

No. 04

**THE OBSERVATION REPORT  
ON  
INFECTIOUS DISEASES  
IN  
THE UNITED REPUBLIC OF TANZANIA**

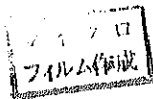
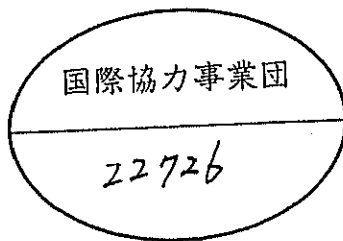
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## PREFACE

In view of the fact that control of infectious diseases is an important subject in the health sector of the developing countries, the Japan International Cooperation Agency (JICA) decided to conduct a basic study on the present state of infectious diseases in the United Republic of Tanzania as one of its activities for 1990 Fiscal Year.

JICA entrusted the contract works to the International Medical Foundation of Japan (IMFJ) and sent to the Tanzania a study team with four members headed by Prof. Teiji Kifune, consultant to the IMFJ, from January 28 to February 22, 1991.

The study team exchanged views with the officials concerned of the Government of the Tanzania, and conducted a field study in Dar es Salaam, Iringa and other parts of the Tanzania.

After the study team returned to Japan, the data obtained from the field study were analyzed and the present report has been prepared.

I hope that this report will be useful for the future promotion of Japan's cooperation in health and medical problems with the Tanzania.

I wish to take this opportunity to express my deep appreciation to the officials concerned of the Government of the Tanzania for the cooperation and hospitality extended to the study team.

June, 1991

Sekai Nishino  
*Vice President*  
*Japan International*  
*Cooperation Agency*



## Acknowledgements

The JICA observation study team greatly acknowledges the kind cooperation given by a large number of the United Republic of Tanzania authorities concerned with health services. Without their devoted helps the team would not be able to complete the observation within such a short period. The team particularly wishes to express its sincere gratitude to his kind cooperation given by Dr. G. P. Temu, of the Ministry of Health.

### Members of the Team

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Consultant to IMFJ:  
Department of Parasitology,  
School of Medicine, Fukuoka University

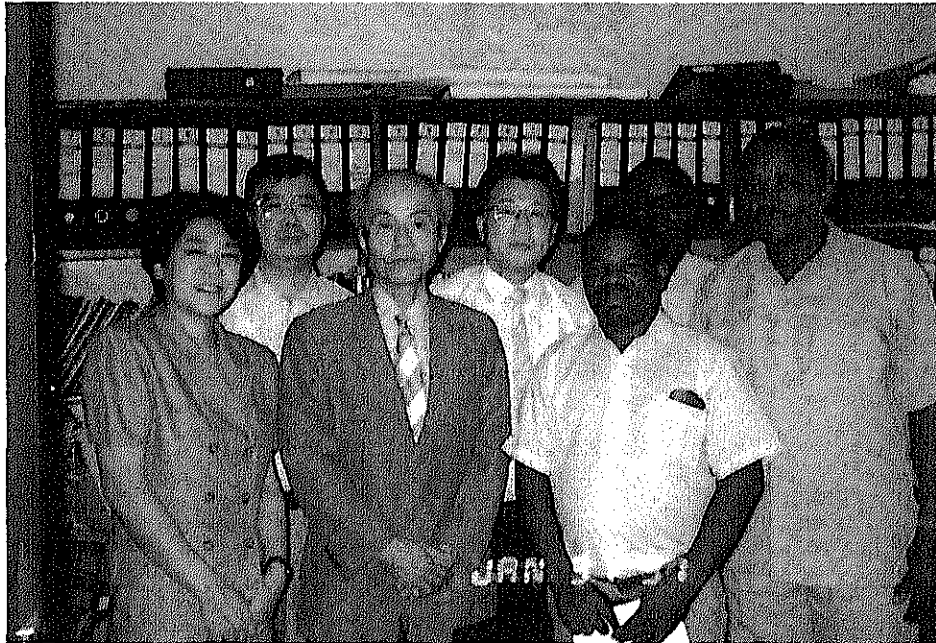
Members: Assoc. Prof. Hiroshi Une; M.D., Dr. Med. Sci.  
Consultant to IMFJ:  
Department of Hygiene,  
School of Medicine, Fukuoka University.

Dr. Kenji Kono; M.D., Dr. Med. Sci.  
Consultant to IMFJ:  
2nd Department of Internal Medicine,  
School of Medicine, Fukuoka University.

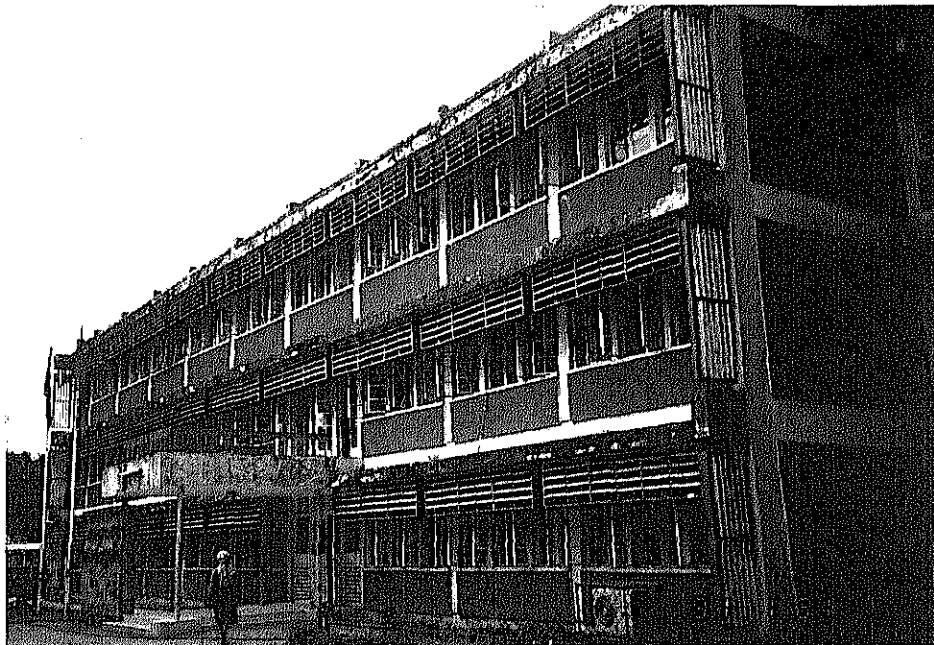
Ms. Akiko Okitsu; M. Publ. Hlth.  
Junior Expert of JICA.







