimated that preventive medicine should actually receive about a quarter of the budget for it to be able to function properly. The real situation is very different: it is curative medicine and, more particularly, certain hospitals which are the big consumers of budgetary ressources.

(e) Inequality between big towns and rural areas in the allocation of funds

The information obtained on health budgets has not enabled the share of funds earmarked for hospitals in big towns to be determined. However, the preference given to urban centres derives from the concentration of hospital facilities in the big towns and the amounts earmarked in the health budgets for the budgets of the general hospitals.

- Generally speaking, hospital capacity is largely concentrated in the capital; for example in Upper Volta less than 5 % of the total population, living in Ouagadougou and Bobo-Dioulasso, enjoy 56 % of the country's hospital capacity. The corresponding figures are, for Niger (Niamey and Zinder): 4 % and 39 %, and for Somalia (Mogadishu): 10 % and 50 %.

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The relationship between operating funds[1] spent[2] by the general hospitals and health budgets (operating) clearly highlights the degree of concentration and the difficulties which may result for the financing of a country's health infrastructure.
The national hospital in Nouakchott (Mauritania) absorbs 35 % of the funds available for operating expenditure and the two national hospitals in Niamey and Zinder (Niger) take more than 40 %; in Niger the two hospitals and five secondary-level hospital centres receive a total of 53 % of the national operational budget for health. In Upper Volta, the two general hospitals in Ouagadougou and Bobo Dioulasso require nearly 40 % more money than provided for in the total operating budget for health. The budgets for the two secondary hospitals in Gaoua and Fada N'Gourma would together absorb nearly 50 % of the operating budget for health if they were charged against that budget[3].

(3) External operating aid

To sum up, in most countries there is a fairly marked imbalance between own financial resources and actual requirements. It is only the often considerable contributions - financial and in kind - from all kinds of outside sources which enable health units to operate properly and certain objectives in the field of preventive medicine to be attained.

Operating aid from outside[4], taken as a whole, is of great importance for Upper Volta, Mauritania, Niger, Chad and Dahomey, of medium importance for Cameroon, Senegal and Mali, and of slight importance for Togo and Ivory Coast.

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1 The relationship between the general hospitals' staff budgets and health staff budgets is not indicative since most doctors on the staff come under outside technical assistance; the remuneration of those doctors is not therefore charged against these budgets.

2 Actual expenditure, irrespective of the origin of the funds (expenditure as defined in Chapter B, IV, 1, page 14).

3 They are borne almost entirely by German aid and aid from "Frères des Hommes".

4 According to the SEDES study.

External operating aid comes from various sources, of which the main ones are:

- official bilateral and multilateral aid, e.g. French, German, Belgian aid, etc., either pertaining to the operating units (medicaments, equipment, vehicles, etc.) or to campaigns to combat and wipe out endemic diseases, etc. Such aid often provided the logistic back-up for the technical assistance personnel on the spot;

  American aid (AID) relating to regional or national programmes: maternity and child health, programmes to wipe out smallpox and measles, educational and health environment programmes, food aid programmes, etc.;

  WHO and UNICEF aid dealing with specific campaigns and programmes, for example to combat endemic diseases, to improve sanitation, etc.;

- private aid from all sources[1], particularly philanthropic, religious organizations, etc.

(4) Lessons drawn from analysis of past experience

What lessons are to be drawn from an examination of existing situations? What are the criteria for assessing the financial aspects of a project?

With regard to the preparation and planning of new projects, the following points should be taken into account :

(a) To begin with, the balance or imbalance existing between a country's own financial resources and the funds required to run the existing health facilities should be examined and assessed on the basis of:

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[1] See also Chapter B, IV, 3, page 17.

- the health budget, its past trend, the way in which it is shared out among the various activities (curative, preventive, medicine, etc.), how it is distributed among the various health units and in particular the hospitals at different levels, the local authority budgets;
- the amounts spent[1] by existing health units at different levels, their past trend, the origin of those resources, in particular external financial and other aid.

(b) Evaluation of the continuity and regularity of external aid and local authority budgets enables an assessment to be made of how stable the balance achieved is. Evaluation of the volume of additional recurrent charges resulting from the planned investment must take account of how delicate such balance is or is likely to be.

(c) The danger that full use will not be made of the investment increases in proportion to how marked the actual imbalance is, that is to say how the de facto balance is delicate.

(d) If, when a project is being planned, it is already foreseeable that the beneficiary country will not be in a position to cover the operating cost either fully or in part from its own resources, there are four possibilities:

- the project should be abandoned;
- the project should be scaled down to the country's capacity to ensure that it is operated properly; perhaps full execution of
- the project should be phased;

the Government should take appropriate measures to improve the actual financial conditions of operation;

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[1] Actual expenditure, irrespective of the origin of the funds (expenditure as defined in Chapter B, IV, 1, page 14)

- operating costs should be met in full or in part by external aid.

The Government may here examine ways of taking appropriate measures at national level to increase its country's own financial resources by, for example:

- increasing the health budget's share of the national budget;
- increasing the amount earmarked in the health budget for operating expenditure (the optimum seems to be around 50 %);
- studying possible ways of gradually bringing the population to bear certain health costs : increasing the scales of hospital charges, examining possible ways of giving hospitals financial autonomy, sale of medicaments, etc.

Governments may also endeavour to obtain foreign aid in the form of staff and funds; the example of the Mogadishu hospital (Somalia) does, however, show that it is very important to evaluate any such conditions adopted as a basis for the planning of a project; it is useful to take precautions to ensure that, if aid from one or more sources is reduced or fails to materialize at all, this will not mean that the project cannot operate properly. Finally, external aid may be used to cover, the cost of starting up the investment at least during a transitional period.

(e) For the poorest countries which are a long way behind in their health development the external aid bodies might even consider examining the possibilities of providing , at their expense, certain parts of the curative or preventive health services.

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(f) Finally, there is a question of principle: is the decision to undertake a capital project in the health sector well-founded? Might not the alternative - to increase the operating funds for preventive medicine - be more beneficial for the health situation of the population?

IV. Technical design

In view of the scope of this report only a few general remarks can be made regarding the technical aspect of project planning and the lessons which can be learnt from them.

(1) Criteria for adapting projects to requirements

(a) Buildings and equipment

In spite of often inadequate or even non-existent upkeep, the buildings proper of most medical units are in relatively good condition. However, the interiors (plaster, paintwork, door-frames, etc.) are less sound. Very generally, it has been proved that buildings of simple, modest and robust construction, adapted to local conditions, have given the best results. This is true of both traditional constructions and prefabricated buildings.

It has been found, however, that in all hospitals at all levels the more complex or sophisticated the fixtures, the faster they deteriorate or become unusable even (for example: electrical, refrigerating, telephone and heating installations, lifts, electric pumps, air conditioning plants, etc.).

The same is true of medical equipment, which often seems too specialized and ill-suited for the medical personnel on the spot and constitutes the weak link in many investment schemes.

(b) Complementary investments

Experience of the first few years revealed that it is often risky to hope that complementary investments (road infrastructure, laying on of water and electricity, staff accomodation, enclosures, etc.) and medical equipment will be financed and provided by the national authorities as laid down in the Financing Agreements[1]. Consequently for more recent projects the Commission has avoided part-financing, in other words it has avoided leaving the national authorities with responsibility for financing parts of projects.

