

- 14) Alotau Provincial Hospital
- 15) Mendi Provincial Hospital
- 16) Popondetta Provincial Hospital
- 17) Wabag Provincial Hospital
- 18) Vanimo Provincial Hospital
- 19) Kavieng Provincial Hospital
- 20) 468 health centres and health sub-centres

(2) Equipment:

1) Major Hospital Equipment:

X-Ray Equipment, Ultrasound Scanner, etc.

2) Minor Hospital Equipment:

Delivery Bed, Operating Table, Electrocardiograph,
Autoclave, Weighing Scale, Sphygmomanometer, etc.

3) Laboratory Equipment:

A.A. Spectrophotometer, Analytical Balance, Incubator, Water
Bath, Deep Freezer, Suspension Mixer, Microscope, etc.

4) Malaria Control Equipment, & Others:

Biological Microscope, Microcomputer, Typewriter,
Dental Equipment, etc.

4.3.3 Technical Cooperation

PNG engineers concerned will be familiar with the existing medical equipment and materials, since much of them have been provided by Australia.

There seems to be no problem for the moment in operating the medical equipment to be supplied under the Project since the selection was made with a full consideration of the technical level of PNG, although some of which must be the first time to be introduced to the country.

However, it will greatly contribute in securing operations with higher effectiveness and technique to give PNG engineers concerned an opportunity of receiving overseas training.

It is hoped, therefore, that such engineers shall include those who will undertake technical guidance in operating such apparatuses as Spectrophotometers, A.A. Spectrophotometers, Microscopes, etc. at the hospital laboratories. Further effectiveness will be expected if these engineers receive on the spot training from the foreign specialists.

CHAPTER V. BASIC DESIGN

CHAPTER V

BASIC DESIGN

5.1 Basic Design Policy

As stated in previous section 4.1, "Objectives of the Project", the basic design study team has reviewed the background, significance, purpose and function of the project, and set out basic design policies with a view to improving medical facilities and services in the PNG. The Project is designed:

- (1) To provide medical equipment supply to improve primary health services in rural areas for the development of health and medical activities there.
- (2) To provide basic research equipment to the laboratory of Port Moresby General Hospital (the only comprehensive laboratory in PNG) in supporting effective enforcement of primary health services in provinces.
- (3) To select proper equipment to realize uniform advancement of medical health services in provincial hospitals.
- (4) To procure equipment for which the producer has well-trained agents in nearby countries like Australia and maintenance services are easily available at site.
- (5) To give priority to the equipment which is easy to maintain and causes no additional financial burden to PNG. Due amount of spare parts and consumables needed for initial operation shall be supplied (equivalent to 7 ~ 15% of the cost of equipment).
- (6) To give enough consideration to the current conditions of existing facilities in respect of installation and setting up of the equipment so that daily medical services may not be disturbed by such works.
- (7) To conduct sufficient orientation for the PNG technical staff at the Port Moresby General Hospital so that they may receive basic instruction in installation, operation and other technical aspects of equipment to be provided. Equipment requiring such orientation includes:

- Condenser discharge X-ray units,

- Mobile X-ray units,
- Portable ultrasound scanners.
- Echocar diographs,
- Flamephotometers, and
- A.A. Spectrophotometers.

5.2 Selection Standard of Equipment

The 66 units of equipment selected for this Project have been chosen on the basis of the standards mentioned below.

- A. They are immediately useful for the improvement of primary health service.
- B. Equipment for secondary health service to be provided under this Project shall have good impact on the improvement of primary health service as well.
- C. Establishment of a backup system to support regional medical activities shall be contemplated through strengthening basic medical study and clinical capabilities.
- D. Replacement of aged or defective medical instruments/equipment with new ones shall reactivate former efficient medical service.
- E. Supplement of such medical instruments as are lacking in quantity enough for primary medical service shall be designed to provide better uniform service to the wider public.

In addition, the following concepts have been taken into account in the selection of the equipment:

- a. The operation will be possible with basically the same technical knowledge as is necessary for the presently available medical equipment in the country.
- b. The equipment shall be durable and easy for maintenance and control.
- c. Existence of agents for repairing service in neighbouring countries is preferable.

- d. The equipment shall be usable even in areas under conditions of unstable electric power supply.
- e. The equipment shall be installed easily.
- f. The equipment shall be durable under climatic condition of high temperature and dense humidity.

Further, the equipment which needs or does not need operation instruction, installation and test operation is indicated by ① ~ ③ as below:

- ① Operation instruction is necessary
- ② Installation and test operation is necessary
- ③ Both ① and ② are not necessary

Based upon the above outlined guidelines kinds and quantity of the planned medical equipment have been finalized as presented in the following pages, and reasons for selection of these equipment are shown by symbols A to E, a to f and ① to ③ which correspond to those used in setting out the above criteria.

	<u>Number</u>	<u>Selection criteria</u>	<u>Instruction, Setting & trial run</u>
<u>Major Hospital Equipment</u>			
Condenser Discharge X-Ray Unit, Mobile Type	9	B d	①
Mobile X-Ray Unit	12	D a	①
Simple X-Ray Table	12	D a	①
Ultrasound Scanner, Portable	2	E a	①
Gastroscope	5	B b, c	③
Sigmoidoscope	20	B a, b	③
Crystoscope	10	B a, b	③
Echocardiograph	1	B c	①, ②
<u>Minor Hospital Equipment</u>			
Electrocardiograph, 1-Channel	10	E a, b	③
ECG Cardiac Monitor, 2-Channel	9	B c, e, f	③
Portable Defibrillator	7	E a, d	③
First Aid Kit	21	A a, b	③
Ventilator for Adult	2	A a, b	③
Resuscitation Bag (Pediatric)	21	A a	③
Resuscitation Bag (Adult)	21	A a	③
Infusion Drop Counter	6	B b, c	③
Operating Table, Universal	5	D b, e, f	③
Operating Table, General	5	D b, e, f	③
Gynecological Examining Table	4	D, E, b, e	③
Obstetric Delivery Table	200	D, E, b, f	③
Gatch Bed for ICU	30	D, E, b, f	③
Standard Patient Bed	640	D, E, f	③
Minor Operation Lamp	20	B, E, e, d	③
High Pressure Steriliser	25	E e	③
Dispensary Balance (0-200g)	10	D, E, b	③
Dispensary Balance (0-10kg)	6	D b	③
Sphygmomanometer, Mercury Type	200	A a	③
Sphygmomanometer, Aneroid Type	468	A a	③
Stethoscope, for Nurse	468	A a	③
Stethoscope, Foetal Heat-heat	504	A a	③
Minor Surgical Instrument Set	486	A a	③
Pediatric Surgical Instruments	8	A a	③
Instruments Steriliser	468	A a	③

	<u>Number</u>	<u>Selection criteria</u>	<u>Instruction, Setting & tryal run</u>
<u>Minor Hospital Equipment</u>			
Spot Lamp for Wards	100	E e	③
Infant Weighing Scale	468	A a	③
Transcutaneous Stimulator	4	B c	③
Traction for Lumber & Cervical	7	B e	③
Walking Aid Frame	30	B b	③
Slit Lamp Microscope	2	B a	③
<u>Laboratory Equipment</u>			
Spectrophotometer	7	C a. b. e	③
Flamephotometer	4	C a. b. c. e	③
A. A. Spectrophotometer	1	C a. b. c. e	①, ②
Bilirubinometer	4	C. E. a. b	③
Analytical Balance	11	D. E. a. b	③
Top Pan Balance, Digital	18	D. E. a. b	③
Ultrasonic Cleaning Bath	12	D. E. a. b	③
Laboratory Incubator	4	C b. e	③
CO ₂ Gas Incubator	2	C b. e	③
Water Bath	7	D b	③
Laboratory Autoclave	6	D. E. b	③
Deep Freezer	3	D. E. b	③
Suspension Mixer	5	D. E. b	③
Microscope, Phase Contrast	1	C a. b	③
Microscope, Flouesent Microscopy	1	C a. b	③
Binocular Research Microscope	2	D b	③
Laboratory Microscope	28	E f	③
Trinocular Microscope, w/Projection screen	2	C a. b	③
<u>Malaria Control Equipment & Others</u>			
Binocular Microscope (600x)	269	A. E. a. b. d. f	③
Stereoscopic Microscope	15	C. E. a. b	③
Trinocular Microscope, w/Photo att. & Camera	4	C a	③
Microcomputer	6	A c	③
Typewriter, Electrical	2	A c	③
Manual Fork Lift Truck	12	D b	③

	<u>Number</u>	<u>Selection criteria</u>	<u>Instruction, Setting & tryal run</u>
<u>Malaria Control Equipment & Others</u>			
Dental Unit & Chair	5	D a	③
Dental X-Ray Unit	2	D a	③
Dental Instrument set w/cabinet	5	D a	③

5.3 Medical Equipment Plan

Procurement plan of medical equipment by medical stores and facilities has been summarized as shown on the following pages.

Equipment allocation plan by facilities is shown in tables 21-A~G, 22-A~E, 23-A~G, 24-A~C, 25-A~D and 26-A~G, with total number of equipment to be supplied under this Project in tables 27-A~C.