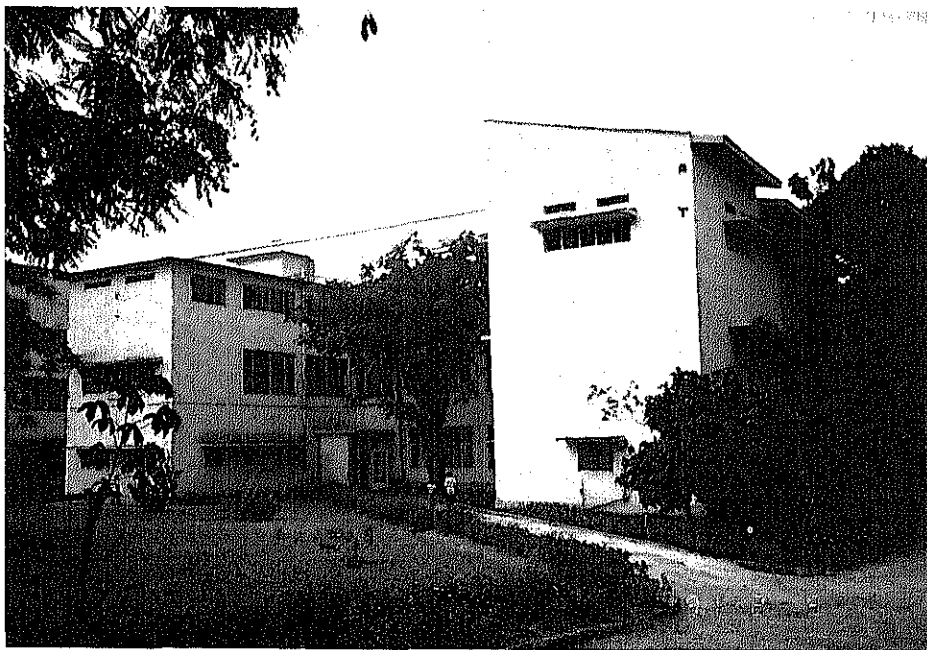
In Dr. Temba's room. Ministry of Health:  
Front row: Ms. Okitsu, Dr. Kifune, Mr. A. Y. Kahesa; back row: Dr. Kono, Dr. Une,  
Dr. J. M. V. Temba, Dr. G. P. Temu (from left).



Ministry of Health.



Office building of Faculty of Medicine, University of Dar es Salaam.



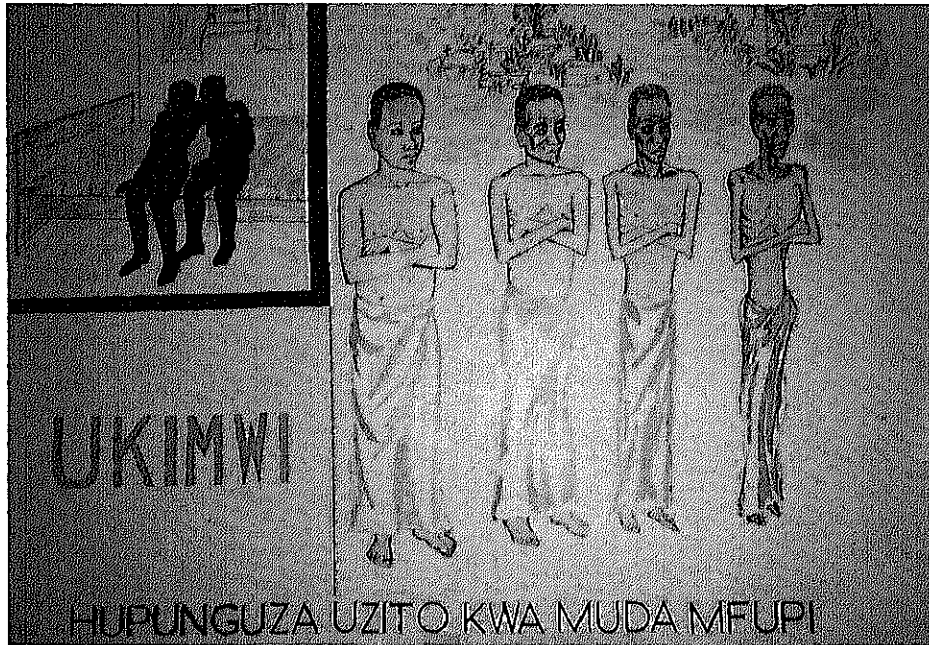
NIMR, Mwanza Branch (Mwanza).



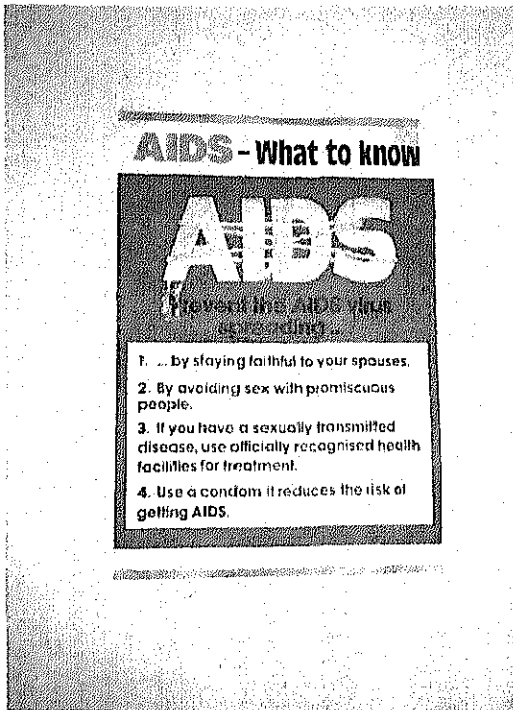
Bugando Medical Centre (Mwanza).



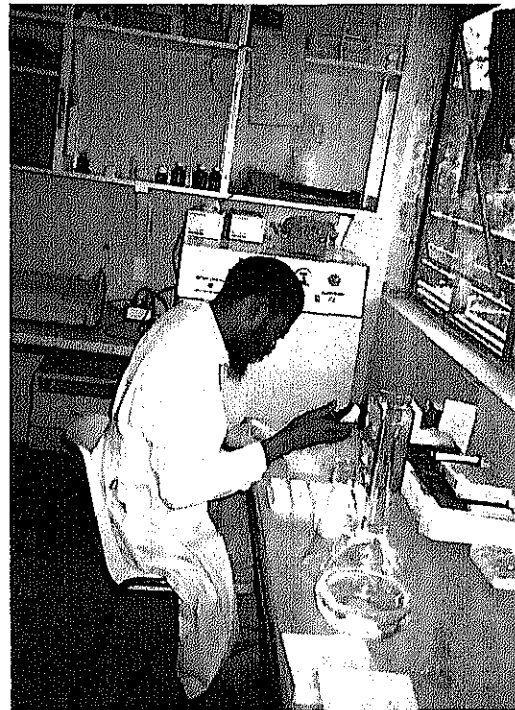
Nyanguge Health Centre (Mwanza).



A poster written in Swahili campaigning the prevention of AIDS.



A poster written in English campaigning the prevention of AIDS.