However, it has been found that local authorities have sometimes financed and undertaken certain complementary schemes because the

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[1] See in particular the cases referred to in the various reports on the utilization of aid: in Chad (1969, p. 44-45), Mali (1970, p. 32), Burundi and Dahomey (1971, p. 38-39).

project as initially conceived had turned out to be ill-suited to local needs and the population's customs and habits. The most frequent cases are the following:

- In many cases it soon becomes difficult, if not impossible, to use the sanitary facilities (WCs, showers) because of obstruction of the waste pipes and trouble with the plumbing. Those responsible have therefore closed facilities incorporated inside buildings and constructed traditional facilities outside (e.g. Garoua and Fada N'Gourma secondary hospitals in Upper Volta). These problems hardly arise in the general hospitals but are quite common in the lower-level health units in rural areas. Experience has shown that it would often be sufficient to provide a limited number of such facilities for the use of the staff and some patients who are already accustomed to them.

- In the health units in rural areas, the kitchens (which operate in a fairly normal, fashion in most general hospitals) are often replaced by traditional stone hearths set up outside, for the following reasons: lack of operating (fuels) and maintenance funds, differences in eating habits and customs (preference for food prepared by accompanying relatives).

- Similar problems arise regarding the laundries, where the installed machinery is often unused because of lack of water, electricity, fuels or simply operating funds.

- The accomodation constructed for those accompanying patients are sometimes used for hospitalizing those with contagious diseases (e.g. Garoua, Upper Volta); as a result the national authorities have constructed traditional type huts better suited to local requirements. Special attention, must, however, be paid to staff accommodation, particularly in rural areas;

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the provision of staff accommodation helps to eliminate one of the causes of high staff turnover, reinforce the staff's authority and influence, and ensure better upkeep of the buildings and of the installations into health units.

(c) Summary

A health project must normally be conceived in such a way as to take account, on the one hand, of the medical services to be provided, and on the other, of the cost of the investment and of the technical, financial and staff resources available for operating and maintaining both infrastructure and equipment.

Imagination must be shown in adapting buildings and equipment to available financial resources; in short, an answer must be found to the question of how to provide modern and efficient medical services with limited resources,

The technical design of the project should be tailored to the users' level of education, real requirements and way of life in the area concerned. Without going to the extreme of an Albert Schweitzer-type approach for example - for whom the patient should find mirrored in the hospital the environment of the village he comes from - a compromise formula might be found in whereby the hospitalized patient finds an environment which does not make him feel too much out his own element.

Moreover, it is particularly important to tailor a project to local conditions and the population's standard of living in the matter of fixed installations and medical equipment and also complementary investments (accomodation, kitchen, laundry, etc.).

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However, any necessary adaptation to local needs often conflicts with the national authorities' desire to have European-type buildings and the most up-to-date equipment. In such cases, it is not enough to take appropriate steps to ensure that the installations and equipment are suitably maintained. Often a general simplification of the design is still necessary.

(2) Some considerations on the requirements as to technical design

(a) Flexibility

In order to be able to follow the trend of all the factors which might have a bearing on the design of a health unit (trend of the population's socio-economic conditions, progress in the technical methods of medical treatment, etc.) the essential criterion the design must meet is that of flexibility. While sophisticated designs should be avoided, the desired flexibility should, at the planning stage, be reflected in the following characteristics:

- extensibility, through the choice of the pavilion system, which has already been adopted in many health units financed by the EDF and which is generally necessary even if the need to integrate buildings into an urban site may to some extent justify different architectural parts (e.g. in the Institut National de Santé Publique, Abidjan);
- interchangeability, through the use of appropriate structural modules permitting multi-purpose utilization;
- transformability, by means of easy access to pipes, for example, to permis changes in connections to the mains, etc.

(b) Construction requirements

The above criteria give rise to certain construction requirements, the most important of which may be summarized as follows:

- The site must be chosen by reference to future extensions, type of soil, water and electricity supplies, waste-water drainage, accessibility for the population, etc.

- Efforts must be made to choose an architectural solution which is psychologically adopted to the local population so that the users are encouraged to take on responsability for maintenance.

- The choice of structures must take account of the flexibility of operating and climatic conditions and of the capacities of the local market and local firms, etc. Standardization by means of a prefabricated system (Niger, Upper Volta) has proved to be particularly useful if

  - a large comprehensive project is involved (with a sufficient number of homogeneous buildings)
  - it enables buildings to be constructed more rapidly through better organization of the building sites and execution;
  - it can guarantee work of a higher quality;
  - it can guarantee an investment cost equal to if not lower than that of traditional constructions;
  - it can facilitate subsequent structural or functional modifications;
  - it enables current maintenance expenditure to be reduced.

  However, the advantages of standardizing structures can be achieved only if it is guaranteed, when the project is undertaken, that:

  - the plans and design of the buildings and equipment are well harmonized and coordinated right from the beginning in order to ensure coherence of the building and equipment;
  - the building schedules and delivery dates for equipment are coordinated in order to avoid interruptions in the execution of the project;
  - imported supplies (prefabricated parts and equipment) are not faulty and do not give rise to delays affecting assembly and the bringing into use of equipment.

- Materials must be chosenby reference to:

  - climatic conditions;
  - the requirements of easy maintenance, cleaning and replacement;

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- any effects on the local economy (utilization of locally manufactured building materials).

- Fixtures and equipment must be chosen by reference to

  - the user (easy to operate);
  - maintenance facilities (resources available on the spot - preference in the award of contracts could be given to the make for which there are local agents; very strict requirements in the specifications regarding after-sales service)[1]
  - facilities for obtaining replacement parts;
  - reasonable operating costs[2].

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[1] See also Chapter B, II, 2, page 9

[2] See also 1970 report on the utilization of aid, pp. 85-86

D. Projects to provide operating aid

The following considerations are based on evaluation of the temporary aid operations linked with the construction of the hospital in Mogadishu (Somalia)[1]. These operating aid projects may involve both the payment of staff costs (technical assistance) and operating expenditure.

I. Technical assistance

In Mogadishu hospital the pressure of time and the multinational nature of the coordinated EDF/bilateral aid operation resulted in the medical and ancillary medical staff being a very mixed group having difficulty in working together. However, differences of origin and professional training were not the only causes of problems affecting management and cooperation; multinational teams are working in many other African hospitals[2]. In Mogadishu it seems that, because of the pressure of time, staff was selected and posts filled in a somewhat uncoordinated fashion from the medical point of view.

From this experience it may be concluded that technical cooperation can only be successful where the medical and ancillary medical teams are homogeneous, coherent and have an internal hierarchy; only these conditions can guarantee the indispensable spirit of collaboration, mutual professional respect and the authority of those in charge. Staff selection and recruitment cannot therefore be carried out without the active and decisive participation of the head doctor.

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[1] See description Annex I/11 et seq.

[2] In the hospital in Niamey for example, the twenty seven doctors are of seven different nationalities; cooperation does not present the slightest problem.

II. Temporary financing of running costs

After undertaking to meet the Mogadishu hospital's running costs as well, the Community adapted its financial resources to the project as initially planned (high degree of medical specialization, very up-to-date medical equipment, European-type fixtures, etc.). After external assistance progressively came to an end it was not possible to keep operating at this level; the 1973 operating budget was reduced by 35 % compared with 1966/67[1]. It is obvious that this decrease in real operating expenditure was bound to involve either a general reduction in the hospital's activities or a reduction in the quality of the services provided. However, a reasonable balance has been created over a number of years, at a lower level, between the requirements of the project as originally conceived and the country's financial resources.

Past experience shows that operating expenditure must

- be tailored, from the outset, to the country's medium-term financial capacity (even at the risk of operation being at a lower level than that provided for in the initial plan if that plan was not realistic); the danger must be avoided of a sudden break in the level of operation and maintenance at the time of handing over, or of creating excessive expenditure to be borne at the expense of other health operations;
- be planned on a diminishing scale (as was done by the EDF) in order to encourage the country's own efforts and ensure that it take over running costs as soon as possible[2].

In conclusion, it should be borne in mind that an operation to provide technical assistance and temporarily running expenses:

- may be justifiable as an exceptional rescue operation where the beneficiary country will be in a position gradually to bear the running costs and take over from the temporary aid;

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[1] Period during which the operating budget was covered by the EDF; the comparison takes account of the increase in the general level of prices.