5.4 Expenditures to be born by PNG

Since existing conditions of water supply or sewage disposal facilities, power supply situation and strength of facility buildings in PNG are seemed to be good enough for the distribution and operation of medical equipment to be supplied under the Project, neither construction of new building nor additional works for installation of the equipment is necessary.

Accordingly, it is considered that no budgetary responsibilities taken by the part of PNG for the implementation of this Project exist.

CHAPTER VI. PROJECT IMPLEMENTATION AND MANAGEMENT

CHAPTER VI

PROJECT IMPLEMENTATION AND MANAGEMENT

6.1 Implementation

(1) Implementation Agency

The Ministry of Health of PNG will be the implementation agency of this Project, and the Pharmaceutical Services will assist it.

(2) Consultant

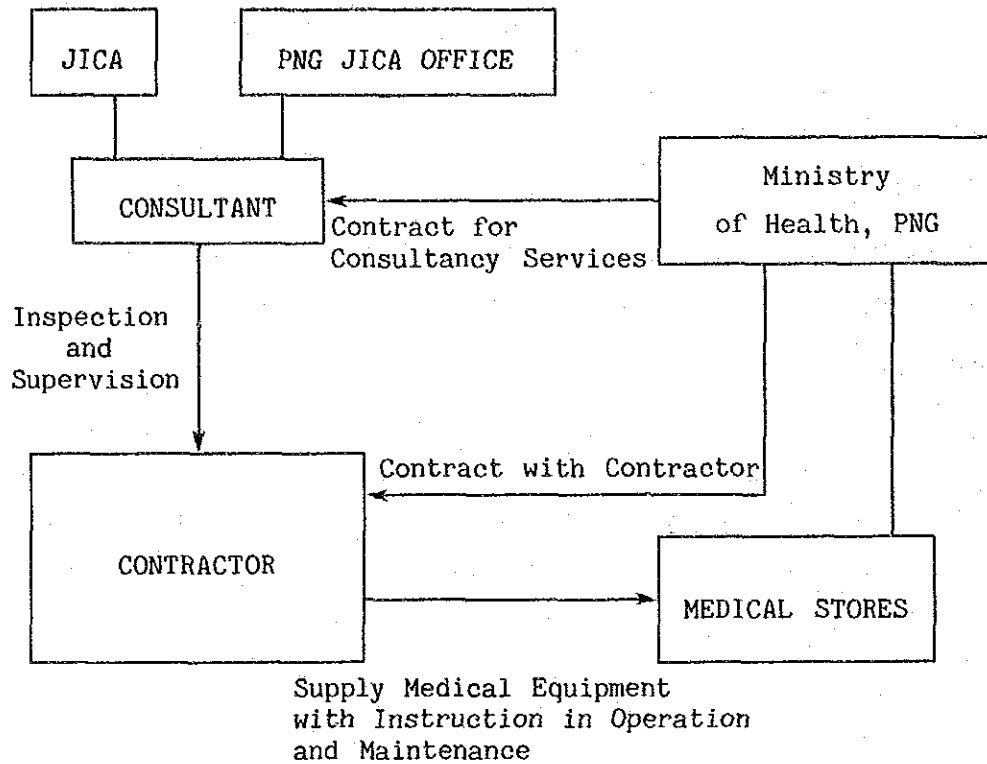
Right after the Exchange of Notes (E/N) is signed between the two governments, the consultant (Japanese juridical person) will conclude a contract for consultancy services with the Ministry of Health, PNG, according to the procedures of the Japanese Grant Aid System. The consultant will carry out the following activities on behalf of the Government of PNG.

- Detailed Design: to execute a detailed design study and to prepare specifications of medical equipment and related technical materials.
- Tendering: to assist selection of a contractor (Japanese juridical person), including preparation of draft tender documents and assistance in successive tendering procedures.
- Procurement: to supervise procurement of medical equipment, including inspection of manufacturing of equipment, supervision of transportation, installation and initial test operation of equipment if so required, and final inspection of works.

(3) Contractor

The contractor (Japanese juridical person) selected through tendering will carry out the procurement of the medical equipment to be completed within the contracted period, and shall follow the directives of the Ministry of Health as the executive agency of the Government of PNG.

Flow-chart and functions of the parties concerned as mentioned above are as follows.



6.2 Undertakings of Both Governments

6.2.1 Undertakings of the Government of Japan

The Government of Japan will provide grant aid to the Government of PNG covering the costs of medical equipment and the related materials for 19 hospitals including Port Moresby General Hospital and 468 health centres.

- (1) The equipment to be provided by the Government of Japan are as listed in 4.3.2.
- (2) In addition to the costs for the equipment, other costs covering sea and land transportation to 6 medical stores are also included.
- (3) Installation and initial test operation for certain equipment, as well as instruction in operation and maintenance will be conducted at the Port Moresby General Hospital.

6.2.2 Undertakings of the Government of PNG

- (1) Provision of the space and facilities for the installation of the equipment.
- (2) Provision of utilities such as electricity, water, etc. which are required for the installation of the equipment.
- (3) Provision of storage facility where the equipment will be stored until the installation works will begin.
- (4) Assurance of smooth and effective proceedings of unloading and customs clearance of the equipment, and land transportation to the site.
- (5) Exemption from taxes, and duties for the equipment to be supplied under Japanese grant aid programme as well as exemption from income taxes and duties on personnel items brought into the country in the case of Japanese nationals providing services under the Project.
- (6) Responsibility for cost of Banking Arrangement and Authorization to pay.
- (7) Provision of licences, approval and any other authorizations to be required for the execution of the Project.
- (8) Responsibility for costs which are required for the execution of the Project other than the costs provided under Japanese grant aid.
- (9) Proper and effective operation and maintenance of the equipment provided under Japanese grant aid.

6.3 Implementation Programme

(1) Working Schedule on Detailed Design Study and Contract Supervision

The proposed Project will be carried out according to the procedures of the Japanese grant aid system. After Exchange of Notes (E/N) is signed between the two governments, the consultant (Japanese juridical person) , on behalf of the Government of PNG, will make the selection of the contractor (Japanese juridical person), inspection of equipment manufacturing, supervision of transportation and installation of equipment, initial testing and instruction in operation for certain equipment as per

requirement, final inspection of works, and hand over the equipment to the Government of PNG.

(2) Implementation Programme

The awarded contractor will conclude a contract with the Ministry of Health, PNG, soon after its selection, and procure the designed medical equipment. As is described in section 6.4 of this report, the equipment will be classified according to destination and medical store, and put into separate containers so that each container can be discharged at the designated port.

Instruction in the Operation/Maintenance of the equipment will be done by the manufacturer to the staff concerned of each district at the Port Moresby General Hospital using the equipment to be delivered to Port Moresby Medical Store. (Types of the equipment of each medical store are basically the same.)

6.4 Procurement of the Medical Equipment

In consideration of the conditions set by the Government of Japan for grant aid implementation, and also the market situation in PNG, most of the equipment will be procured in Japan. However, procurement of some types of equipment through trade agents in Australia will be considered in certain cases.

The equipment from Japan will be grouped and containerized before shipment according to destinations. Shipping service by regular lines is available for Wewak (Wewak Medical Store), Madang (Madang Medical Store), Lae (Lae and Mt. Hagen Medical Stores), Rabaul (Rabaul Medical Store) and Port Moresby (Port Moresby Medical Store). Export packing of equipment will be carried out. It is estimated that it will take approximately 5 months to complete the said procurement even in case that no special specifications are involved.