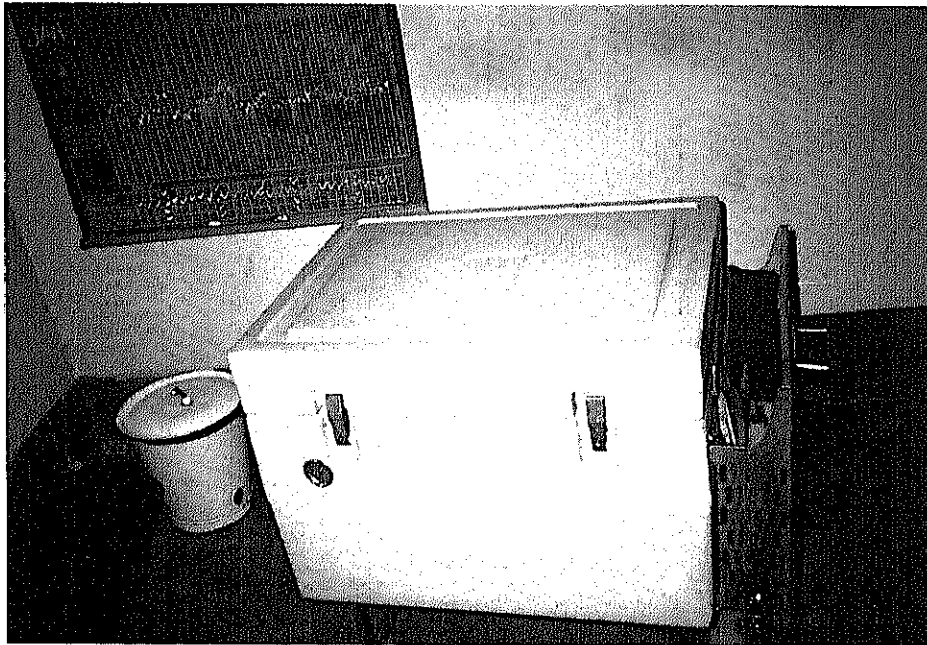


Laboratory room of Bugando Medical Centre (Mwanza).





Drug shelf in a dispensary.

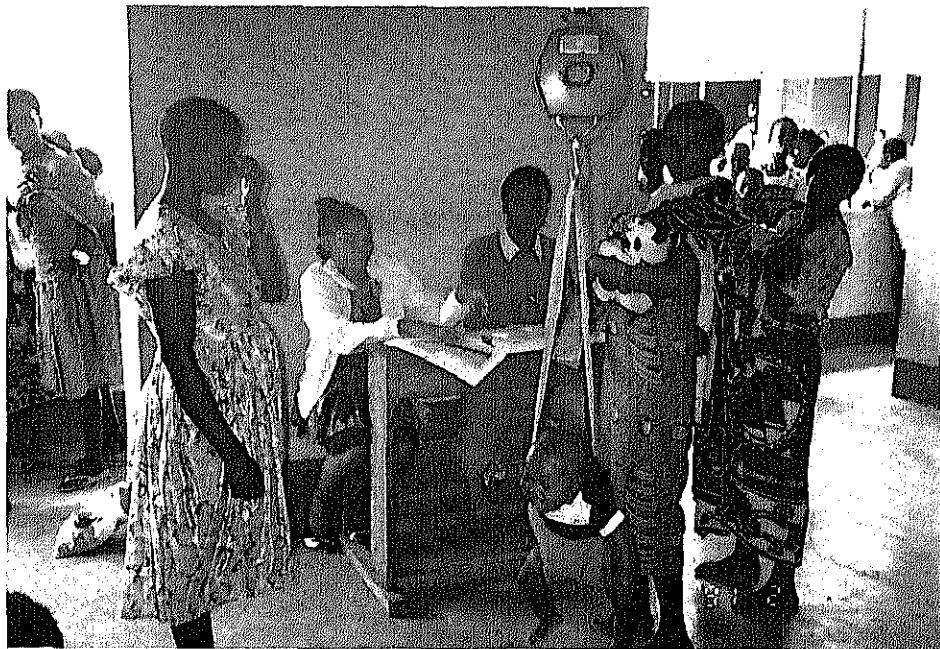


A deep-freezer operated with kerosine.

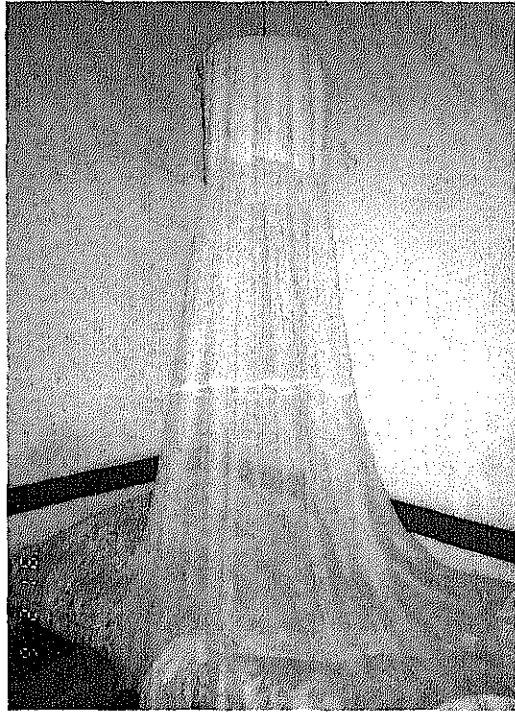
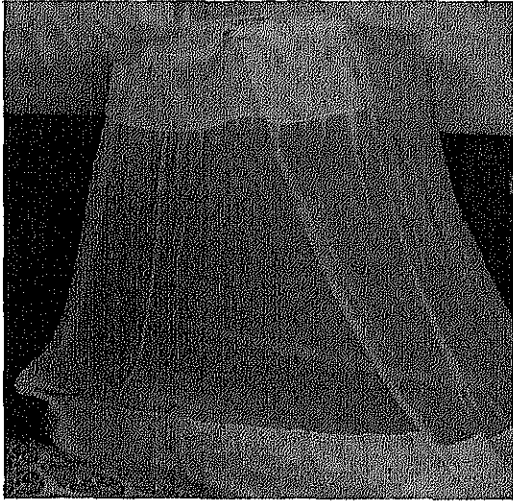




Scenery of a patients' room at Iringa Regional Hospital.



Scenery of periodical health examination of infants  
at Nyanguge Health Centre (Mwanza).



Two types of mosquito nets.  
Left: Ceiling is rectangular and suspended by two horizontal metal arms (*Mwanza*).  
Right: Ceiling is circular and hunged by a string (*Iringa*, also sold in the suburbs of Dar es Salaam).



A public well in a village of Iringa region.