[2] This condition is set out explicitly in the text of the Convention of Lomé (Article 58(2)).

- may be beneficial to the country's health development and reasonable as an investment-linked technical assistance operation in as much as it contributes:

  - to the starting up of the project under the best technical conditions,
  - to on-the-job training of national doctors and ancillary medical personnel,
  - to the preparation in the best possible conditions and in as short a time as possible for the handing over to national staff;

- would, however, be of questionable value in that external aid would relieve the beneficiary country of responsability for bearing in full the burden of administration and management of the investment; in this case there is a danger that aid would only defer the problem without helping to solve it.

E. SUMMARY AND GENERAL CONCLUSIONS

1. The projects reviewed show that in the past the Community has concentrated on fixed health infrastructure at all levels of the health pyramid, either in the form of isolated projects or of comprehensive projects integrated in health development programmes. The completed projects which have been evaluated have therefore related only in the construction, modification and modernization of health units (hospitals, health centres, dispensaries, etc.)[1] and to operating aid for one of those units, Mogadishu hospital (Somalia).

2. In general these projects have led to a considerable improvement in the countries'health infrastructure. Most of the facilities financed are used at a rate which may be considered satisfactory. Some of them, however, in the intermediate and lower echelons of the health pyramid, have not been used to the extent normally expected.

   Even though the activities of certain health units may not be up to the objectives set or the capacity of the facilities, their usefulness is nevertheless in most cases unquestionable. All the projects financed have enabled the efficiency of the available health staff to be increased and treatment to be made more accessible to the sick. However, the cases of under-utilization make the investment costs too high in relation to the services dispensed.

   If some health units are not being fully utilized, this is because they lack adequate operating resources or in some cases because certain complementary conditions are not fulfilled, or even, but more rarely, because of errors made in the planning of the project or choice of location.

3. The first projects executed were insufficiently utilized owing to lack of staff and of operating and maintenance funds. The AASM Governments and the Commission were quick to realize the danger of providing too many medical facilities for the available operating resources: while health projects accounted for 9 % of first EDF commitments, this percentage fell to 4 % for the second and 3 % for the third EDF.

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[1] The EDF has, moreover, financed only one major health campaign: that against onchocerciasis (Mali, Upper Volta, Ivory Coast)

Furthermore, the operating problems have diminished over the years. The recent establishment of new medical faculties in Africa will help solve the problems - which are still very real - caused by the shortage of national doctors, provided, however, that their salaries can be borne by the health budgets of the countries concerned. With the opening of a number of schools for training ancillary medical personnel, the direct requirements for staff of this category can be met or soon will be. A number of programmes for training maintenance staff, launched at the Commission's insistence and carried out with EDF financing, may be considered an effective and practical solution to the acute problems of maintaining equipment. Nevertheless, the crucial problem remains the general inadequacy of the countries' own financial resources, particularly as regards operating funds; this shortage of funds reduces the efficiency of the staff in the units, even if they are working inbetter facilities and with better equipment.

4. Examination of the conditions in which completed projects financed by the EDF are being used shows that in general a major higher ranking hospital has a better chance of being properly used and is more likely to be viable than health units at the intermediate and lower levels. The reason for this is that Governments tend to concentrate their funds, staff and equipment on the former, which also satisfy the needs of national prestige. Thus provided with adequate funds and staff (reinforced by external aid where national resources are lacking), the major hospitals are generally fully used: to 90 - 100 % of their theoretical capacity and sometimes even beyond that. However, the intermediate and lower-level units are very often not used to the extent planned because an uneven allocation of operating resources works to their disadvantage. The recorded utilization rate is between 40 % and 70 % for secondary hospitals and health centres[1].

[1] See Chapter B,I,1, p.5.

In general, the further the unit is - functionally and structurally - from the centre of things, the more difficult the operating conditions become: very often rural dispensaries are deprived even of the most elementary requirements (medicaments, etc.); sometimes they are even left empty for long periods because there is no nurse.

5. A health unit may be underutilized even if all the internal operating conditions are satisfactorily met; for an establishment to be able to fulfil the function devolving upon it within the health pyramid certain complementary conditions must still be met: adequate admission regulations, good road links with the catchment area and between health units of different levels, availability of transport, support from the population, etc.[1]

Consequently it is necessary when planning a project to examine not only the operating conditions proper, but also the necessary complementary conditions and possible ways of improving those conditions, for example: working and living conditions of the medical and ancillary medical staff, amount of financial resources devoted to health, etc. Only if most of these conditions are met in a suitable manner can optimum use be made of each and every health unit - provided of course that they have been planned in a rational fashion.

6. What are the criteria for rational planning of such investments? A country's health infrastructure will operate rationally and economically only if all its constituent parts are harmoniously integrated within a coherent and well-balanced whole. This assumes that:

- the characteristics of the infrastructure will be adapted to the country's financial and staff resources ;

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[1] See Chapter C,I,3, page 30 et seq.

- hospitals will be organized on a regional basis in order to reconcile the population's health needs with staff and financial constraints;
- all health units of different levels will be organized on a hierarchical pattern from the technical and functional angles and with regard to specialization and capacity.

Failure to observe these principles involves distortions or imbalances at national level: overutilization of some units and underutilization of others; preferential health can for some parts of the population and neglect of others.

7. The volume of foreign contributions of funds, supplies and staff, which often alone make it possible to guarantee the proper functioning of the health units, indicates the gap between the operating requirements of the existing health infrastructure and the country's own resources. For example external financial aid may be estimated at more than 300 % of the national operating budget for health in Upper Volta and 40 % in Niger[1]. The proportion of doctors provided by technical assistance out of the total number of doctors amounts to 35 % in Niger and Mauritania, 70 % in Upper Volta and 40 % in Somalia and Cameroon[2].

When a new project is planned a detailed examination must therefore be made of whether running costs can be covered - by national resources or dependable aid. Examination of the project will also involve assessment of the measures taken or planned by the national authorities in order to increase the country's own resources which can be allocated for running the health services[3]. If there is no way of ensuring that the project will be properly run, either it must be scaled down to what the country can afford

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[1] Estimated volume of external operating aid (without staff)
Upper-Volta: approx. CFAF 400 million
Niger : approx. CFAF 200 million
See also Chapter C,III,3, page 43.

[2] See Chapters C,II,1, page 33 and B,III,2, page 12.

[3] See Chapter C,III,4, page 46.

or efforts must be made to obtain the same health objectives by appropriate action in the preventive medicine field.

8. With regard to the choice of the design and characteristics of a new building the success of the project financed by the EDF in Niger[1] highlights the need to examine possible alternatives (e.g. construction of a general hospital or of several health units outside the capital; new building or modernization of an existing hospital, etc.).

In order to avoid structural and functional imbalances at national level the choice must be made with consideration for:

- the characteristics of existing infrastructure, not only in the public sector but also in the private sector; there were for example, very good reasons for constructing a national hospital in Nouakchott but for deciding against a new general hospital in Niamey;
- the country's medium-term financial and staff resources.

The replacement of an out-of-date hospital is not necessarily the best solution. Repairs and modernization may be more advantageous since:

- they enable recurrent costs and supplementary staff requirements to be adapted better to available resources;
- they may reduce the risk of creating surplus capacity.

9. The technical design often reflects the ambitious aims of the national authorities. In order to be able to provide efficient medical services with limited resources and to improve the chances of those services being

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[1] See Chapter C,I,2, page 27 et seq. and Annex I/17-19.

run smootly, the design must be adapted not only to the technical, financial and staff resources for running and maintaining those services but also to the level of education of the users, the real health needs, local conditions and the populations standard of living.