6.5 Implementation Schedule

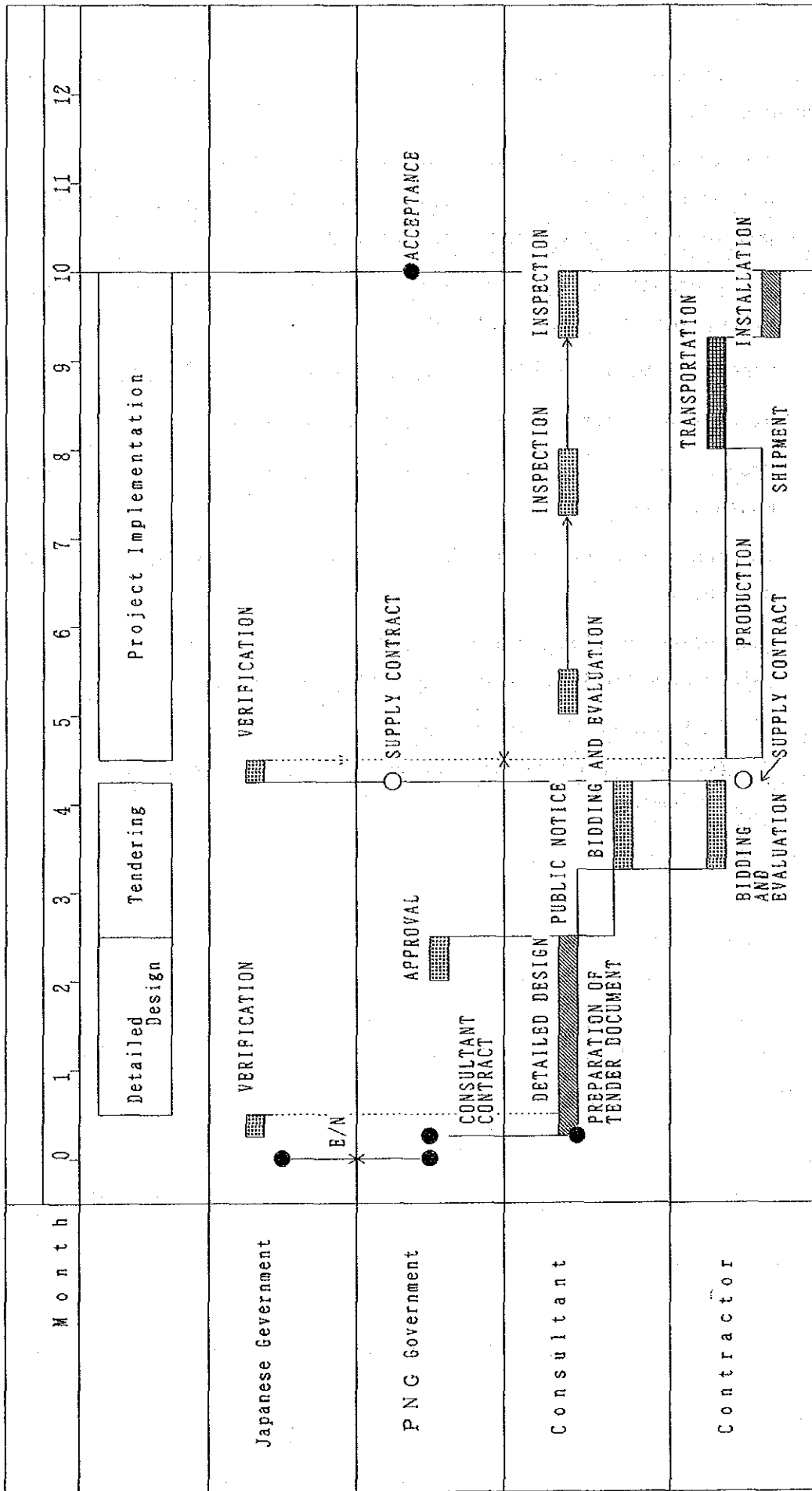
Work programme for the Project is presented in the figure on the next page.

The proposed working schedule consists of the following (in sequence of occurrence):

- 1) The consultant will conclude the contract for consultancy services with the Ministry of Health of the Government of PNG as soon as possible after the conclusion of E/N.
- 2) The consultant will conduct the detailed design study in an approximately 2 month period.
- 3) Tendering will require an approximately 2 month period.
- 4) Award contractor, and enter contract with owner.
- 5) Procurement of medical equipment will require an approximately 5 month period.
- 6) Shipment and delivery will require an approximately 1.5 month period, and
- 7) Inspection and supervision including instruction in operation and maintenance will be conducted during approximately 20 days.

* Instruction in operation will be done at PNG General Hospital for the persons in charge of each provisions, when setting equipment.

W O R K P R O G R A M



CHAPTER VII. OPERATION AND MAINTENANCE

CHAPTER VII

OPERATION AND MAINTENANCE

7.1 Programme for Operation and Maintenance

Taking the aims of PNG's request for the grant aid programme and conditions of national economy as well as present medical facilities in the country were into consideration, the basic concept for the formulation of basic design was to improve and strengthen health and medical services through the supply and provision of relevant equipment which can be utilized and maintained at the existing health and medical facilities, and also within the present operation and maintenance capacity and personnel availability.

The institutional and administrative set-up of the health and medical services is well organized in PNG. Accordingly, no further revision of system nor extra supporting budget would be required, if the Department of Works makes operation and maintenance possible taking appropriate measures of letting private contractors perform periodical check and repairing if necessary.

7.2 Estimation of Operation and Maintenance Expenses

As mentioned before, no extra budgetary measures are needed on the part of PNG. However, a little extra financial support for approximately Kina 214,000 will be required to operate and maintain the medical equipment provided by the Project. It appears that the Government of PNG will be able to accommodate such amount within its own financing capacity.

7.2.1 Operation Expenses

In the basic design, types of equipment not requiring frequent spare part exchange are selected. Furthermore, equipment selected has proven through prior experience to be nearly trouble-free. In addition, for the equipment selected, spare parts which might be necessary for a few years operation are included.

Accordingly, a situation will not occur whereby equipment cannot be utilized due to trouble or breakdown if standard operation and maintenance is carried out in normal conformity to the operation manual.

Expenses required for operation and maintenance of equipment include water supply and drainage disposal expenses, light and heat expenses and supplies for medical equipment.

(1) Water Supply and Drainage Expenses

Water rates are 4 K/month regardless of amount used. Drainage water disposal rates are 120 to 130 K/year. Supplemental budget appropriation is not necessary, as these cost might be included in the budget for existing facilities.

(2) Power Rates

Power rates are 11.5 T/KW for consumption up to 100 KW and the unit rate is 14 T per KW that is consumed in excess of 100 KW. Presently, over 100 KW are consumed in the existing facilities. Unit power rates for additional power consumption necessitated by the installation of new equipment is, therefore, calculated at the rate of 14 T/KW.

Chart in next page shows major equipment requiring additional consumption of power by equipment as well as estimated cost.

	Units	Power Con- sumption	Operation Hhrs./Day	Operation Days/Month	Power Consumption /Year	Remarks
		KW			KW	
X-Ray Unit	9	20.0	0.007	20	302.4	5films/day, 5sec./films
Mobile X-Ray Unit	12	5.0	0.042	20	604.8	30films/day, 5sec./films
Dental X-Ray Unit	2	5.0	0.007	20	16.8	5films/day, 5sec./films
Ultrasound Scanner	2	1.0	1.33	4	127.7	4inspec./day, 20min./inspec.
Gastroscope	5	1.5	2.00	8	1,440.0	6inspec./day, 20min./inspec.
Sigmoidoscope	20	1.5	0.67	4	964.8	4inspec./day, 10min./inspec.
Cystoscope	10	1.5	0.67	4	482.4	4inspec./day, 10min./inspec.
Echo-cardiograph	1	1.5	1.67	8	240.5	5inspec./day, 20min./inspec.
Electrocardiograph	10	1.5	0.67	20	2,412.0	20inspec./day, 2min./inspec.
ECG Cardiac Monitor	9	1.5	24.00	4	3,888.0	1inspec./day, 24hrs.
Operating Lamp	20	2.0	4.00	4	7,680.0	2oper./day, 2hrs.
High Pressure Sterilizer	25	3.0	1.00	4	3,600.0	1oper./day, 1hr.
Transcutaneous Stimulator	4	1.0	0.67	4	128.6	4inspec./day, 10min./inspec.
Spectrophotometer	7	0.2	2.00	4	134.4	1oper./day, 2hrs.
Flame Photometer	4	0.4	2.00	4	153.6	1oper./day, 2hrs.
A. A Spectrophotometer	1	1.0	2.00	4	96.0	1oper./day, 2hrs.
Laboratory Incubator	4	0.6	24.00	10	6,912.0	continuous, 24hrs.
CO ₂ Gas Incubator	2	1.0	24.00	10	5,760.0	continuous, 24hrs.
Water Bath	7	1.0	2.00	8	1,344.0	
Laboratory Autoclave	6	2.0	1.00	4	576.0	1oper./day, 1hr.
Deep Freezer	3	0.8	24.00	30	20,736.0	continuous, 24hrs.
Microcomputer	6	0.5	2.00	4	288.0	2hrs.
Photocopy Machine	7	1.5	6.00	20	15,120.0	6hrs.
Total Consumption					73,008.0	

On the basis of average annual running hours of equipment listed above, annual power consumption is estimated at 73,000 KW, and the estimated power bill for said consumption is approximately Kina 8,000.

(3) Supplies for Medical Equipment

X-ray film	100 sheets/Mx12 Mx9 units = 10,800 sheets
(Mobile type unit)	×0.8 K/sheet (8'x10') = 8,640 K (annual)
X-ray film	600 sheets/Mx12 Mx12 units = 86,400 sheets
(Portable type unit)	×1.22 K/sheet (10'x12') = 105,408 K (")
X-ray film	90 K/600 sheets -- 0.15 K/sheet
(Film developing chemical)	(10,800+86,400)×0.15 K = 14,580 K (")
ECG paper	3 rolls/Mx12Mx10 units = 360 rolls
	×1.35 K/roll (50mmx30m) = 486 K (")
Fuel for sterilizer	18ℓ/Mx12Mx468 units = 101,088ℓ
	×0.6 K/ℓ (10.8 K=18ℓ) = 60,653 K (")

Total 189,767 K

Annual operation and maintenance expenses for equipment supplied by the Project is calculated at approximately Kina 198,000 as follows, based on the above estimation.