## Schedule of the Observation Team

- |    |            |       |   |
|----|------------|-------|---|
| 28 | Jan. (Mon) | 15:10 | Departure from Narita.  |
|    |            | 19:05 | Arrival to Frankfurt.   |
| 29 | Jan. (Tue) | 19:45 | Departure from Frankfurt.   |
| 30 | Jan. (Wed) | 8:00  | Arrival to Dar es Salaam.   |
|    |            | 10:00 | Visit to JICA Tanzania Office.  |
|    |            | 11:00 | Courtesy Visit to Embassy of Japan.   |
| 31 | Jan. (Thu) | 9:00  | Visit to Ministry of Health, Preventive Health Services; Presentation of 10 copies of Inception Report. |
|    |            | 10:15 | Visit to Ocean Road Hospital & JICA Malaria Control Programme.  |
| 1  | Feb. (Fri) | 8:00  | Visit to Ministry of Health, Section of Statistics.   |
|    |            | 9:00  | Visit to Muhimbili Medical Centre.  |
|    |            | 10:10 | Visit to DANIDA (Kifune, Okitsu, & Iwanami).  |
|    |            | 11:30 | Visit to SIDA (Do.).  |
|    |            | 13:00 | Visit to NORAD.   |
| 2  | Feb. (Sat) | 9:00  | Visit to National Malaria Control Programme.  |
|    |            |       | Visit to Ocean Road Hospital (Kono).  |
|    |            | 10:30 | Visit to Government Chemist Laboratory.   |
|    |            | 11:00 | Visit to Aga Khan Hospital.   |
|    |            | 14:00 | Observation of the urban and suburban area of Dar es Salaam.  |
| 3  | Feb. (Sun) | 10:00 | Observation of the suburban area of Dar es Salaam.  |
| 4  | Feb. (Mon) | 9:00  | Visit to UNICEF.  |
|    |            | 11:30 | Visit to AMREF.   |
| 5  | Feb. (Tue) | 8:00  | Departure from Dar es Salaam by car (with Dr. G. P. Temu — Ministry of Health).                         |
|    |            | 17:20 | Arrival to Iringa.  |
| 6  | Feb. (Wed) | 7:15  | Departure from Dar es Salaam for Japan (Okitsu).  |
|    |            | 8:00  | Visit to Iringa Regional Hospital.  |
|    |            | 12:00 | Visit to Ismani Rural Health Centre.  |

- 15:00 Visit to Nzihhi Dispensary.  
 15:30 Visit to Kalenga Dispensary.  
 16:00 Visit to Nyhmihuu Village Health Post.
- 7 Feb. (Thu) 10:00 Departure from Iringa by car.  
 19:30 Return to Dar es Salaam.
- 8 Feb. (Fri) 11:00 Departure from Dar es Salaam by airplane  
 (with Dr. G. P. Temu — Ministry of Health).  
 12:30 Arrival to Mwanza.
- 9 Feb. (Sat) 8:30 Visit to Mwanza Medical Research Centre.  
 11:00 Visit to Mwanza Regional Health Office.  
 11:45 Visit to Bugando Medical Centre.
- 10 Feb. (Sun) 11:00 Observation of a dumping-ground.
- 11 Feb. (Mon) 9:00 Visit to Mwanza Regional Health Office.  
 11:15 Visit to Nyanguge Health Centre.  
 12:30 Visit to Magu District Hospital.  
 15:00 Visit to Bugando Medical Centre,  
 observation of Department of Immunology  
 & Blood Bank.
- 12 Feb. (Tue) 8:30 Visit to Department of Water Supply &  
 Management of sewage in Mwanza Town.  
 15:40 Departure from Mwanza by airplane.  
 16:15 Return to Dar es Salaam.
- 13 Feb. (Wed) 11:00 Visit to NIMR.
- 14 Feb. (Thu) 9:00 Visit to Section of National AIDS Control  
 Programme, Ministry of Health.  
 Making the draft of Progress Report  
 (Kifune).
- 15 Feb. (Fri) 10:00 Visit to Faculty of Medicine, University of  
 Dar es Salaam, observation of main sec-  
 tions of Medical & Pharmaceutical courses.
- 16 Feb. (Sat) 10:00 Observation of the suburbs of Dar es  
 Salaam.
- 17 Feb. (Sun) Discussion on the preparation of Progress  
 Report.
- 18 Feb. (Mon) 14:00 Visit to WHO.  
 15:00 Visit to JICA Tanzania Office.
- 19 Feb. (Tue) 11:00 Visit to Embassy of Japan to report the  
 completion of the work.

12:00 Presentation of 10 copies of Progress  
Report to the Ministry of Health.  
14:00 Visit to WHO to receive some documents.  
20 Feb. (Wed) 9:25 Departure from Dar es Salaam.  
18:30 Arrival to Frankfurt.  
21 Feb. (Thu) 17:15 Departure from Frankfurt.  
22 Feb. (Fri) 12:20 Arrival to Narita.



# The List of the Institutes, Hospitals, and Others Visited and the Staff Personnel

Dar es Salaam

Ministry of Health

Preventive Health Services

Dr. J. M. V. Temba (Director)

Control of Communicable Diseases

Dr. G. P. Temu (Senior Medical Officer)

Environmental Health

Mr. A. Y. Kahesa (Principal Health Officer)

Planning Section

Mr. E. W. M. Manumbu (Senior Health Economist)

Health Information

Mr. S. Ngatunga (Programme Officer)

National AIDS Control Programme (NACP)

Dr. K. M. Nyamuryekungè (Manager)

National Malaria Control Programme

Mr. J. H. Marijani (National Coordinator)

Government Chemist Laboratory

Dr. V. W. K. Fupi (Chief Government Chemist)

National Institute for Medical Research (NIMR)

Prof. Dr. W. L. Kilama (Director-General)

African Medical and Research Foundation (AMREF)

Dr. J. B. Male-Mukasa (Country Director)

Dr. U. Laukamm-Josten (AIDS Project Leader)

Muhimbili Medical Centre

Prof. G. Mwalluko (Director General)

Prof. B. M. Minja (Associate Dean & Postgraduate Head)

Dr. R. A. Lema (Haematology)

Dr. F. S. Mhalu (Medical Microbiology)

Prof. J. S. Shao (Microbiology & Immunology)

Prof. J. N. Minjas (Parasitology & Entomology)

Dr. Y. J. S. Mashalla (Physiology Department)

Dr. D. S. M. Mwakagile (Microbiology Department)

Mr. K. S. Mnyika (Acting Head, Epidemiology & Biostatistics)

Mr. J. Waziri (Public Relations Officer)

Mr. R. N. Machumu (Training Officer)  
Ms. N. J. Mushi (Matron)  
Infectious Diseases Unit  
Mr. G. Lallinger (Senior Lecturer & Head)  
Traditional Medicine Research  
Mr. E. N. Mshiu (Director)  
University of Dar es Salaam, Faculty of Medicine  
Prof. S. Y. Maselle (Dean)  
The Aga Khan Hospital  
Ms. B. Shah (Assistant Director)  
Dr. Mughusi (Consultant Physician)  
Ocean Road Hospital  
Malaria Control Project (JICA)  
Dr. K. Ichimori  
World Health Organization (WHO)  
Dr. H. A. van Asten (Team Leader of SPA)  
United Nations Children's Fund (UNICEF)  
Dr. B. Laungquist (Programme Officer)  
Dr. Z. M. Mkumbwa (Project Officer)  
Dr. B. Tolstopiatov (Project Officer)  
Danish International Development Agency (DANIDA)  
Health Section  
Mr. P. M. Larsen (Director)  
Swedish International Development Authority (SIDA)  
Ms. M. Sundgren (Programme Officer)  
Norwegian Agency for Development Co-operation (NORAD)  
Mr. S. E. Froyn (Senior Programme Officer)

#### Iringa

Iringa Regional Health Office  
Dr. M. M. Mwakajila (Regional Medical Officer)  
Dr. E. Y. Mpuya (District Medical Officer)  
Mr. G. J. Kyambile (Regional Health Officer)  
Iringa Regional Hospital  
Dr. O. S. Lushino (Director)  
Ismani Rural Health Centre  
Mr. A. S. P. Myinga (Senior Rural Medical Aide)  
Nzihi Dispensary  
Ms. K. Mbemu (Rural Medical Aide)