From this angle the technical design must have sufficient flexibility as to architectural solution, structure of the buildings, choice of building materials, fixtures and equipment[1].

10. To sum up, where there is an existing infrastructure which is well distributed geographically, a new project's chances of success increase to the extent that (as was the case in Niger) the various elements of the health infrastructure can be gradually adapted - in both quality and quantity - to the requirements of the population. The existence of a development plan setting out the various stages of its implementation will facilitate such adaptation and avoid structural, financial and staff distortions. In view of the very limited resources of most of the countries, any efforts to improve, modernize and make existing health infrastructure and equipment more effective must have priority over new buildings.

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[1] See Chapter C, IV, pages 48-53

11. The uneven distribution of financial and other resources and of staff in favour of big towns and to the detriment of both rural areas and preventive medicine indicate the direction which future guidelines could take. Governments are fully aware of these imbalances. However, in spite of the theoretical priorities laid down in their health policies, preventive medicine and social medicine would be virtually non-existent in most countries without support from the various external aid sources.

Preventive medicine has less spectacular effects but is much more effective since it attacks the very causes of disease.

On a national scale available resources should be better distributed in a concrete and practical fashion between curative and preventive, concentrated and dispersed, fixed and mobile medicine.

12. In many countries (e.g. Upper Volta, Niger, Chad) social medicine is provided from health centres by means of mobile teams. The purpose of these teams is to carry out, in conjunction with one another, the tasks of:

- detection: making contact with the bulk of the population to permit the systematic tracking down of diseased and deficiencies;
- prevention: taking advantage of the gatherings of people to give vaccinations systematically;
- on-the-spot treatment of those who are found to be sick but do not need to be hospitalized;
- removal of the seriously ill to a health unit;
- health education.

This kind of social medicine, although based on very simple and relatively low-cost principles, cannot, however, give positive results unless it covers the whole of the scattered population at suitable intervals. In practice, despite often substantial foreign aid, it does not attain all its objectives because of the general shortage of staff, means of transport, medicaments, vaccines, etc.

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13. Social medicine presupposes operational and administrative integration of curative and preventive medicine.

Operational integration may be achieved by health-centres embracing a rural hospital or rural treatment centre (including hospitalization and outpatient departments) and mobile medicine services. The most effective formula seems to be versatility, providing all-round and complete health protection within a given unit, namely care and prevention, health education, maternity and child health, hygiene measures, etc. Moreover, it enables very rational use to be made of medical staff; doctors are grouped together in health centres and can take responsibility for and supervise lower-level establishments (rural centres, dispensaries, etc,) and mobile medicine.

In order to avoid operational straims or anomalies, administrative integration of responsibilities is necessary at the highest level, in other words within a directorate of the Health Ministry. This integration is justified by the imperatives of elaborating health activities, planning the methods applied and distributing financial and staff resources as rationally as possible. Moreover, the systems of reference and supervision must be strictly determined at national level, for without this there is a danger that integration of the operations themselves may be sidetracked to fit in with the initiatives of each head doctor responsible.

14. Integration of curative and preventive medicine at health centre level must be supplemented by health education; in particular measures must be taken to promote hygiene, to protect of mother and infant, and to combat malnutrition.

Health education is both complementary to curative and preventive medicine and also the condition upon which the effectiveness of the two forms of medicine depends. Any health operation risks not being fully effective unless it is accompanied by the support of the people, by campaigns to inform them on the causes of disease and simple and practical methods of avoiding disease, and by improvement of the material living conditions upon which the health situation depends.

Health projects therefore depend partly on other development schemes dealing with agricultural development, water supply and drainage, and training.

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15. In conclusion, any health development policy or plan, any investment in health infrastructure and any action in the field of health must fit harmoniously into the country's socio-economic context and the general development plan.

The choices to be made in the health field could be based on the following criteria:

- in order to maintain or achieve a coherent, balanced infrastructure and to avoid distorsions, the principles of a suitable degree of regionalization and organization on hierarchical lines must be observed; installations and equipment must be adapted to a country's financial and staff resources; a rational increase in these various resources must be programmed on a fairly longterm basis; such resources must be also allocated on a reasonable regional and hierarchical basis.
- all the health activities (curative, preventive, educative) must fit into a coherent, systematized framework made up of all the country's health services;
- to prevent the imbalances in favour of urban areas becoming more marked it seems advisable for the objectives of external aid to be oriented as a matter of priority towards strengthening all health services in rural areas:
  - either by setting up or improving units (rural centres) which can be used as a base for integrated health measures;
  - or by direct aid to integrated social medicine measures (campaigns against endemic diseases, detection and prevention campaigns, etc.).
- health education measures, measures to combat malnutrition and to promote the protection of mother and infant are vital as a complement to health infrastructure investments.
- water supply and waste water disposal programmes are particularly important in that they contribute to improving general conditions of hygiene: drainage project (waste water disposal, etc.) may have more beneficial effects on a population's state of health than

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a health project proper.

- staff training must tie in with the development of infrastructure and the various health projects in order to ensure that:
  - an adequate number of medical and ancillary medical staff is available in good time,
  - staff qualifications are adapted to specific local requirements, particularly to the special requirements of social medicine and health projects in rural areas.
- where health projects (in particular health programmes) are financed by external aid, better coordination of such aid would be useful. One may well ask wether this coordination can be achieved by the recipient State alone; efforts by the various international organizations themselves and the donors of bilateral aid might perhaps make the operations undertaken more effective.

External aid in the field of health is undoubtedly a duty imposed by human solidarity and also a political necessity. Integration of such aid in national economic and social development efforts is therefore all the more necessary. Improvement of the population's standard of living by well-balanced economic development will to a large extent provide solutions to the problems which health projects alone cannot resolve.

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ANNEX I/1

THE PROJECTS

Objectives, design and general results

1) Projects undertaken in Madagascar

The common objective of the three projects financed from the resources of the first EDF in Madagascar was the replacement of a part of the existing hospital infrastructure which had fallen into disrepair and become overloaded. These projects involved the construction of a hospital pavilion in Majunga, a new hospital in Manakara and the first part of a new hospital in Fort Dauphin. The use being made of these three projects was examined in 1974.

(a) Hospital pavilion in Majunga

The project for the construction and equipment of a hospital pavilion in Majunga [1], which was decided on in 1961, was designed to replace a part of the old hospital (100 beds), which had fallen into disrepair and become unusable, and to carry out a simultaneous extension (100 beds) of the hospital. The capacity was thereby increased to 550 beds, corresponding to the requirements of this general hospital, which covers a whole province.

The architectural design of the three-storey building, which came into service in 1965, has proved particularly successful. The building is in a good state of maintenance and almost all the equipment, which has been well looked after, is still in service. The available maintenance funds have up till now enabled all necessary work to be carried out.

The activities of this hospital show that it corresponds very well to the population's requirements. The number of patients hospitalized and hospitalization days is constantly increasing. The occupancy rate increased from 77 % in 1968 to 91 % in 1973. In addition, there has been a drop in the number of out-patients as a result of the opening and improvement of the dispensaries [2] in the town of Majunga. Out of a total staff of 170, there are 11 doctors and 52 nurses and health assistants, and a number of the doctors and nursing sisters are supplied by French technical assistance schemes. The number of ancillary-medical and auxiliary staff must be considered insufficient.

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(1) Expenditure : 382.000 u.a.
(2) Dispensaries run by missions, semi-official or private bodies or by the State.

The operating budget (staff excluded) of the hospital seems to be barely sufficient. Expressed in terms of operating costs(1) per bed (FMG 105.000) and per day's hospitalization (FMG 260), the operating budget is roughly of the same scale that of the similar capacity hospitals in Ouagadougou (CFAF 116.000 and CFAF 390) and Bobo Dioulasso (CFAF 125.000 and CFAF 350) and considerably less than that of the hospitals in Mogadishu, Somalia (CFAF 185.000 and CFAF 565) and Zinder, Niger (CFAF 157.000 and CFAF 450). The hospital's revenue from the 20% of the hospitalized patients who pay for their treatment must be paid to the Treasury.