Light and heating expenses, and water supply and drainage disposal expenses	approximately 8,000 Kina
Supplies for medical equipment	approximtely 190,000 Kina

Total Approximately 198,000 Kina

7.2.2 Domestic Transportation Expenses

Containerized equipment supplied under the Project will be forwarded to relevant facilities by inland and/or coastal transportation after unloading at Port Moresby, Lae, Madang, Wewak and Rabaul as explained in Section 6.2, Chapter 6. MOH has its own channels for distribution of medical materials to general hospitals, health centres, etc, and accordingly domestic transportation (inland and coastal) expenses are not included in the estimation of operation and maintenance expenses.

7.2.3 Cleaning and Security Services Expenses

With the installation of new equipment, cleaning and security services for the same will be required. The additional services required, however, can be handled by the present service system and personnel. Accordingly, appropriation of supplemental budget for the said services will not be required.

7.2.4 Maintenance, Inspection and Repair Expenses

Daily maintenance and inspection of equipment should be carried out by an operator who is most familiar with features, capacity and handling of the equipment. In the present basic design, equipment susceptible to malfunction or breakdown is not selected. Accordingly, after test operation, repairment will not be required for at least 5 years under standard operation conforming to the operation manual. In the event that unexpected repairment becomes necessary, expenses will be covered from the ordinary budget.

Therefore, supplemental appropriation of budget for maintenance, inspection and repairment expenses will not be required.

CHAPTER VIII. PROJECT EVALUATION

CHAPTER VIII

PROJECT EVALUATION

(1) The present health and medical service in PNG is afflicted by many problems that hamper the smooth promotion of the national health policy. They include inadequacy of basic components required for the promotion of medical service represented by shortages of medical service staff, inadequate technical skills of staff, delayed modernization of medical equipment, inadequate maintenance of existing equipment and shortages of equipment as well as national budgetary constraints.

(2) Main purposes of this Project are to strengthen health and medical facilities by reinforcing equipment indispensable for the promotion of primary health service and secondary health service at the medical centres as well as medical sub-centres in each province. This constitutes an important step in achieving the Government's health and medical objectives, particularly those of the National Health Project.

At the same time, smooth and effective promotion of the primary health service and improved education and training for the upgrading of technical skills of medical service staff toward the successful maintenance of national health are also envisaged in the Project.

(3) With successful implementation of the Project, significant effects are anticipated as outlined hereunder.

- 1) Effective preventive measures against communicable diseases constituting high morbidity rate in this country will be secured by enabling full provision of medical services for the family level, with reinforcement of primary health service.
- 2) Accuracy and efficiency of diagnosis and treatment will be substantially improved through reinforcing medical equipment in secondary health services such as hospitals and other medical service facilities.
- 3) Both medical treatment expenses and number of serious cases and deaths will be reduced through an early detection and treatment of illness.

- 4) Improvement of medical services in rural areas, which is one of the most important targets of the National Health Project, will be enhanced.
- 5) Improvement of intellectual and technical level of medical staff can be expected by training them utilizing medical equipment to be supplied at the laboratory attached to the Port Moresby General Hospital in addition to its routine works of test and examinations.

This Project is envisioned to generate benefit and/or effects as enumerated above through the supply of limited types and quantity of equipment, the operation and maintenance of which is within the scope of the existing facilities and present medical service staff.

Accordingly, the Project is anticipated to improve quality and coverage of health and medical services in PNG as well as to reduce cases of death and serious illness. The life span of the population will be prolonged and the age expanse of working population will be widened. In addition, training of medical service staff would be achieved. Thus, effects of the Project will be great and the Project is considered to be appropriate for implementation under the Grant Aid Programme of the Government of Japan.

CHAPTER IX. CONCLUSION AND RECOMMENDATION

CHAPTER IX

CONCLUSION AND RECOMMENDATION

9.1 Conclusion

The Government of PNG has been making efforts under the Second National Health Project to strengthen and improve the medical activities in rural areas, to spread information regarding public sanitation, food and environmental hygiene and to expand the numbers of personnel who are engaged in medical services in rural areas, as well as to upgrade their technical skills. In this regard, it is understood that the implementation of the present Project substantially supports the objectives of the said National Project. This Project in minimizing expenditures of the Government and therefore the impact on the national budget on the one hand, and in utilizing existing medical facilities, medical equipment and manpower available in the medical service of the country on the other, will contribute to making effective medical service possible within the framework of the present capabilities of the Government of PNG.

It is expected that, by executing this Project, various medical facilities necessary for the primary health service of the country will be improved and strengthened and as a result the activities, scope and density of the overall health services will be enhanced. Thus, it is expected that this Project will make striking contributions in materializing the national health plan, improvement of social welfare and stabilization of living standard of the population as well as maintenance and development of social order of PNG.

9.2 Recommendation

(1) According to the PNG request, ultrasound scanners and gastroscopes etc. are to be provided mainly to the Port Moresby General Hospital. Such equipment can be fully operated under the present technical levels available in the country. However, it is recommended that doctors of the country should acquire more advanced diagnostic skills to provide more effective medical treatment. To achieve this, it is advised that some of medical staff, especially those who are attached to the Port Moresby

General Hospital, be trained in a foreign advanced country or to receive training by inviting foreign specialists to the sites of PNG.

(2) The economic life of the provided medical equipment entirely depends on the extent of its operation and maintenance. Therefore, miscellaneous costs for the operation and maintenance of the equipment are to be appropriated in addition to normal running costs. Thus, it is necessary to increase budgetary outlay from time to time to cover such costs according to the kinds of the equipment, quantity and operation hours.

SUPPLEMENT

SUPPLEMENT

Equipment Supply Plan in the Second Phase

In the second phase of the project, 15 types of equipment are tentatively proposed to be included in the supply list as presented in the following pages. Selection standard of equipment and conditions for installation and delivery of the equipment are the same as described in section 5.2, Chapter V.

In addition, allocation plans for the proposed equipment by medical stores are also shown in the tables attached.

SUMMARY LIST OF DESIGNED MEDICAL EQUIPMENT

12-1	Ice Making Machine	1
12-2	Mortuary Refrigerator	27
12-3	Table for Anaesthetic	11
12-4	Instrument Table	11
12-5	Portable Operating Table	11
12-6	Instrument Cabinet	11
12-7	Tray Dressing, Large	25
12-8	Tray Dressing, Small	25
13-1	Haemotology Analyser	11
13-2	Blood Gas Analyser	1
13-3	Thin Layer Chromatography	1
13-4	Digital Diluter Pipetter	1
13-5	Beam Type Weighing Scale	46
13-6	Platform Weighing Scale	468
13-7	Anaerobic Chamber	4

4-3-1 POM Medical Store

1. PNG General Hospital

12-1	Ice Making Machine	1
12-2	Mortuary Refrigerator	5
12-7	Tray Dressing, Large	4
12-8	Tray Dressing, Small	4
13-2	Blood Gas Analyser	1
13-3	Thin Layer Chromatography	1
13-4	Digital Diluter Pipetter	1
13-5	Beam Type Weighing Scale	4
13-7	Anaerobic Chamber	1

2. Daru Provincial Hospital

12-2	Mortuary Refrigerator	2
12-3	Table for Anaesthetic	1
12-4	Instrument Table	1
12-5	Portable Operating Table	1
12-6	Instrument Cabinet	1
12-7	Tray Dressing, Large	2
12-8	Tray Dressing, Small	2
13-1	Haematology Analyser	1
13-5	Beam Type Weighing Scale	2

3. Kerema Provincial Hospital

12-2	Mortuary Refrigerator	2
12-3	Table for Anaesthetic	1
12-4	Instrument Table	1
12-5	Portable Operating Table	1
12-6	Instrument Cabinet	1
12-7	Tray Dressing, Large	2
12-8	Tray Dressing, Small	2
13-1	Haematology Analyser	1
13-5	Beam Type Weighing Scale	2

4. Alotau Provincial Hospital

12-7	Tray Dressing, Large	2
12-8	Tray Dressing, Small	2
13-5	Beam Type Weighing Scale	2

5. Popondatta Provincial Hospital

12-7	Tray Dressing, Large	2
12-8	Tray Dressing, Small	2
13-5	Beam Type Weighing Scale	2

6. Major Health Center (50 Places)

13-6	Platform Weighing Scale	50
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7. Sub. Health Center (87 places)

13-6	Platform Weighing Scale	87
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4-3-2 MT. HAGEN Medical Store
1. MT. Hagen Base Hospital

12-7	Tray Dressing, Large	4
12-8	Tray Dressing, Small	4
13-5	Beam Type Weighing Scale	4

2. MENDI Provincial Hospital

12-2	Mortuary Refrigerator	2
12-3	Table for Anaesthetic	1
12-4	Instrument Table	1
12-5	Portable Operating Table	1
12-6	Instrument Cabinet	1
12-7	Tray Dressing, Large	2
12-8	Tray Dressing, Small	2
13-1	Haemotology Analyser	1
13-5	Beam Type Weighing Scale	2

3. WABAG Provincial Hospital

12-2	Mortuary Refrigerator	2
12-3	Table for Anaesthetic	1
12-4	Instrument Table	1
12-5	Portable Operating Table	1
12-6	Instrument Cabinet	1
12-7	Tray Dressing, Large	2
12-8	Tray Dressing, Small	2
13-1	Haemotology Analyser	1
13-5	Beam Type Weighing Scale	2