Kalenga Dispensary

Ms. A. Nyakunga (Rural Medical Aide)

Nyhmihuu Village Health Post

Mwanza

Mwanza Regional Health Office

Dr. J. Madukwa (Acting Regional Medical Officer)

Dr. Z. Z. Sekirasa (Medical Officer of Health)

Mwanza Medical Research Centre

Mr. B. S. Kamugysha (Administration Officer)

Dr. F. F. Mosha (Epidemiological Researcher)

Mr. J. H. Changalucha (Microbiology Laboratorian)

Department of Tropical Medicine

Dr. M. W. Borgdorff (Expert from the Royal Tropical  
Institute, the Netherlands)

Bugando Medical Centre

Dr. F. C. Kigadye (Director & Consultant Physician)

Magu District Hospital

Dr. A. G. Mchele (District Medical Officer & Director)

AIDS Unit

Mr. D. E. Mayunga (Administration Officer)

Nyanguge Health Centre

Ms. M. Rwiza





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## INTRODUCTION

Japan International Cooperation Agency (JICA) has already been extending its technical cooperation to the United Republic of Tanzania in various fields including health and medical aspects. In order to explore future cooperation, JICA decided to carry out an observation of the present status of infectious diseases as well as the control strategies in Tanzania by sending the present observation team composed of 4 members who cover parasitology, epidemiology, public health, and microbiology.

The team has been in Tanzania for 22 days from January 30 to February 20, 1991, and visited Dar es Salaam, the capital of the country, and some provincial areas in Iringa and Mwanza regions. In those places the team not only studied available informations on the health status and other health related documents, and observed the existing institutions for preventive and curative services, manpower programmes and activities to control various infectious diseases, but also discussed with the authorities concerned on the health status of the people of Tanzania and strategies to control the diseases prevailing in the country or the areas visited.

This report summarizes the observations and some recommendations for the future cooperation between Tanzania and Japan.



# **I. Present Status of Health and Medicine**

## **1. Administrative Organization**

The administration of health care is divided into three levels. The Centre Level is under the jurisdiction of the Ministry of Health, the Regional Level under that of the Regional Medical Officer, and the District Level under that of the District Medical Officer.

Figure I-1 shows the organization of the Ministry of Health. The Ministry of Health is divided into the following five divisions:

1. Preventive Service
2. Hospital Service
3. Manpower and Training
4. Manpower and Administration
5. Health Planning

## **2. Medical Facilities**

Tanzania has established a public health care system and medical services are in principle provided for free.

Table I-1 lists public medical facilities in Tanzania. Four Consultant Hospitals, 17 Regional Hospitals, 129 District Hospitals, 274 Rural Health Centres and 2,851 Dispensaries provide health care services.

### **2.1. Consultant Hospitals**

There are four Consultant Hospitals, Muhimbili Medical Centre, Bugando Medical Centre, Kilimanjaro Christian Medical Centre, and Mbeya Medical Centre. The observation team visited two Consultant Hospitals, Muhimbili Medical Centre in Dar es Salaam and Bugando Medical Centre in Mwanza. A description of Muhimbili Medical Centre follows.

Muhimbili Medical Centre is a large-scale medical complex operated jointly by Muhimbili Hospital and the Faculty of Medicine of the University of Dar es Salaam. Muhimbili Hospital, with 1700 beds, the largest in Tanzania, has the capability to perform most tests necessary for differential diagnosis, including X-rays, blood chemistry tests and bacteriological examinations. However, the hospital was built in 1957 and is extremely old.

Muhimbili Medical Centre has not escaped the need for budget cutbacks, and every aspect is severely affected by shortages. First, there is an extreme shortage of drugs. As a result, cases where no treatment can be provided to hospitalized patients occur. Second, there is a shortage of reagents. Therefore the necessary tests cannot be carried out before making a diagnosis. The number of people who suffer from AIDS in Tanzania is increasing rapidly, but because there are not enough reagents, the test for HIV (Human Immunodeficiency Virus) cannot be often administered to patients who are suspected of having the disease, and only a clinical diagnosis can be made.

## 2.2. Regional Hospitals

The Regional Hospital which the team visited was Iringa Regional Hospital. Iringa Regional Hospital has 347 beds. It had just been rebuilt with Italian aid. There were ten physicians, of whom four were foreign doctors sent from Italy.

Due to Italian aid, the hospital was relatively well-run, and there were isolation wards for tuberculosis and leprosy as well as for children suffering from infectious diseases.

In terms of clinical examination equipment, there were two X-ray machines, but only one was functioning as the other was broken. The hospital has the capability to perform most blood chemistry tests and bacteriological and parasitic examinations.

Iringa Regional Hospital suffers from a serious inadequacy of funding too, and as at Muhimbili Hospital, shortages of drugs frequently prevent patients from receiving proper medical treatment. Further, although the hospital has the capability to perform most tests and examinations, it is unable to do so because it lacks the proper medical supplies and reagents. AIDS is widespread in Iringa, thus testing for HIV is of great importance, but the hospital has been unable to perform HIV tests for patients or suspected cases of AIDS since 1990 because of the lack of reagents.

## 2.3. Rural Health Centres and Dispensaries

Tanzania's health care system, in keeping with its socialist policies, stresses the importance of making medical treatment equally available to all. Hence a good deal of effort is put into setting up and



improving rural health centres and dispensaries, which provide health care services in the rural areas where most of the population lives. As shown in Table I-2, there is approximately one rural health care centre per 80,000 people, and one dispensary per 7,000 people. Figure I-2 gives the annual change in the number of hospitals and dispensaries. The number of hospitals has remained virtually the same over the past 20 years, but by 1988 dispensaries had increased some 2.8 times over their 1963 number. As a result, 72% of village dwellers now have some kind of medical facility within five kilometres, and 93% within ten kilometres.

The observation group visited two rural health centres and three dispensaries in Iringa and Mwanza.

Rural health centres and dispensaries in the extensive rural areas of the country perform such preventative services as vaccinations, maternal care and nutritional guidance as well as curative services including treatment of common diseases and minor surgery.

Usually there are no physicians at the rural health centres or dispensaries. Medical assistants at the rural health centres and rural medical aides at the dispensaries are responsible for any diagnosis and treatment.

In terms of diagnostic capabilities, both rural health centres the team visited had microscopes, but none of the three dispensaries did. Microscopic examination is essential to differential diagnosis of infectious and parasitic diseases. The optical microscope with a mirror which seldom breaks and is relatively easy to maintain, would appear to be the most useful medical instrument in a developing country such as Tanzania. Even a single microscope employed effectively can enable differential diagnosis of many ailments and thus open the way to the right treatment. This in turn reduces wastage of drugs.

#### 2.4. Private Hospitals and Clinics

In addition to public hospitals, there are also private hospitals operated by Christian or Moslem religious groups and in the cities numerous individual practices set up by Tanzanians of Indian origin. In general these private hospitals and independent clinics appeared to be more highly regarded than the public facilities.

According to statistics for 1986, 20% of inpatients and 5% of outpatients received care at such private hospitals and clinics.