To sum up, the usefulness of the investment made by the EDF is undeniable, and the attitude of the population is relatively favourable. The only impediment to the use of this project is a general shortage of medicaments.

(b) Hospital in Manakara

The construction and equipment of a new 100-bed hospital in Manakara, with the possibility of extending the capacity to 150 beds, were meant to make it possible to replace and slightly increase the capacity of the old hospital installed in 1930 in already antiquated premises, which were supplemented in 1952 by a more modern pavilion, and situated over 3 km from the town. The objective of the project (2), which was decided on in 1961, was to transfer the hospital installations into the town. Consequently, preference was given to the construction of a new hospital in the town centre rather than to the modernization of the old one.

The good general appearance of the hospital, which entered service in 1967, reflects the satisfactory general maintenance. The maintenance of the medical equipment, however, poses problems because of the shortage of qualified staff and the lack of local repair facilities.

The activities of the hospital used to be completely satisfactory, but have been distinctly falling off for one or two years now as a result of a decline in the hospital's reputation with the population. As a result,

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(1) Figures for 1973, and 1975 for Zinder.
(2) Cost : 437.000 u.a.

the occupancy rate fell from 73 % in 1972 to 41 % in 1974, a trend accompanied however by a 50 % increase in the number of patients hospitalized.

The total staff, all of which is Malagasy (55 including 5 doctors), seems to be sufficient for this 150-bed hospital. The operating budget (staff excluded), which is lower than the estimates made when the project was designed, is insufficient, hence the need for various economy measures (restrictions on lighting, use of vehicles, etc.).

To sum up, the operation of the hospital is relatively satisfactory in spite of the low level of financial resources available. The objectives of this project can be considered to have been achieved. The one blot is the fact that the old hospital has not been completely closed. In spite of its pitiful state of disrepair and sordid fittings, the old pavilion is still being used (50 beds for contagious and chronic patients). Administratively it is attached to the new hospital and served by the same staff, but, because of its separate location, it is outside the normal control of the head doctor.

(c) Hospital in Fort Dauphin

The objective of the project for the construction and equipment of the first part of a new 96-bed hospital with surgical block in Fort Dauphin was to replace a unit that had become unusable as a result of a tornado. The design of this project (1), which was decided on in 1961, made provision for the possibility of a subsequent enlargement to a 150-bed capacity. To replace the old hospital, which was situated in the European residential quarter, a site near districts inhabited by the Malagasy population was chosen.

Because of the almost complete lack of maintenance, the hospital, which entered service in 1967, is in an advanced state of deterioration (broken windows; cracks between posts, beams and partitions; door and window frames badly rusted, etc.). Because of the shortage of qualified technical staff and financial resources, the maintenance and condition of the fixed installations and medical equipment are also posing major

(1) Cost: 483.000 u.a.

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problems. The following items have been out of service for a long time : 12 out of 13 air-conditioning units, the lift of the two-storey building, the refrigerating installations, the emergency generator, part of the medical equipment, etc.

Because of the poor condition of the hospital, aggravated by a general lack of cleanliness and hygiene, the possibilities of using it are fairly limited (i.e., as regards the quantity, quality and complexity of the treatment given). This situation is inevitably reflected in the figures on the hospital's activities : 21 % occupancy in 1973 and 39 % in 1974, with an average period of hospitalization of five to seven days.

The total staff complement (46 including four doctors) is sufficient for a capacity of 120 beds (the secondary hospital in Gaoua in Upper Volta, by way of comparison, has a staff of 50 including three doctors). The staff complement is amply sufficient for the level of activity (less than 100 internal and external consultations per day).

The figures available on the operating budget (staff excluded) are not conclusive. The funds allocated in 1973/74 were relatively high to mop up the deficit of the preceding years. However, it is fairly surprising to see that the budget of Fort Dauphin (FMG 17.5 million in 1974) is almost as high as that of Manakara (CFAF 15.0 million in 1974) in spite of the latter's greater capacity and level of activity.

The usefulness of this investment has often been questioned, since at Manambara, 23 km from Fort Dauphin on an asphalted road, there has been a Lutheran mission hospital in existence since 1954. Experience has shown that it is unrealistic to see an affront to national prestige in the existence of a private foreign hospital - the sick are indifferent to notions of prestige. The undeniable success of Manambara (1) constitutes both the cause and the effect of the failure of the Fort Dauphin hospital. It is also a fact that the paying clientèle prefers Manambara, despite the higher level of charges (2). Even civil servants do not hesitate to have treatement at Manambara, even though in principle this is not allowed.

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(1) Capacity : 57 beds; occupancy: approx. 100 %; staff : American Lutheran missionaries; budget : FMG 40 million (1973); 95 % of treatment on a payment basis.

(2) The hospitalization charge is lower than at Fort Dauphin, but operations must be paid for.

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2) Health unit projects undertaken in Dahomey

In Dahomey, Community aid has financed the conversion of the hospital in Parakou into a secondary hospital, the extension of a small health unit in Savalou and the construction of a maternity unit in Athiémé. The total cost of these three projects, which were decided on in 1960 and came into operation between 1964 and 1966, amounted to 643.000 u.a. (first EDF).

(a) Secondary hospital in Parakou

The purpose of converting the Parakou hospital into a secondary hospital was :

- to remedy the serious shortage of operating equipment in the only hospital centre in the northern regions which could offer specialized medical treatment;
- to satisfy the regional health requirements and to reduce the number of cases where seriously ill patients were taken to the already overloaded hospitals in the south.

This project (1) increased the hospital capacity by 60 beds, to 190. It involved the construction and equipment of new buildings for surgery and the extension and equipment of the maternity wing.

This hospital constituted the main support for the health programme in the north of the country, a region with more than 500.000 inhabitants. Its activities are satisfactory although the occupancy rate is only 63 %. There are nearly 50 operations and 25 childbirths per week and 300 consultations per day. As a result of insufficient maintenance, the external appearance of the buildings leaves something to be desired.

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(1) Cost : 518.000 u.a.

(b) The hospital group in Savalou

The purpose of extending the medico-surgical centre in Savalou was to improve the working conditions of a health unit which was equipped with medico-surgical facilities but had limited hospitalization capacity and insufficient maternity facilities.

The project (1) involved the construction of a 30-bed maternity unit and a maternity and child health centre. The capacity was thus increased to 126 beds, which corresponds to the needs of the district population of 65.000. With a total staff of 40, led by a doctor, the hospital group functions satisfactorily. The modest but robust and practical buildings are well maintained and make a good impression.

(c) Maternity unit in Lokossa

The objective in building this maternity unit, which was initially planned for Athiémé but actually built in Lokossa, was to modernize the existing health unit since its buildings were in disrepair and its capacity was insufficient.

The project (2) provided for the construction of a modern 36-bed maternity unit and the conversion of the existing maternity unit into a hospital pavilion. The construction work was completed in 1961, but the buildings were not in fact occupied until 1966, when they were connected to the local water supply network.

The maternity unit is functioning excellently and the buildings are well maintained.

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(1) Cost : 85.000 u.a.

(2) Cost : 40.000 u.a.

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3) Mauritania : National hospital in Nouakchott

In Mauritania, Community aid has financed the construction of the national hospital and the school of nursing. Further decisions have been taken on the financing of two additional projects : in 1973 on the building of a polyclinic in Nouakchott and the organization of a maintenance department, and in 1974 on the extension of the national hospital.