4. Major Health Center (34 Places)

13-6	Platform Weighing Scale	34
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5. Sub Health Center (40 Places)

13-6	Platform Weighing Scale	40
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4-3-4 MADANG MEDICAL STORE
1. MADANG Provincial Hospital

12-7	Tray Dressing, Large	4
12-8	Tray Dressing, Small	4
13-5	Beam Type Weighing Scale	2

2. Major Health Center (19 Places)

13-6	Platform Weighing Scale	19
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3. Sub Health Center (8 Places)

13-6	Platform Weighing Scale	8
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4-3-3 LAE MEDICAL STORE

1. LAE Base Hospital

12-7	Tray Dressing, Large	4
12-8	Tray Dressing, Small	4
13-5	Beam Type Weighing Scale	4
13-7	Anaerobic Chamber	1

2. GOROKA Base Hospital

12-7	Tray Dressing, Large	4
12-8	Tray Dressing, Small	4
13-5	Beam Type Weighing Scale	2
13-7	Anaerobic Chamber	1

3. KUNDIAWA Provincial Hospital

12-2	Mortuary Refrigerator	2
12-3	Table for Anaesthetic	1
12-4	Instrument Table	1
12-5	Portable Operating Table	1
12-6	Instrument Cabinet	1
12-7	Tray Dressing, Large	2
12-8	Tray Dressing, Small	2
13-1	Haematology Analyser	1
13-5	Beam Type Weighing Scale	2

4. Major Health Center (31 Places)

13-6	Platform Weighing Scale	31
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5. Sub Health Center (41 Places)

13-6	Platform Weighing Scale	41
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4-3-5 WEWAK MEDICAL STORE
1. WEWAK Provincial Hospital

12-2	Mortuary Refrigerator	2
12-3	Table for Anaesthetic	1
12-4	Instrument Table	1
12-5	Portable Operating Table	1
12-6	Instrument Cabinet	1
12-7	Tray Dressing, Large	2
12-8	Tray Dressing, Small	2
13-1	Haematology Analyser	1
13-5	Beam Type Weighing Scale	2

2. VANIMO Provincial Hospital

12-2	Mortuary Refrigerator	2
12-3	Table for Anaesthetic	1
12-4	Instrument Table	1
12-5	Portable Operating Table	1
12-6	Instrument Cabinet	1
12-7	Tray Dressing, Large	2
12-8	Tray Dressing, Small	2
13-1	Haematology Analyser	1
13-5	Beam Type Weighing Scale	2

3. Major Health Center (22 Places)

13-6	Platform Weighing Scale	22
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4. Sub Health Center (38 Places)

13-6	Platform Weighing Scale	38
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4-3-6 RABAU MEDICAL STORE
1. RABAU Base Hospital

12-7	Tray Dressing, Large	4
12-8	Tray Dressing, Small	4
13-5	Beam Type Weighing Scale	4
13-7	Anaerobic Chamber	1

2. KIMBE Provincial Hospital

12-2	Mortuary Refrigerator	2
12-3	Table for Anaesthetic	1
12-4	Instrument Table	1
12-5	Portable Operating Table	1
12-6	Instrument Cabinet	1
12-7	Tray Dressing, Large	2
12-8	Tray Dressing, Small	2
13-1	Haematology Analyser	1
13-5	Beam Type Weighing Scale	2

3. MANUS Provincial Hospital

12-2	Mortuary Refrigerator	2
12-3	Table for Anaesthetic	1
12-4	Instrument Table	1
12-5	Portable Operating Table	1
12-6	Instrument Cabinet	1
12-7	Tray Dressing, Large	2
12-8	Tray Dressing, Small	2
13-1	Haematology Analyser	1
13-5	Beam Type Weighing Scale	2

4. KAVING Provincial Hospital

12-2	Mortuary Refrigerator	2
12-3	Table for Anaesthetic	1
12-4	Instrument Table	1
12-5	Portable Operating Table	1
12-6	Instrument Cabinet	1
12-7	Tray Dressing, Large	2
12-8	Tray Dressing, Small	2
13-1	Haematology Analyser	1
13-5	Beam Type Weighing Scale	2

5. ARAWA Provincial Hospital

12-2	Mortuary Refrigerator	2
12-3	Table for Anaesthetic	1
12-4	Instrument Table	1
12-5	Portable Operating Table	1
12-6	Instrument Cabinet	1
12-7	Tray Dressing, Large	2
12-8	Tray Dressing, Small	2
13-1	Haemotology Analyser	2
13-5	Beam Type Weighing Scale	2

6. Major Health Center (43 Places)

13-6	Platform Weighing Scale	43
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7. Sub Health Center (55 Places)

13-6	Platform Weighing Scale	55
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APPENDIX

MEMBERS LIST OF JAPANESE BASIC DESIGN STUDY TEAM

Hiroyoshi IHARA (Team Leader)	Senior Assistant, Grant Aid Div., Economic Cooperation Bureau, Ministry of Foreign Affairs.
Fumio MITSUHASHI (Hospital Management)	Deputy Director, Administration Div., Medical Administration Bureau, Ministry of Health and Welfare
Minoru AKIYAMA M.Dr. (Medical Service planning)	Officer, International Medical Cooperation Dept., National Medical Center Ministry of Health and Welfare
Chikashi OZAKI (Medical System planning)	Senior Chief, Consultant Division, Binko Ltd.
Shin-ichi Kimura (Medical Equipment planning)	Planning Chief, Medical Equipment Specialist Consultant Division, Binko Ltd.
Yasuo KAKEHI (Facility Engineering)	Architect, Consultant Division, Binko Ltd.

Minutes of Discussions
on
Medical Equipment Supply Project
in
Papua New Guinea

In response to the request by the Government of Papua New Guinea, the Government of Japan decided to conduct a basic design study on the Medical Equipment Supply Project (hereinafter referred to as "the Project") and the Japan International Cooperation Agency, an official agency responsible for the implementation of technical cooperation programme of the Government of Japan, despatched a study team (hereinafter referred to as "the Team") headed by Mr. Hiroyoshi Ihara, Special Assistant for Grant Aid, Ministry of Foreign Affairs from November 30 to December 24, 1986.

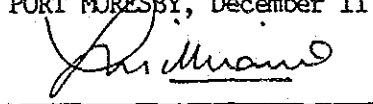
The Team conducted a field survey, held discussions and exchanged views with the officials concerned of the Government of Papua New Guinea.

As a result of the survey and discussions, both sides have agreed to recommend to their respective Governments to examine the result of the study attached herewith towards the realization of the Project..

PORT MORESBY, December 11, 1986.



Hiroyoshi Ihara
Team Leader
Japanese Study Team



Fiu Williame
Assistant Secretary
Foreign Aid Management Division
Department of Finance and Planning.

Minutes

1. The objective of the Project is to provide equipment for improvement of health services in Papua New Guinea.
2. The equipment will be selected by the team based on the list requested by the Papua New Guinea side and the result of the survey conducted by the team. The tentative list based on discussion in Papua New Guinea is shown in Annex I.
3. The Department of Health is the executing body of the project.
4. The Papua New Guinea side has understood Japan's Grant Aid System explained by the Team which include a principle of use of a Japanese Consultant Firm recommended by JICA and Japanese Contractor selected by the open tendering.
5. Both Governments will take necessary measures listed in Annex II on condition that the Grant Aid would be extended to the project.
6. The Papua New Guinea side requested that the Draft Report should be prepared by the team for discussion in Papua New Guinea before submission of the Basic Design Report. The Team agreed to convey the request to the Government of Japan.

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The Tentative List for
Medical Equipment

1. Hospital Equipment
 - (1) Major Equipment
 - X-Ray Equipment
 - Ultrasound Equipment
 - Fiberscope
 - Sect Scan
 - (2) Minor Equipment
 - Electrocardiograph
 - Portable Defibrillator
 - Echocardiograph
 - ICU Bed
 - Operating Theatre Table
 - Others
2. Laboratory Equipment
 - Spectrophotometer
 - Autoclave
 - Laboratory Incubator

 - Bilirubinometer
 - Analytical Balance
 - Biology Microscope
 - Others
3. Malaria Control Equipment
4. Others
 - (1) Management Equipment
 - (2) Training Equipment



Necessary measures to be taken by both Governments

	Japan	Papua New Guinea
1. To submit the Basic design report by the middle of March 1987.	0	
2. To provide medical equipment. (including transportation to the site).	0	
3. To ensure prompt unloading and customs clearance at the port of disembarkation in Papua New Guinea of imported materials.		0
4. To exempt Japanese nationals concerned from duties, internal taxes and other fiscal levies which may be imposed in Papua New Guinea with respect to the supply of materials and services for the Project.		0
5. To bear commissions to the Japanese foreign exchange banks for the banking services based upon the Banking Arrangement.		0
6. To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be		0




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(2)

Japan Papua New Guinea

necessary for their entry into
Papua New Guinea and stay therein for
the performance of their work.