## 2.5. The Faculty of Medicine, University of Dar es Salaam

The Faculty of Medicine of the University of Dar es Salaam, located next to Muhimbili Medical Centre, administers three courses of medicine, pharmacology and dentistry. There are also affiliated schools at Muhimbili Medical Centre for training co-medical staff such as nurses and laboratory technicians.

The enrollment of the medical faculty is sixty, and approximately fifty students graduate to become physicians every year. Tuition is free, and living expenses are supplied by the government.

The observation team inspected several of the faculty's facilities. Shortages of funding seriously affected most aspects. First of all, the equipment and reagents needed for the experiments and exercises essential to medical training were in short supply. Second, the library did not have an adequate collection either of the medical textbooks required for training medical students nor of the medical journals indispensable for learning of new advances in medicine.

## 2.6. NIMR (National Institute for Medical Research)

There are two National Institutes for Medical Research, in Dar es Salaam and Mwanza. Here the NIMR Mwanza is described.

The NIMR Mwanza has a staff of eighty, including four doctors. The four main researches are the following:

1. Schistosomiasis
2. AIDS
3. Sexually transmitted diseases
4. Diarrhoea diseases

The cases of schistosomiasis are heavily concentrated in the areas around Lake Victoria including the Mwanza area. NIMR Mwanza is, therefore, mainly focusing its research on schistosomiasis. According to the study team's observation of the institute, the researches which are going on still remain at the elementary stage. The study team recommends that the field experiments should be implemented to establish concrete methods of controlling schistosomiasis in the future.

## 2.7. AMREF (African Medical and Research Foundation)

AMREF, founded in 1957, has its headquarters in Nairobi, Kenya, with branches in Tanzania and Uganda. A politically unaffiliated organization, it focuses its activities on medical care in the region in close contact with WHO, UNICEF and UNDP. The annual budget is US\$11 million (over 1.9 billion Kenyan shillings). The operations cover the five nations of East Africa, Kenya, Tanzania, Sudan, Uganda and Somalia, and it maintains offices for raising funds in nine countries, Canada, Denmark, France, Germany, Italy, the Netherlands, Sweden, the United Kingdom and the United States. AMREF provides financial assistance to over sixty projects, including such unique programmes as flying teams of surgeons into remote areas and collection and dissemination of medical information over a radio network in Kenya and Tanzania (Figure I-3). It is also battling hard to control the spread of AIDS, educating people about health and training health staff as well as providing technical and financial assistance to epidemiological research and HIV testing.

## 3. Health Manpower

The secular change in the number of health staff in Tanzania is given in Table I-3, and Table I-4 shows the duration of training and the output per year of trained health staff.

### 3.1. Medical Doctors

The number of medical doctors in Tanzania is a mere 1,225, and the ratio of doctors to population is 1:18,400. The only training school for doctors is the Faculty of Medicine of the University of Dar es Salaam, which graduates about fifty students a year. Nevertheless, doctors had increased threefold over their number in 1961 by 1990. Physicians in Tanzania are trained to become Medical Officers, and they are expected to possess not only clinical skills but also the ability to coordinate health care service activities and train, organize and direct para-medical staff. Doctors often become senior officials in the governmental agencies, or regional and district medical officers, or serve in consultant, regional and district hospitals.

### 3.2. Medical Assistants, Rural Medical Aides and MCH (Mother and Child Health) Aides

As medical doctors are extremely limited, it is not possible to post them throughout the vast rural areas of Tanzania. The government of Tanzania emphasizes the utilization of para-medical workers such as medical assistants, rural medical aides and MCH aides to provide medical services throughout the country in the framework of the primary health care concept. Such para-medical staff had by 1990 increased rapidly to just over ten times their number in 1961.

Medical assistants and rural medical aides are responsible for diagnosis and treatment at rural health centres and dispensaries respectively. MCH aides engage in maternal health care activities.

It takes five years to train a doctor (including one year's internship), but considerably less, two to three years as shown in Table I-4, to train para-medical staff (medical assistants, rural medical aides, and MCH aides). The training of such para-medical staff has made possible the establishment of a health care system in rural areas, but in absolute terms health manpower still remains in short supply. Furthermore, it must be admitted that the medical abilities of the para-medical staff are inadequate, and regular retraining programmes as well as supervision and guidance from higher institutions are indispensable.

## 4. Main Diseases

The study team examines the distribution of major diseases in Tanzania from outpatient and inpatient statistics.

Table I-5 lists the numbers of cases of diseases reported by monitoring stations (1,176 rural health centres and dispensaries) in 1989.

The most common diseases are, in order of frequency, malaria, upper respiratory infections, and diarrhoea diseases; these three account for approximately half of the total. Next are pneumonia, eye diseases, skin diseases, and intestinal worms. It is evident that the major diseases in Tanzania are infectious or parasitic.

Table I-6 gives statistics on outpatients at Ismani Rural Health Centre in 1990. The most common sickness is malaria, followed by

respiratory infections (including upper respiratory infections and pneumonia) and diarrhoea diseases. The same pattern can be recognized.

Tables I-7 and I-8 list the statistics on inpatients at two hospitals for which data was available, Iringa Regional Hospital and Bukumbi Hospital (Mwanza).

The statistics on inpatients at Iringa Regional Hospital are for May 1990. The most common disease among hospitalized patients was malaria, the same as that reported by the monitoring stations. In second place were intestinal infections, followed in order by anemia, measles, bronchitis and pneumonia, upper respiratory infections, and tuberculosis.

The most common cause of death was also malaria, followed by nutritional disorders such as Kwashiorkor disease and nutritional marasmus. The number of hospitalized patients with AIDS was only 24, but of those the number of fatalities reached nine.

The most common diseases at Bukumbi Hospital were in order malaria, bronchopneumonia, diarrhoea diseases such as protozoan intestinal disease and gastroenteritis, and in fourth place schistosomiasis, which is endemic in the area around Lake Victoria where Bukumbi Hospital is located. In fifth place was anemia, followed by tuberculosis and then typhoid and paratyphoid fever.

The most frequent cause of death at Bukumbi Hospital was malaria, followed by bronchopneumonia and AIDS.

The reports from the monitoring stations and the statistics on hospitalized patients indicate that the main diseases in Tanzania are malaria, respiratory infections, diarrhoea diseases and nutritional disorders, and that the epidemic of AIDS has become a serious problem.

## **5. Level of Health Situation**

Statistics on infant mortality, the standardized death rate and life expectancy are generally considered the most useful index of the level of health.

As shown in Table I-9 the infant mortality rate in 1988 was 104, and the under-five mortality was 176. The infant mortality rate was 160 and the under-five mortality was 260 in 1967. Therefore there has been considerable improvement over the past twenty years.

Table I-10 gives an international comparison of per capita GNP, infant mortality rates and under-five mortality in 1988. Except for some countries, there is a close correlation between per capita GNP and infant mortality rates and under-five mortality. The life expectancy in Tanzania for 1987 was fifty-four, as shown in Table I-11. Tanzania is at the same level as Malawi, Bangladesh, Uganda, Nigeria and India.