At the time of independence, when the project for the construction and equipment of a hospital and school for nurses in Nouakchott was being studied, the situation in Mauritania was characterized by :

- uncertainty as to the future of the new capital in Nouakchott, for which a maximum population of only 15 to 20.000 inhabitants was planned;
- the almost complete lack of ancillary medical staff;
- the lack of any real health infrastructure at national level: only three hospital units, without major technical resources, were operating within the territory (1), together with a very small number of medical centres of minor importance. Two-thirds of the seriously ill patients had to be taken to hospitals in neighbouring countries, particularly to St. Louis and Dakar in Senegal and Kayes in Mali.

As a result, the project (2), which was decided on in 1961, was designed to provide :

- the first 135-bed section of a larger hospital with a planned final capacity of 250 beds;
- the first part of a school of nursing partially integrated into the hospital for the rapid training of middle-rank hospital staff;
- the first part of a future national hospital which would serve nationally as a centre for diagnosis and more serious cases and locally as a hospital centre for the region around the capital.

(1) Atar, Aioun, Kaedi

(2) Total cost 2.5 million u.a.

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The technical design had to be such that future extensions could be carried out without modifying the technical services and without disturbing the hospital's operation. Consequently, the medical installations were relatively over-generous for the number of beds installed. On the other hand, it was able to meet the existing national health requirements from the start.

The architectural design of the hospital as a large, modern three-level complex, dominating by its position the whole town of Nouakchott is an undoubted success. However, the design was bound to have an effect on the hospital's operation, and the technical design of certain items of equipment has proved to be too complicated for a country such as Mauritania. The maintenance of the hospital was particularly difficult due to the total lack of qualified staff and the problem of transporting spare parts.

In general, the hospital, which came into service in 1966, has fulfilled its objectives well, and the increase in its activities has been dramatic. The number of patients hospitalised more than doubled between 1967 and 1972. The number of operations doubled between 1969 and 1972 and the occupancy level reached and even temporarily exceeded the 100% mark. Lastly, the number of outpatients has increased to such an extent as to disturb the proper functioning of the hospital's services.

The hospital's capacity very quickly proved to be insufficient for two main reasons :

- the town of Nouakchott has developed at a rate that was never expected and has reached a population of between 50 and 70.000;
- the improvement of the transport network and means within the country has facilitated the movement of patients to the national hospital.

To remedy this situation within the hospital itself :

- the de facto capacity has gradually been increased from 135 to 230 beds(1) by the addition of beds, at the sacrifice of the essential space needed by each patient;

(1) 1974 : 250 beds.

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- the average period of hospitalization has sometimes been cut down to the safety limit;
- a draconian selection of admissions has had to be made.

Within the framework of policy of expansion adopted by the Government providing for the progressive establishment of a health infrastructure on two levels, the following priorities have been set :

- the partial increase of the national hospital's capacity by relieving it of its most simple cases via the creation of an urban polyclinic in Nouakchott;
- the overall extension of the hospital's capacity;
- the maintenance and improvement of all existing medico-technical installations.

In order to attain these objectives, decisions were adopted by the Community in 1973 and 1974 to finance :

- the construction and equipment of an outpatients, first-aid and selection centre in the town of Nouakchott as the first operational part of a future polyclinic;
- the technical assistance of a training expert for a period of two years to organize the maintenance department and the training of staff;
- the extension of the hospital to a final capacity of 450 beds by the addition of specialist services not yet in existence and the enlargement of others; this will enable the hospital truly to fulfil its role as the national hospital;
- the extension of the school for nurses by the construction of new teaching premises.

In view of the intense level of activities, the present staff (a total of approximately 200 including 11 doctors) seems to be overworked and the quality of treatment can only be suffering from this. On the basis of a comparison with other hospitals with a similar level of activities, a staff complement of between 250 and 300 would seem to be more adequate.

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The operating budget (staff excluded) available to the hospital has not kept pace with the development of its activities; it increased by only 10% between 1967 and 1972. However, its financial resources (CFAF 75.5 million in 1972) are at almost the same level as the budgets of the hospitals in Zinder in Niger and Bobo Dioulasso in Upper-Volta in spite of appreciable differences in hospital capacity(1). The operating costs(2) per bed (CFAF 330.000) and per day's hospitalization (CFAF 940) are very favourable compared with the other national hospitals for which figures are available(3), hence the conclusion that the funds allocated to the Nouakchott hospital can be considered amply sufficient. Account should nevertheless be taken of the fact that the heavy and specialized medical equipment of this national hospital, with all the related installations (two operating theatres, radiology block, laboratory, pharmacy, etc.), which were installed as the first instalment of a larger hospital, have a disproportionate effect on current expenses.

In short, the use made of the EDF investment in Nouakchott shows that the planned objectives have been fully achieved. Community aid has supplied the most important basic element in the country's health infrastructure and, encouraged by this success, the Community has continued to contribute towards this sector.

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(1) Nouakchott 230 beds (1974 : 250 beds), Zinder 450 beds, Bobo Dioulasso 700 beds.

(2) Based on 1972 budgets.

(3) Mogadishu CFAF 185.000 and CFAF 565 (1973)
Ouagadougou CFAF 116.000 and CFAF 390 (1973)
Niamey CFAF 225.000 and CFAF 670 (1975)

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4) Somalia : General hospital in Mogadishu

The initial project for the construction and equipment of a new general hospital in Mogadishu was followed by a number of consecutive technical assistance and temporary operating aid projects.

The objectives of the initial project (1), which was decided on in 1959, involved the construction and equipment of a 600-bed general hospital in Mogadishu to :

- replace the existing general hospital (Di Martino), which was considered to be beyond restoration;
- modernize and improve the hospital services in Somalia, and particularly in Mogadishu, to satisfy the growing health requirements.

The design of the project, which was drawn up before Somalia's independence, was based on three essential premises :

- the formal undertaking (2) by the Trusteeship Administration to obtain external aid in the form of medical staff until 1970 at least;
- the replacement of the old Di Martino Hospital and transfer of its staff and funds to the new hospital;
- the provision from the health budget of additional operating funds.

In 1962, after independence, when the hospital was completed and partly equipped, it became apparent that the Somali Government was not able :

- either to obtain enough external aid in the form of medical staff, Italy having progressively reduced its technical assistance;
- or to finance from its own budget the remuneration of the doctors (who of course were foreign since in 1963 Somalia had only two national doctors) and of the necessary ancillary medical staff;
- or to pay from its own budget for the operation of the hospital.

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(1) Total cost : 2.8 million u.a.

(2) Specified in the financing agreement, which was signed in 1959 before independence.

Furthermore, the old Di Martino hospital was not closed down.

In 1964, consequently two years after its completion, the hospital had still not come into operation. Following a request from the Somali Government, the Community took the necessary measures to ensure, exceptionally and for a limited period, the entry into service of the hospital. This series of temprrary technical assistance operations (1), which combined Community action and coordinated bilateral action by Member States, among which Italy, began in 1964 and tapered off progressively. It comprised :

- the recruitement of 31 doctors (1964-70);
- the recruitement of 70 ancillary medical, administrative and technical supervisory-level staff (1965-70);
- the payment of operating expenditure (1966-72).

In fact, the hospital as a whole began normal operation only at the beginning of 1966.

After the opening of the hospital and the assumption of operating expenditure by the EDF, many management and organizational problems arose. These poisoned the working atmosphere and created a general lack of cooperation, of any spirit of solidarity and even of respect for medical ethics. They also called into question the value of the Community's technical assistance. In addition, the hospital found itself in the thick of some political competitions : the old Di Martino hospital, instead of being closed, was improved and administered not without success with Soviet financial aid. There is no doubt that this situation created, among other problems, a general tendency to all sorts of exaggeration to the point where the hospital had become, in the view of Europeans as well as the Somali population, the "Mogadishu disaster", even though in reality the establishment was already working in a fairly satisfactory way.