0

7. To maintain and use properly and
effectively the equipment provided
under the grant.

0

8. To bear all the expenses other than
those to be borne by the Grant, necessary
for the Project.

0

L. J. P.

The List of Relative Persons in PNG

Person concerned in Ministry of Health(Counterpart)

- ※Dr. Quewtin Reilly, Secretary for Health
- ※Mr. Robert Whaites, Chief of Pharmaceutical Service
- ※Mr. A. Posone, Assistant Secretary
- ※Miss Jane Thomason, Project Coordinator

Person concerned in Department of Health

Province	Name(Person in charge)	Title
※Gulf	Mr. Luke Furigi	Assistant Secretary
Central	Mr. Oreme Tipu	"
※East Sepik	Dr. John Sairere	"
West Sepik	Dr. Marcus Woibun	"
※Western Highlands	Mr. Kambowa Kukuwa	"
※Madang	Mr. Augustine Dunstan	"
※Western	Mr. Wesley Malesa	"
Milne Bay	Dr. Festus Pawa	"
※National Capital Dist.	Dr. Jim Dela Cruz	"
※Southern Highlands	Mr. Mark Mauludu	"
Enga	Dr. Flemming Larsen	"
※Manus	Dr. Thomas Mundri	"
Northern	Mr. Samson Papau	"
Simbu	Mr. Peter Lausie	"
Eastern Highlands	Dr. Candy Lombange	"
New Ireland	Mr. Benjamin Tiothy	"
※East New Britain	Dr. Malcolm Bolton	"
※West New Britain	Mr. Kitchawen Chakumai	"
※North Solomons	Dr. Joseph Pulau	"
※Morobe	Dr. Likei Theo	"

Person concerned in Hospital

Province	Name(Person in charge)	Title
※Port Moresby	Dr. E. Talwat	Medical Superintendent
※Daru	Mr. John Mc. Kup	"
※Kerema	Dr. L. Yabok	"
Alotau	Dr. G. Burgess	"
Popondetta	Dr. B. Torrin	"
※Goroka	Dr. L. Kaupa	"
※Mt. Hagen	Dr. G. Babona	"
※Kundiawa	Dr. J. Mc. Kup	"
Mendi	J. Lee	"
Wabag	Mr. Otto Newman	"
※Rabaul	Dr. V. Golpak	"
※Arawa	Dr. B. Sevou	"
Wewak	Dr. Doliente	"
※Madang	Dr. S. Demok	"
※Lae	Dr. Maliaki	"
Vanimo	Dr. R. Mohanty	"
※Lorengau	M. B. Kluck	"
※Kimbe	Y. Akalanana	"
Kavieng	H. Ternando	"

※ were interviewed in PNG.

Tentative Itinerary of Basic Design Study Team

- Dec. 1st(Mon.) Arrive Port Moresby Air Port at 13:25
Courtesy visit to the Embassy of Japan.
- Dec. 2nd(Tue.) Courtesy visit to the Department of Health, and meeting with the Ministry of Foreign Affairs, the Ministry of Finance and the Ministry of Health. Explanation of inception report.
- Dec. 3rd(Wed.) Meeting with Chief Pharmaceutical Services (Mr. R.Whaites), and with Department of works.
Meeting, and inspection of Port Moresby General Hospital.
- Dec. 4th(Thu.) 8:30 Meeting at Department of Health.
9:30 Inspection of Medical Store.
11:00 Meeting with Dental Health Service. (Dr. Bais Gwale)
14:00 Submitted the Minurwa od Siaxuaalona (draft) to the Foreign Aid Management Division.
15:00 Meeting with ADB Health Management Consultant.
- Dec. 5th(Fri.) 8:30 Meeting to design the Medical Equipment for this project.
10:50 Survey for the training of Para-Medical at College of Allied Health Science.
14:30 Meeting with World Health Organization (WHO).
15:15 Meeting with Medical University.
- Dec. 6th(Sat.) Analysis of collected data and information, Inspection of Japanese Language Laboratory in Sogeri High School.
- Dec. 7th(Sun.) Analysis and review for collected information.
- Dec. 8th(Mon.) 8:45 Ultimate meeting of site survey at Department of Health.
10:40 Leave Port Moresby Air Port
11:30 Arrive Lae Air Port.
13:00 Inspection of Lae General Hospital.

Dec. 9th(Tue.) 8:30 Inspection of Lae Medical Store.
9:30 Inspection of New Lae Medical Store.
11:30 Leave Lae Air Port.
13:00 Arrive Mt. Hagen Air Port.
13:15 Inspection of Mt. Hagen Medical Store
(Ozaki & Kakehi consultant team)
13:30 Inspection of Mt. Hagen Base Hospital.
16:00 Site survey team (B) Ozaki and Kakehi consultants
move to Kundiawa.

Dec.10th(Wed.) * Site survey team (A) Kimura consultant and Japanese
official team.
8:00 Inspection of Medical Health Centre and Aid Post.
11:50 Leave Mt. Hagen Air Port.
14:20 Arrive Port Moresby.
15:00 Meeting for Minutes with the Ministry of Foreign Affairs.
16:00 Visit to the Embassy of Japan for interim report.

* Site survey team (B)
8:00 Inspection of Kundiawa Provincial Hospital.
10:00 Inspection of Health Centre.
11:40 Inspection of Goroka Base Hospital.
15:00 Inspection of Medical Store.

Dec.11th(Thu.) * Site survey team (A)
8:30 Meeting and summary report at the Department of
Health.
14:15 Exchange of Minutes at the Department of Foreign
Affairs.
16:30 Visit to the Embassy of Japan to explain Minutes.

* Site survey team (B)
8:30 Inspection of Madang Provincial Hospital.
10:30 Inspection of Medical Store, and visit to
Provincial Office.
13:30 Inspection of Health Centre and Health Sub-Centre.
17:45 Move to Wewak.

- Dec.12th(Fri.) 15:30 Official team returned.
- * Site survey team (B)
 - 8:00 Inspection of Wewak Provincial Hospital and Medical Store.
 - 12:40 Move to Port Moresby.
- Dec.13th(Sat.)
- * Site survey team (A)
Preparation of planning for selected Medical Equipments.
 - * Site survey team (B)
 - 6:50 Move to Manus from Port Moresby.
 - 9:00 Inspection of Manus Provincial Hospital.
 - 13:00 Inspection of Manus Medical Store.
- Dec.14th(Sun.)
- * Site survey team (A)
Preparation of planning for selected Medical Equipments.
 - * Site survey team (B)
Inspection of Lorengau Provincial Hospital, Health Centre and Aid Post.
- Dec.15th(Mon.)
- * Site survey team (A) Kimura consultant
 - 10:00 Presentation of planning for the project of Medical Equipments.
 - 12:15 Move to Daru from Port Moresby.
 - 14:00 Visit to the Department of Provincial of Health.
 - 15:30 Inspection of Daru Provincial Hospital.
 - * Site survey team (B)
 - 10:10 Move to Rabaul from Manus.
Visit to Rabaul Provincial Hospital, and inspection of Rabaul Hospital.
- Dec.16th(Tue.)
- * Site survey team (A)
 - 8:30 Meeting at Daru Provincial Hospital.
 - 12:55 Move to Kerema from Daru.
 - 15:30 Meeting at the Department of Provincial of Health Kerema.
 - * Site survey team (B)
Inspection of Kimbe Provincial Hospital and Health Centre.

Dec.17th(Wed.) * Site survey team (A)
8:30 Re-inspection of Kerema Provincial Hospital.
11:25 Move to Port Moresby.

* Site survey team (B)
9:00 Inspection of Rabaul Medical Store and Aid Post.
13:00 Inspection of Mission Hospital.
15:00 Inspection of Rabaul Provincial Hospital.

Dec.18th(Thu.) Meeting for planning of the project of medical
equipment at MOH.
10:30 Inspection of POMGH dental training school.
11:30 Inspection of POMGH Pathology Laboratory
13:00 Revision of planning of the project of medical
equipments.

* Site survey team (B)
9:30 Move to Kieta.
12:00 Inspection of Arama Provincial Hospital.

Dec.19th(Fri.) 8:30 Meeting with MOH.
10:00 Meeting with computer programmer.
11:00 Meeting with Dr. S. Dulay (Medical Officer) about
Equipments for Anti-Malaria.
13:00 Preparation of the ultimate planning for medical
equipments.

* Site survey team (B)
8:00 Re-inspection of Arawa Provincial Hospital.
10:00 Inspection of Health Centre.
13:00 Visit to Arawa Provincial Office.
15:30 Move to Port Moresby.

Dec.20th(Sat.) Meeting within consultant teams to analyze collected
data and information.

Dec.21st(Mon.) Summarizing of surveyed data.

Dec.22nd(Tue.) 9:00 Meeting at the Embassy of Japan.
13:30 Presentation of planning for the project of
medical equipment to MOH.
16:45 Report summary of survey to the Embassy of Japan.

Dec.23rd(Wed.) 9:00 Re-inspection of POMGH.
13:00 Visit to the rocal agency for maintenance.
15:30 Move to Australia Brisbane.

Dec.24th(Thu.) 9:30 To Japan.
19:00 Arrive Narita Air Port.

* Site survey team (A) Officer and Kimura.
Site survey team (B) Ozaki and Kakehi.