## **6. Health Programmes**

The main national health programmes in Tanzania are as follows:

1. National AIDS Control Programme
2. Expanded Programme on Immunization (EPI)
3. Essential Drugs Programme (EDP)
4. Tuberculosis and Leprosy Programme
5. Diarrheal Disease Control Programme
6. Malaria Control Programme
7. Nutrition Programme
8. National Family Planning Programme
9. National Child Spacing Programme

In addition, the following programmes for controlling infectious diseases are now at the planning stage:

1. Plague Control Programme
2. Onchocercosis Control Programme
3. Lymphantiasis Control Programme
4. Schistosomiasis and Helminthiasis Control Programme
5. Rabies Control Programme

### **6.1. National AIDS Control Programme**

AIDS patients and HIV carriers are increasing rapidly, and the epidemic of AIDS is a serious problem.

As shown in Figure I-4, HIV-positive rate of blood donors was 0.0% in the aged 15 to 19, and 1.6% in the aged 20 to 24 in 1987. In 1990 the figures had increased sharply to 7.2% and 8.2% respectively. The number of HIV carriers throughout Tanzania is now believed to have reached some 800,000.

The National AIDS Control Programme was initiated in Tanzania in 1988 with the focus on health education. It is common

for both males and females to have multi-sexual partners, thus an effort is being made to educate people to change such sexual behaviour and use condoms, but with only mixed success.

The AIDS control programme is also strengthening the AIDS surveillance system. At present the surveillance system is extremely poor and AIDS patients cannot be assessed with accuracy.

## 6.2. Tuberculosis and Leprosy Control Programme

The Tuberculosis and Leprosy Control Programme receives aid from Switzerland, Germany and the Netherlands, from which countries specialists in these diseases are sent. The programme undertakes fairly systematic activities, including registration of patients, distributing drugs and educating health staff, and is one of the well functioning health projects. As a result of the programme, leprosy patients have been decreasing steadily each year. However, tuberculosis patients were on the decrease until 1983, but have since then been increasing. This is because tuberculosis patients with AIDS have been increasing.

## 6.3. Malaria Control Programme

Malaria is the most common disease in Tanzania and claims the most victims. Therefore malaria control is of top priority.

Japan and Tanzania initiated a joint programme of malaria control in Dar es Salaam and Tanga in 1987. This project is attempting to contain the spread of malaria by controlling vectors with the strategy of spraying insecticides. It is also conducting research on chloroquine-resistant malaria and fenitrothion-resistant mosquitoes.

## 7. EPI (Expanded Programme on Immunization)

### 7.1. The Present Status of EPI

Immunization is generally considered the most effective way to reduce infectious diseases in developing countries.

Tanzania's EPI programme was initiated in 1975, but the immunization rate did not increase much at first because of inadequacies in funding, personnel and technology, lack of awareness among the population, and the poor transportation network. However, DANIDA began to provide financial and technical support

in 1980, and an extensive EPI campaign was implemented in 1987-88. As the result of such efforts, a system of immunization has gradually been put into place and the immunization coverage rate has risen to become the highest in Africa.

## 7.2. Cold Chain

The EPI programme has many difficulties in a developing country such as Tanzania, which has a small population of twenty million spread out over an area two and a half times greater than that of Japan. The most serious bottleneck is the problem of establishing a transportation and distribution system for vaccine, that is, a cold chain.

The observation team visited two rural health centres and three dispensaries in Iringa and Mwanza, and all of them were equipped with kerosine refrigerators which keep a proper temperature. These were all maintained with assistance from DANIDA. The cold chain has appears to be established throughout the country.

## 7.3. Immunization Registration

Immunization registration is carried out at rural health centres and dispensaries. In Tanzania neighbourhood associations have been set up by the Ujamaa Village Movement, and immunization registration is done fairly well.

## 7.4. Immunization Coverage Rates

The immunization coverage rates for children between one and two years old throughout the country showed that 72% were fully immunized, 26.7% were partially immunized and only 1.3% were totally non-immunized.

Table I-12 gives immunization coverage rates for 1989 by region. There is considerable variation between the regions (range 52%-92%) in fully immunized children. Further efforts are required both to analyse why immunization coverage rates are low in certain regions and to increase them.

## 7.5. International Aid to EPI

Table I-13 shows the contributors to EPI's budget for 1991. DANIDA pays 60.0% and UNICEF 16.2% of the budget, while the



government of Tanzania provides only 23.8%. Tanzania's EPI depends heavily upon DANIDA for financing.

#### 7.6. Effectiveness of EPI

The immunization coverage rate at 72% is fairly high, and EPI-related diseases appear to be on the decrease. However, a sufficient evaluation of the overall effectiveness of EPI has not yet been made. Such an evaluation is sorely needed.

Figure I-5 compares the number of vaccinated and unvaccinated children who have measles in the Korogwe district. Since the total number of vaccinated and unvaccinated children is not available, no definite conclusions can be drawn, but most children who had measles were unvaccinated, and very few were vaccinated.

### 8. EDP (Essential Drugs Programme)

Due to a shortage of foreign currency as a result of economic stagnation since the 1970's, imports of drugs shrunk and Tanzania was able to procure barely half the drugs it needed. The situation was especially bad in rural health centres and dispensaries, where only 15% of the necessary drugs could be secured. The EDP was started in order to eliminate this severe shortage of drugs in rural areas.

In 1982 DANIDA agreed to provide US\$300,000 in aid, and the EDP was began as a joint project with UNICEF.

The EDP distributes "essential drug kits", which consist of the minimum amount of medicines essential for treating ordinary diseases, to health centres and dispensaries in rural areas. Table I-14 lists these essential drugs.

This programme, though there are many constraints to implement the programme, at least guarantees that most patients are able to receive the minimum essential treatment. The EDP is one of the best functioning of Tanzania's health programmes along with the EPI, and has made a great contribution to the improvement of medical services in rural areas. The EDP, like the EPI, is totally dependent on aid from DANIDA and UNICEF, and it appeared to us that for the while Tanzania would be unable to maintain the EDP and EPI on its own without such foreign support.

## **9. Health Expenditures**

Table I-15 shows the secular change in health expenditures. Health expenditures for 1988-89 were 6.567 billion Tanzanian Shillings, sixteen times the 1975-76 figure, but over the same period prices had risen some ten times due to inflation and the population increased by 40%, thus health expenditure per capita standardized with inflation and other factors remains at a virtual standstill. Figure I-6 gives the annual change of the government expenditures of education and health. Over the past ten years health expenditures have remained almost unchanged at approximately 6% of the total budget.

## **10. Foreign Aid**

### **10.1. Japanese Aid**

Aid from Japan to Tanzania in the health sector is as follows:

#### **1. Provision of an electron microscope.**

An electron microscope has been provided to the Faculty of Medicine of the University of Dar es Salaam, along with technical expertise.

#### **2. Cooperation in the National Tuberculosis Control Programme.**

Under this bilateral aid project, initiated in 1975, medical equipment was provided and experts sent to Kibongoto National Tuberculosis Hospital. However, aid was terminated after 1978 due to a deterioration in Tanzania's domestic conditions.