In spite of all the difficulties which the hospital has experienced for reasons unconnected with the Community, the hospital has today attained to a great extent the objectives set for it. It has helped to satisfy the increasing health requirements and has proved to be generally well suited to the capacities of the State in terms of qualified staff and operating funds . ./.

(1) Total cost of the 8 projects : 4.9 million u.a. financed by the EDF.

The present level of activities of the hospital shows that its utility and effectiveness are undeniable. The occupancy rate for its 600 beds was 89 % in 1973 compared with 79 % in 1967. There are 35 operations and 85 childbirths per week and outpatient work has increased dramatically since 1967 to reach an average of 500 outpatient consultations per working day.

The hospital is currently being run on a normal basis by the Ministry of Health. The staff complement is sufficient (420) if not abundant compared with other major hospitals in African capitals. The replacement of the medical staff by Somali nationals is well advanced, and of the 31 doctors allocated to the hospital, 25 are Somali. The process of filling the ancillary medical, administrative and technical posts by Somali staff was completed in 1970.

The operating budget (staff excluded) can be considered sufficient to maintain an average level of operation, and is quite comparable with that of other national hospitals. It is, however, below the level provided by the Community during the transitional period, when it was meeting all the operating costs.

The modern six-storey building, which was built between 1960 and 1962, is still in a good condition owing to its technical design, which is well suited to the hot and humid climate, and to satisfactory current maintenance work. On the other hand, some of the fixed installations have deteriorated or even become unusable. The medical equipment, part of which has been replaced and modernized, is in a satisfactory or tolerable condition. The hospital suffers from the eternal problem of the shortage of qualified maintenance staff rather than of available funds. As a result, a programme for the training of maintenance staff for the hospital is currently being studied by the Commission.

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5) Health unit projects undertaken in Upper Volta

The investment projects financed in Upper Volta (1) from the resources of the first EDF, which were decided on in 1961, comprised :

- the construction and equipment of two secondary hospitals in Gaoua (120 beds) and Fada N'Gourma (2) (130 beds);
  10 Type A (21 beds) and Type B (35 beds) medical centres;
- the construction of 14 units for the major endemic diseases department;
- the modernization of the opthalmological dispensary in Ouagadougou.

Based on a general plan for the future to provide Upper Volta with hospital facilities, the projects were integrated into the existing, geographically well-established infrastructure so as to :

- build up, modernize and supplement a hierarchical and coordinated hospital system with all the treatment units forming the constituent parts of a well-organized and functional whole (3);
- improve working conditions for the purpose of campaigns against the major endemic diseases, in particular leprosy and trypanosomiasis.

The general design of the projects was governed by a prudent approach and provided for the implementation of the first stage only of a plan for the future in order to keep within the country's financial and staff capacities over the next few years: the project was confined to two out of the planned six secondary hospitals and to ten out of the planned 18 rural hospitals. In addition, the project comprised only :

- the first stage of the two secondary hospitals, comprising approximately 130 hospital beds, out of the 230 planned for Gaoua and the 400 planned for Fada N'Gourma;

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(1) Total cost : 4.4 million u.a.

(2) The initial plan to locate the hospital in Koudougou was changed in 1966.

(3) The two general hospitals in Ouagadougou and Bobo Dioulasso - the top of the "hospital pyramid" - and the single secondary hospital in existence (Ouahigouya) had already been enlarged, improved and modernized in 1961/62 with the help of French financial aid.

- the introduction of rural hospitals to be known as "health centres"; in view of the desired gradation, two different types were designed:
  - the Type A health centre (basic formula with 21 beds) to be run by a male nurse;
  - the Type B health centre (more sophisticated formula with 35 beds) to be run by a doctor;
- for the units of the major endemic diseases department, the replacement of the antiquated units built of temporary materials.

A feature of the technical design is the standardization of the structure of the buildings by using a prefabricated system (except for the units of the major endemic diseases department) and of the types of buildings. So it is possible, using a pavilion system, to carry out future step-by-step extension without having to convert the buildings and without disturbing the running of the unit. The prefabricated buildings have proved to be functional and well suited to the requirements of the health departments. In spite of the lack of regular maintenance, except in the two secondary hospitals, the buildings are in excellent condition.

The present level of activity of the units that have been built appears generally speaking to be satisfactory. Although the hospital capacity created is not always fully utilized, the establishments carry out a considerable level of external activities. The occupancy rate of the two secondary hospitals is between 50 and 60 %, and outpatient consultations number approximately 400 per working day. For the health centres, the average occupancy rate is 50 % with an average of approximately 130 outpatient consultations per day.

The units of the major endemic diseases department intended for the isolation of patients suffering from leprosy and trypanosomiasis are not all being fully utilized. With the introduction of an effective cure, the old methods involving the isolation of lepers have been made unnecessary, and the contagious stage of leprosy has been shortened to a few months. In addition, trypanosomiasis is very much on the decline.

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The staff allocated to the medical units financed by the EDF is sufficient for the level of activities. The two secondary hospitals, after some delay in their entry into service as a result of the lack of doctors, now have foreign medical staff (1); each Type A health centre is run by a male nurse, who is an Upper Volta national, and each Type B health centre by a doctor, generally foreign.

Only a very small part of operating costs of the health units is provided by the country's own budget resources (Ministry of Health and local authorities). It is only thanks to the additional financial and other aid from all sources (bilateral and multilateral aid, aid from private, philanthropic, religious organizations, etc.) that the units can operate in a satisfactory way. The greater part of the budgets of the two secondary hospitals are provided by German aid and by the "Frères des Hommes"-organization. These budgets can be considered amply sufficient, and the operating costs (staff excluded) per bed and per day's hospitalization are even higher than those of the general hospitals in Ouagadougou and Bobo Dioulasso. The budgets of the health centres, on the other hand, are insufficient, and the funds allocated irregularly by the Ministry of Health and the local authorities cover only a part of the financial requirements. Again only the various sources of additional aid enable the centres to function satisfactorily.

The health units financed by Community aid have to a great extent achieved the objectives assigned to them. The size of these units is suited to the available staff, but is out of proportion to the country's financial resources. The operating budget (staff excluded) of the Ministry of Health amounts to only 14 % of the total health budget and would not itself suffice for the operation of the two general hospitals in Ouagadougou and Bobo Dioulasso. The fundamental imbalance between the financial requirements of the existing health units and the country's own financial resources is compensated only by massive and continuous external aid. The de facto balance thus achieved is, however, extremely fragile, and the suspension of aid from one or more external sources would have catastrophic consequences on the operation of the country's health services.

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(1) Financed by German aid in Gaoua and by "Frères des Hommes" (a French non-profit making, non-political and non-denominational association) at Fada N'Gourma.

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6) Health unit projects undertaken in Niger

The projects implemented in Niger (1) and financed from the resources of the first and second EDFs comprised :

- the modernization and extension of the hospital in Niamey;
- the extension of the hospital in Zinder;
- the renovation and modernization of 5 departmental hospital centres (Maradi, Dosso, Tahoua, Agades and Diffa);
- the establishment of 6 hygiene and mobile medicine centres (Zinder, Maradi, Dosso, Tahoua, Agades and Diffa);
- the renovation of 3 arrondissement hospital-dispensaries;
- the construction of 16 rural dispensaries;
- the construction of a storage warehouse for the supply pharmacy.

In 1962, the Niger Government submitted to the EDF an initial project for the construction of a new hospital in Niamey. An overall study of the problems showed, however, that the health infrastructure situation of the country called for a number of extension and modernization projects in preference. The projects were based on a plan for the future (2) and their main objectives were to :

- remedy the poor quality of the existing hospital installations, particularly in the rural centres;
- improve further the overall health infrastructure, which comprised a body of health services well suited to the health requirements and to the particular conditions of the various regions of the country.