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Table 1

Selected
GLOBAL AND REGIONAL INDICATORS FOR HEALTH FOR ALL BY THE YEAR 2000

	Present Condition	
	Year	Index
(A) HEALTH POLICY		
- At least 5% of GNP is spent on health	1984	4.1 (GDP)
- A reasonable percentage of national health expenditure is devoted to primary health care	1984	46.7
- The community contributes in cash and in kind to health or health related action	...	
(B) SOCIOECONOMIC INCIDENCE		
- The percentage of population with adequate sanitary facilities in the home or immediate vicinity is 100	1983	Urban - 50.9 Rural - 3.4
- The adult literacy rate for both men and women exceeds 70%	1982	Total - 45
- GNP per capita exceeds US\$500 at 1980 market prices	1984	US\$593 or KINA 593
(C) HEALTH STATUS AND QUALITY OF LIFE		
- At least 90% of newborn infants have a birth weight of at least 2500 grams	1979	2499
- At least 90% of children have a weight for age that corresponds to reference values given in "Global Strategy for Health for All by the Year 2000, WHO, Geneva, 1981"	1982	80
- The infant mortality rate for all identifiable sub-groups is below 50 per 1000 live births	1981	72
- Life expectancy at birth is over 60 years	1981	Urban: M - 51 years F - 52 years Rural: M - 43 years F - 44 years
- Maternal mortality rate is below 3 per thousand live births	-	-
- No cases of diphtheria, tetanus, whooping cough, measles, poliomyelitis and tuberculosis occur	1984	Whooping cough 1337 Tetanus 47 Poliomyelitis 18 Measles 9 874 Tuberculosis 6 570
(D) INDICATORS OF THE DELIVERY OF HEALTH CARE:		
- The percentage of deliveries by trained health personnel is 95	1983	33.5
- The percentage of children immunized against diphtheria, tetanus, whooping cough, measles, poliomyelitis and tuberculosis is 95	1983	44 - 67 range
- Local health care, including availability of at least 20 essential drugs, within one hour's walk or travel is 100%	1984	93
- The percentage of children up to at least one year of age given routine child care by trained health personnel is 100%	1981	17.6(1-5 years)
- The percentage of pregnant women with at least three visits for antenatal care is 100	1983	54.2
- The population growth rate is reduced to less than 1%	1980	2.3

Table 2

LEADING CAUSES OF MORBIDITY IN P. N. G. (HOSPITALS, HEALTH CENTRES AND SUBCENTRES), 1961-1984

CAUSE OF MORBIDITY	YEAR (Started 1st April)										
	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71
OBSTETRIC CONDITIONS	5,626.	5,685.	5,400.	5,660.	7,023.	8,084.	9,395.	10,706.	10,830.	11,534.	14,779.
PNEUMONIA	9,585.	9,425.	12,220.	11,816.	11,305.	13,302.	15,489.	13,494.	16,534.	18,003.	17,157.
MALARIA	12,386.	9,950.	10,816.	9,328.	9,078.	9,655.	9,250.	10,909.	11,334.	9,678.	12,334.
ACCIDENTS, VIOLENCE & POIS	4,713.	9,833.	9,840.	10,612.	10,318.	11,640.	12,242.	12,404.	12,782.	13,910.	15,865.
DIARRHOEAL DISEASES	4,693.	5,163.	5,104.	5,784.	5,102.	8,084.	9,223.	11,980.	12,611.	11,666.	14,043.
DIS. GENITO-URINARY SYST.	-	2,178.	2,304.	2,352.	2,829.	2,906.	3,244.	3,407.	3,985.	3,836.	4,851.
INF. SKIN & SUBCUT. TISSUES.	6,732.	5,969.	6,388.	6,000.	5,050.	5,394.	5,773.	5,216.	5,081.	4,864.	5,475.
CHRONIC BRONCHITIS	-	2,453.	3,228.	4,040.	3,883.	4,072.	4,408.	6,212.	7,102.	6,823.	7,585.
DIS. MUSCULO-SKELETAL SYST.	-	1,550.	1,568.	1,748.	1,642.	1,517.	2,027.	2,525.	2,837.	2,512.	3,166.
ANAEMIAS	-	1,130.	1,732.	1,520.	1,266.	1,342.	1,784.	1,862.	1,587.	1,639.	2,329.
TUBERCULOSIS	-	3,211.	1,996.	2,496.	2,756.	3,242.	2,930.	2,599.	2,381.	2,117.	1,969.
MEASLES	-	855.	1,764.	3,056.	705.	293.	807.	1,677.	2,415.	1,091.	1,249.
OTHER	56,879.	39,311.	40,868.	48,740.	43,287.	44,919.	45,850.	37,797.	38,903.	40,044.	43,874.
TOTAL	100,614.	96,713.	103,228.	114,152.	104,244.	114,450.	122,422.	120,788.	128,382.	127,717.	144,676.

(cont.)

CAUSE OF MORBIDITY	YEAR (Started 1st January)										1984 %
	1971-72	1973-76	1977	1978	1979	1980	1981	1982	1983	1984	
OBSTETRIC CONDITIONS	16,940.	N/A	22,886.	31,666.	33,349.	36,926.	43,176.	44,008.	47,379.	46,116.	0.3
PNEUMONIA	20,521.	N/A	17,809.	24,757.	24,768.	27,980.	31,546.	29,426.	38,169.	31,123.	2.9
MALARIA	10,297.	N/A	10,130.	16,500.	19,041.	21,431.	25,977.	24,138.	25,969.	24,897.	1.2
ACCIDENTS, VIOLENCE & POIS	17,917.	N/A	11,621.	15,058.	15,021.	15,937.	18,600.	19,783.	19,694.	19,710.	0.7
DIARRHOEAL DISEASES	15,905.	N/A	9,081.	14,575.	11,164.	11,462.	11,273.	9,943.	11,726.	14,710.	2.0
DIS. GENITO-URINARY SYST.	5,440.	N/A	4,415.	5,767.	5,631.	5,910.	7,197.	7,288.	8,246.	8,132.	-
INF. SKIN & SUBCUT. TISSUES.	5,919.	N/A	4,493.	5,763.	5,636.	5,847.	6,407.	6,307.	6,744.	6,594.	-
CHRONIC BRONCHITIS	9,874.	N/A	4,653.	5,998.	5,020.	4,913.	5,416.	5,580.	6,381.	5,242.	-
DIS. MUSCULO-SKELETAL SYST.	3,198.	N/A	2,501.	3,298.	3,621.	3,858.	4,508.	4,753.	5,245.	5,213.	-
ANAEMIAS	2,854.	N/A	3,492.	5,262.	6,192.	6,198.	6,925.	5,448.	5,357.	4,753.	1.7
TUBERCULOSIS	3,741.	N/A	1,709.	2,731.	2,841.	2,803.	2,790.	2,858.	3,669.	3,569.	6.0
MEASLES	2,854.	N/A	2,028.	2,740.	2,126.	3,049.	3,479.	3,777.	3,308.	2,449.	-
OTHER	55,405.	N/A	32,353.	42,568.	43,803.	45,270.	51,965.	50,244.	52,825.	47,776.	1.6
TOTAL	170,865.	N/A	127,171.	176,283.	178,993.	191,584.	219,259.	213,553.	234,712.	220,284.	1.7

SOURCE: Discharge Statistics, Dept. of Health

Table 3

LEADING CAUSES OF MORBIDITY IN P.N.G. (HOSPITALS, HEALTH CENTRES AND SUBCENTRES), BY PERCENT, 1961-1984

CAUSE OF MORBIDITY	YEARE (Started 1st April)										
	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71
OBSTETRIC CONDITIONS	5.6	5.9	5.2	5.0	6.7	7.1	7.7	8.9	8.4	9.0	10.2
PNEUMONIA	9.5	9.7	11.8	10.4	10.8	11.6	12.7	11.2	12.9	14.1	11.9
MALARIA	12.3	10.3	10.5	9.0	8.7	8.4	7.6	9.0	8.8	7.6	8.5
ACCIDENTS, VIOLENCE & POIS	4.7	10.2	9.5	9.3	4.8	4.7	4.7	4.3	10.0	10.9	11.0
DIARRHOEAL DISEASES	4.7	5.3	5.0	5.1	4.9	7.1	7.5	9.9	9.8	9.1	9.7
DIS.GENITO-URINARY SYST.	-	2.3	2.2	2.1	2.7	2.5	2.6	2.8	3.1	3.0	3.4
INF.SKIN & SUBCUT.TISSUES.	6.7	6.1	6.2	5.2	9.9	10.2	10.0	10.3	4.0	3.8	3.8
CHRONIC BRONCHITIS	-	2.5	3.1	3.5	3.7	3.6	3.6	5.1	5.5	5.3	5.2
DIS.MUSCULO-SKELETAL SYST.	-	1.6	1.5	1.5	1.6	1.3	1.6	2.1	2.2	2.0	2.2
ANAEMIAS	-	1.2	1.7	1.3	1.2	1.2	1.5	1.5	1.2	1.3	1.6
TUBERCULOSIS	-	3.3	1.9	2.2	2.6	2.8	2.4	2.1	1.9	1.7	1.4
MEASLES	-	0.9	1.7	2.7	0.7	0.3	0.7	1.4	1.8	0.9	0.9
OTHER	-	40.7	39.7	42.7	41.7	39.2	37.4	31.4	30.4	31.3	30.2
TOTAL	100	100	100	100	100	100	100	100	100	100	100