#### **3. Cooperation in the Malaria Control Programme**

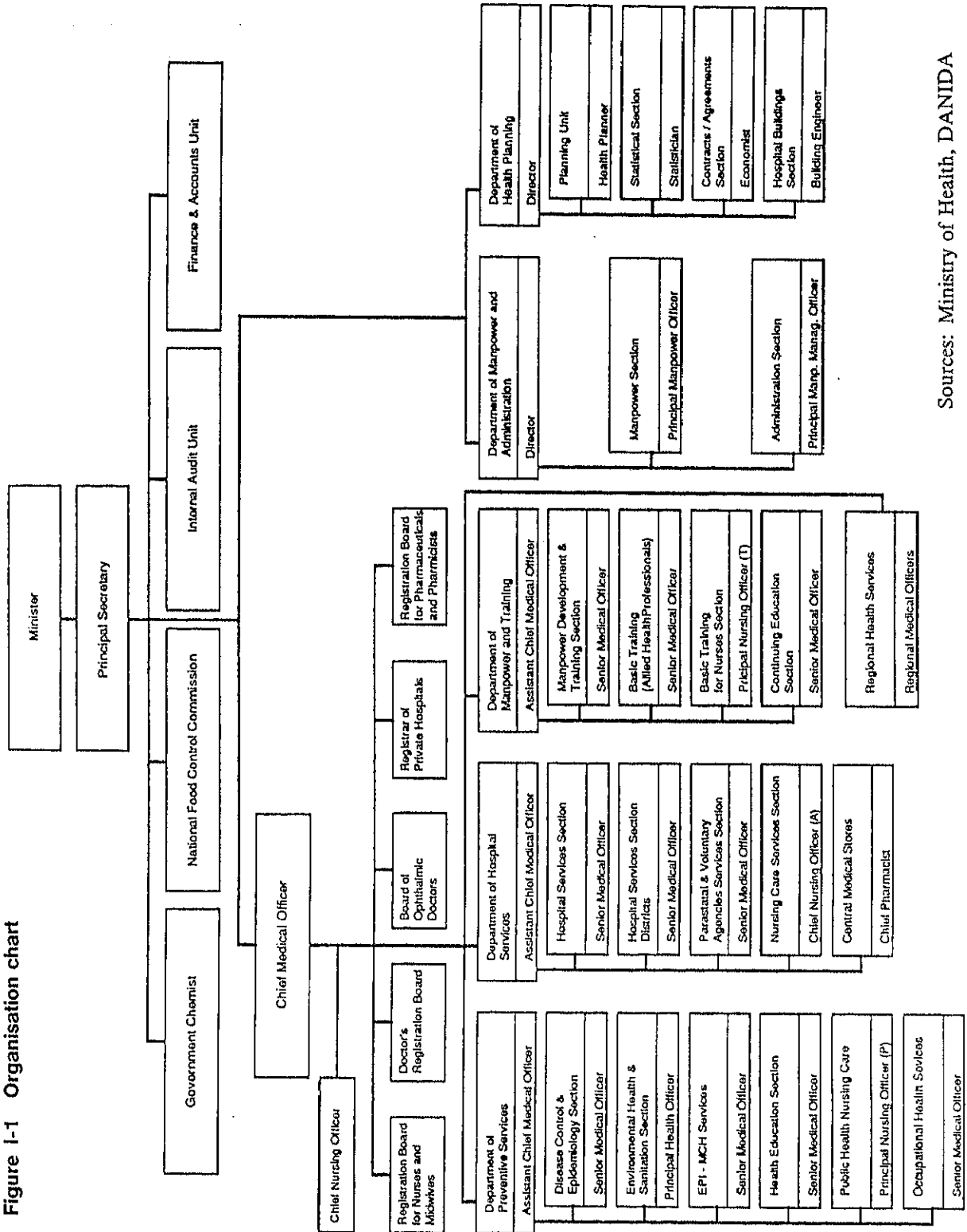
The Malaria Control Project was started in Dar es Salaam and Tanga in 1987. This is a five-year project, to which Japan provided 500 million yen in aid in 1987 and 400 million yen in 1988.

### **10.2. Other Foreign Aid**

Several European countries provide various forms of aid to Tanzania, but it was not possible to obtain comprehensive data. Here data compiled by DANIDA is given in Table I-16.

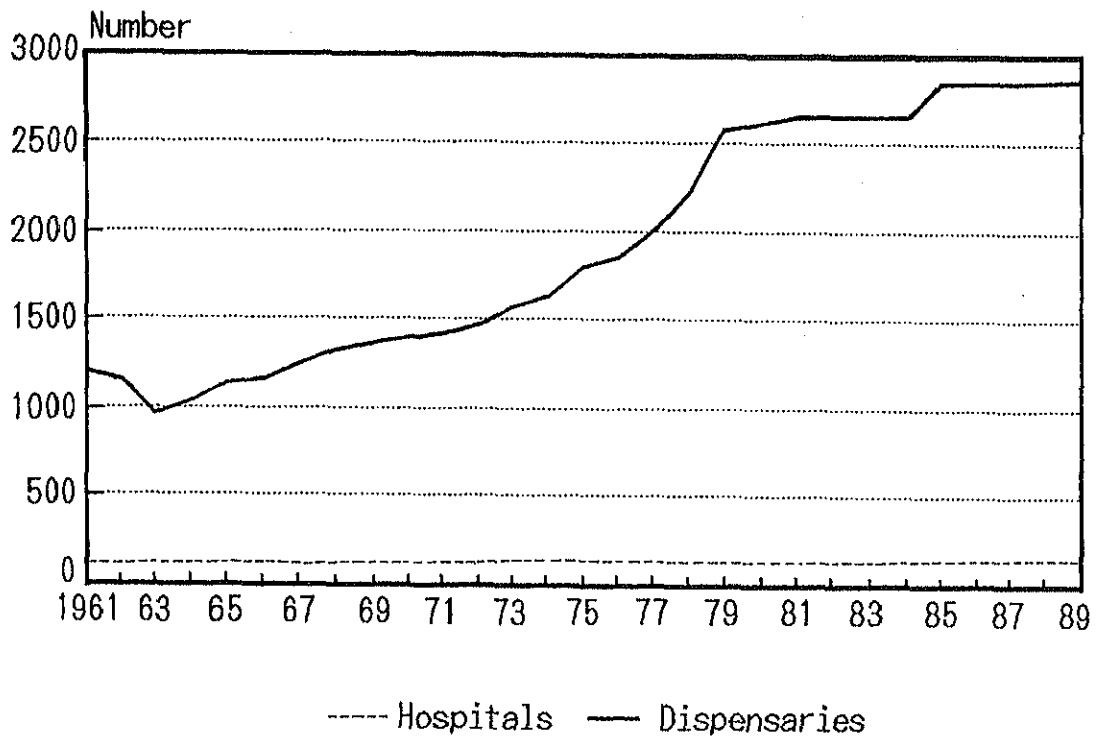
Denmark's assistance to the EPI and EDP is particularly striking. Almost all other foreign aid was restricted to research cooperation.

Figure I-1 Organisation chart



Sources: Ministry of Health, DANIDA

Figure I-2 Number of health facilities



Sources: Ministry of Health, UNICEF

Figure I-3 Map of eastern Africa showing the AMREF medical radio communities network



● : An installed radio transceiver.