The general design of the project fitted harmoniously into this overall development plan for the public health services and was in line with the guiding principles which had been adopted : priority for the rural areas, priority for those projects which could increase the efficiency of the services while involving the minimum additional recurrent expenditure, priority for the renovation of old buildings in a state of disrepair,

(1) Total cost : 5.7 million u.a.

(2) Prospects for the development of the health services over the ten-year period 1965-74 adopted by the Niger Government.

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the principle of building new units only when the qualified staff was available.

As in Upper-Volta, a feature of the technical design is standardization of the structures and of the types of buildings. Although these technical characteristics were particularly suited to the new buildings (dispensaries, hygiene and mobile medicine centres), the extension work carried out fitted in harmoniously with the particular layout of the existing units. The new buildings, which came into service in 1973, have proved to be very functional, and all the buildings and equipment are in excellent condition.

The level of activities of the modernized, improved and enlarged medical units is generally very satisfactory. The national hospitals in Niamey and Zinder are being fully used (up to 100%). The use made of the departmental hospital centres is also very good and will increase further at the expense of the health centres as a result of the Government's decision in 1974 to gather together all the doctors in the chief towns of the departments. However, the activities of the health centres and of the dispensaries are also sufficient. The buildings of the hygiene and mobile medicine teams are in general well used; their operation depends essentially on the initiatives taken by the senior doctor in charge.

The number of staff allocated to the treatment units seems to be sufficient and the staff is in general well qualified, but the number of staff allocated to the mobile teams is insufficient.

The operation of the health units is financed in a fairly regular fashion; the health budget and the quota of the funds earmarked for operating expenditure make it possible to guarantee a fairly high level of treatment services at the upper level (national hospitals, departmental hospital centres), while the operation of the health centres area and of the rural dispensaries is financed from the funds of the local authorities. The sole exception is that the medicaments are distributed in kind to all the medical services within the departments. The greater part of the operating expenditure of the treatment units is thus provided from the country's own budget

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resources, while the mobile medicine projects (prevention, detection) are amply supported by external financial and other aid. To sum up, the country's own budget resources are not sufficient to provide medical treatment with fixed structures and also to undertake social medicine projects; consequently, the majority of these own financial resources are allocated as a matter of priority to the fixed treatment units, while most of the social medicine projects are left to external aid.

The utility and effectiveness of the projects carried out in Niger are undeniable. Their harmonious integration into the existing infrastructure has proved to have particular advantages: their gradual adjustment, in quantity and quality, to the particular and local health require- ments has entailed only such additional costs and staff requirements as can easily be mobilized from the country's own resources. This project constitutes a success from all points of view.

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7) Health unit projects undertaken in Cameroon

The four projects carried out in Cameroon and financed from the resources of the first and second EDFs involved the construction and equipment of :

- eight hospitals,
- thirteen hospital extensions (including 3 hospital pavilions),
- twenty-one bush dispensaries,
- a school of nursing in Bamenda,
- a central supply pharmacy in Victoria,
- accomodation for nineteen doctors.

The various units came into service between 1962 and 1971 : the health units in northern Cameroon mainly between 1967 and 1969, and the units in southern East Cameroon and West Cameroon between 1969 and 1971. The total cost of these projects is of the order of 8 million u.a., that is approximately 20 % of the aid granted to Cameroon from the resources of the first two Funds.

The objective of these projects was to bridge the economic and particularly the social development gap between north and south and to establish a better balance between the north and the south of West Cameroon.

In all, these projects increased the country's hospital capacity by 1360 beds out of the present 15.750 beds in the public health sector.

In general, the projects were integrated into an existing health infrastructure forming a hierarchical, coordinated system of all treatment units. With the exception of the dispensaries, the projects were limited to the extension, improvement and replacement of existing installations, thereby restricting the increase in recurring expenditure to the minimum.

All the health units are being used as intended and it is clear that they have made a decisive contribution to the quantitative and qualitative improvement of medical treatment, particularly in the rural areas. The figures show, however, that not all of the units are operating at

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full efficiency; their utilization is hampered above all by the shortage of medical staff and operating funds.

An examination carried out in 1971 of the use being made of these projects showed that the shortage of doctors and ancillary medical staff was fairly pronounced at that time. The problems now seem to be less serious, however, as can be seen from the available overall figures which show the favourable ratio of one doctor to 26.500 inhabitants and one nurse to 3.100 inhabitants.

The funds allocated to the various health units financed in Cameroon by the EDF seem to be well below those available to comparable establishments examined in the other countries. What is the reason for this unfavourable situation ? The health budget is relatively high (CFAF 3.952 million in 1973/74), and in spite of an unfavourable breakdown between staff expenditure (74 %) and operating expenditure (26 %), the operating budget of CFAF 1.046 million is well above the budgets of the other countries examined. The figures are also comparatively favourable for the annual per capita operating expenditure. This, however, is spread over a larger, more cumbersome hospital infrastructure than in the other countries examined (a total of 15.750 beds; one bed per 390 inhabitants). It would appear, consequently, that the health infrastructure is out of proportion to the country's financial possibilities. In other words, the insufficient level of operating funds for the various units seems to be a direct consequence of the maladjustment of hospital capacity.

Generally speaking, the projects carried out by the EDF suffered from a lack of current maintenance work in the early years after their entry into service. With the particular aim of remedying the shortage of qualified maintenance staff, the EDF is financing - for a four-year period beginning in 1972 - a project for the training of hospital maintenance staff. The objective is to :

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- ensure the maintenance and repair of the medical equipment installed in the country's various hospital units;
- train on the job repair technicians grouped into mobile maintenance and breakdown teams;
- train general-purpose workers in the hospital centres.

A first mobile team is in operation and is carrying out very useful work, visiting all the hospital units in turn.

Annex II/23

List of projects the utilization of which has been examined recently

Situation at 30 December 1974

	Accounting Number	Title of project	Cost of project (in '000 u.a.)
CAMEROON	11.22.201	Construction of a hospital pavilion in Meiganga	64
	11.22.202	Construction of a hospital pavilion in N'Tui	60
	11.22.204	Health units northern Cameroon	2.737
	211.002.04	Health units southern Cameroon	4.765(1)
DAHOMEY	11.21.602	Hospital group in Savalou	85
	11.21.603	Hospital group in Athiémé	40
	11.21.604	Secondary hospital in Parakou	518
UPPER VOLTA	11.21.706	Health infrastructure and equipment	4.401
MADAGASCAR	11.24.106	Hospital pavilion for the Majunga hospital	382
	11.24.109	Hospital in Manakara	437
	11.24.110	Hospital in Fort Dauphin	483
MAURITANIA	11.21.203	Hospital in Nouakchott	2.499
NIGER	211.013.10	Health equipment programme	3.296(1)
	211.013.14	Construction of 16 rural dispensaries	352(1)
	2100.461.13.12	Health equipment for 16 dispensaries	2.024

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(1) Total amount of the contracts.

Annex II/24

SOMALIA	11.31.001	New hospital in Mogadishu	2.820
	11.31.003	Technical assistance for Mogadishu hospital	895
	11.31.005	Temporary aid for the administration of Mogadishu hospital	350
	212.016.17	Temporary aid for the operation of Mogadishu hospital	1.328(1)
	212.116.19	Survey on the possibilities of reducing the operating costs of Mogadishu hospital (technical assistance)	4
	212.016.29	Temporary aid for the operation of Mogadishu general hospital	357(1)
	212.016.34	Temporary aid for Mogadishu hospital	334(1)
	213.816.03	Operation of Mogadishu hospital	653
	216.016.09	Temporary aid for the operation of Mogadishu hospital	990

(1) Total amount of the contracts.