CAUSE OF MORBIDITY	YEAR (Started 1st January)										
	1971-72	1973-75	1976	1977	1978	1979	1980	1981	1982	1983	1984
OBSTETRIC CONDITIONS	9.9	N/A	16.4	18.0	18.0	18.6	19.3	19.7	20.6	20.2	19.7
PNEUMONIA	12.0	N/A	13.8	14.0	14.0	13.8	14.6	14.4	13.8	16.3	14.1
MALARIA	6.0	N/A	7.0	8.0	9.4	10.6	11.2	11.8	11.3	11.1	11.3
ACCIDENTS, VIOLENCE & POIS	10.5	N/A	9.7	9.2	8.5	8.4	8.3	8.5	9.3	8.4	8.9
DIARRHOEAL DISEASES	9.3	N/A	7.9	7.1	8.3	6.2	6.0	5.1	4.7	5.0	6.7
DIS.GENITO-URINARY SYST.	3.2	N/A	-	3.5	3.3	3.1	3.1	3.3	3.4	3.5	3.7
INF.SKIN & SUBCUT.TISSUES.	3.5	N/A	4.8	3.5	3.3	3.2	3.1	2.9	3.0	2.9	3.0
CHRONIC BRONCHITIS	5.8	N/A	4.1	3.7	3.2	2.8	2.6	2.5	2.6	2.7	2.4
DIS.MUSCULO-SKELETAL SYST.	2.2	N/A	-	2.0	1.9	2.0	2.0	2.1	2.2	2.2	2.4
ANAEMIAS	1.9	N/A	2.5	2.7	3.0	3.9	3.2	3.2	2.6	2.3	2.2
TUBERCULOSIS	1.5	N/A	1.5	1.3	1.5	1.6	1.5	1.3	1.3	1.6	1.6
MEASLES	1.7	N/A	1.8	1.6	1.6	1.6	1.6	1.6	1.8	1.4	1.1
OTHER	32.5	N/A	-	25.4	24.0	24.2	23.5	23.6	23.4	22.4	22.9
TOTAL	100	100	100	100	100	100	100	100	100	100	100

SOURCE: Discharge Statistics, Dept. of Health, PNG.

Table 4

CASES OF SELECTED COMMUNICABLE DISEASES IN P.N.G. (1963-84)

Disease	1963.	1964.	1965.	1966.	1967.	1968.	1969.	1970.	1971.	1972.	1973.
Poliomyelitis	146.	13.	46.	4.	48.	9.	17.	56.	22.	6.	20.
Diphtheria	7.	43.	6.	14.	27.	7.	6.	13.	1.	0.	0.
Diarrhoea	3,364.	3,711.	6,087.	7,227.	9,489.	8,840.	9,049.	13,241.	10,422.	21,401.	27,451.
Influenza	1,696.	11,792.	5,666.	4,463.	4,334.	3,252.	18,819.	7,387.	2,433.	19,636.	15,061.
Measles	1,347.	1,124.	710.	931.	2,462.	3,743.	1,574.	1,861.	3,941.	1,602.	7,864.
Typhoid	8.	10.	9.	5.	7.	4.	3.	7.	6.	1.	0.
Pertussis	1,621.	703.	501.	1,027.	657.	89.	15.	100.	2,139.	863.	625.
Gonorrhoea	376.	382.	682.	881.	1,839.	1,617.	2,294.	4,032.	3,286.	4,356.	5,158.
Syphilis	3.	1.	0.	9.	0.	4.	49.	1,137.	1,525.	1,525.	1,024.
Tetanus	N/A	N/A	N/A	N/A	N/A	N/A	N/A	19.	61.	53.	49.
Pigbel	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Disease	1974.	1975.	1976.	1977.	1978.	1979.	1980.	1981.	1982.	1983.	1984.
Poliomyelitis	32.	29.	68.	102.	48.	66.	22.	9.	18.	8.	18.
Diphtheria	14.	11.	88.	65.	14.	4.	0.	2.	0.	0.	0.
Diarrhoea	28,624.	25,558.	28,505.	34,419.	36,548.	46,343.	49,166.	56,457.	49,711.	50,186.	65,564.
Influenza	30,953.	59,147.	38,703.	7,730.	38,418.	34,221.	72,450.	89,722.	43,905.	68,917.	56,256.
Measles	4,141.	4,172.	6,135.	7,121.	8,059.	9,394.	12,125.	16,519.	12,771.	10,023.	9,814.
Typhoid	14.	0.	234.	120.	24.	16.*	10.*	11.*	11.*	25.*	47.*
Pertussis	829.	1,243.	1,704.	1,102.	809.	1,942.	2,693.	2,884.	1,422.	2,656.	1,337.
Gonorrhoea	6,333.	6,403.	8,998.	9,105.	12,119.	10,383.	10,945.	11,121.	13,456.	16,173.	16,969.
Syphilis	1,347.	1,597.	2,262.	1,937.	4,028.	4,818.	4,637.	3,395.	4,161.	5,755.	6,943.
Tetanus	124.	40.	39.	34.	44.	47.	68.	60.	40.	39.	47.
Pigbel	N/A	N/A	N/A	N/A	N/A	623.	859.	1,074.	804.	464.	518.

Source: EPINT, Selected Morbidity Statistics in Papua New Guinea, issued by the Dept. of Health, from Provincial Reports.

* These data are from Discharge Reporting.

Table 5 MAJOR DISEASE INCIDENCES BY PROVINCE

PROVINCE	DIP	PER	PIG	POL	TET	MEA	DIA	INF	YAWS	GON	SYP	PAR #	(*) %
Western	1.		1.			56.	1277.	1294.		246.	273.	6/17.	35.
Gulf	8.		2.			43.	1822.	487.	1.	24.	9.	9/12.	75.
Central	20.					388.	866.	917.		22.	1.	5/9.	56.
NCD	45.					1575.	5827.	14806.		1727.	993.	6/10.	60.
Milne Bay	66.					289.	1115.	1942.		291.	12.	10/12.	83.
Oro	54.		2.			204.	938.	734.		142.	3.	5/6.	83.
S.Highlands	74.	57.	2.			522.	10120.	10113.		1239.	117.	11/14.	79.
Enga	15.	45.	1.			204.	4661.	2316.		1390.	492.	9/12.	75.
W.Highlands	84.	176.	5.			193.	4325.	2115.		2055.	1604.	14/17.	82.
Simbu	134.	159.	2.			303.	3022.	1988.		2090.	1084.	12/13.	92.
E.Highlands	34.	31.	1.	11.		669.	3867.	714.		2349.	1319.	9/10.	90.
Morobe	176.	3.				5471.	3526.	7805.	1.	2671.	609.	14/17.	82.
Madang	90.	25.	3.	5.		602.	4206.	4373.	383.	584.	134.	21/22.	95.
East Sepik	284.	3.	2.	9.		671.	1976.	104.	12.	95.	7.	12/20.	60.
West Sepik	26.	3.	1.	2.		112.	2520.	1701.	76.	24.	7.	11/13.	85.
Manus	31.					37.	264.	299.		112.		4/7.	57.
New Ireland	29.					665.	603.	205.		183.	11.	8/15.	53.
East New Brit.	105.	7.	3.	4.		2032.	5858.	2194.	84.	1136.	132.	18/22.	82.
West New Brit.	31.					676.	7024.	1805.	165.	207.	7.	15/19.	79.
North Solomons	30.	9.				62.	1747.	344.	92.	382.	129.	25/25.	100.
TOTAL	0.	1337.	518.	18.	47.	9874.	65564.	56256.	814.	16969.	6943.	224/292.	77.

(*) = for "participation" the ratio between the monitoring units that contributed to the data displayed, over those units which were expected to participate in the monitoring (monthly and provincial averages, also as %). Discrepancies in the overall percentages are due to "rounding off" of different (monthly-provincial) data sets.

N.B. Diseases listed in the following order: diphtheria, pertussis, pigbel, polio, tetanus, measles, diarrhoea, influenza, yaws, gonorrhoea, syphilis.

SOURCE: Department of Health, EPINT.

Table 6 CHILD MORTALITY RATES PER 1000 LIVE BIRTHS BY SEX, 1971 AND 1980

PROVINCE	1 9 7 1			1 9 8 0		
	PERSONS	MALES	FEMALES	PERSONS	MALES	FEMALES
PNG Total	2620.	1316.	1304.	1491.	756.	735.
Western	165.	77.	88.	98.	53.	45.
Gulf	243.	118.	125.	88.	41.	47.
Central	112.	57.	55.	69.	35.	34.
N.C.D.*	(-)	(-)	(-)	40.	21.	19.
Milne Bay	123.	68.	55.	52.	22.	30.
Oro	123.	67.	56.	81.	40.	41.
S.Highlands	184.	94.	90.	130.	74.	56.
Enga **	172.	83.	89.	104.	55.	49.
W.Highlands	(-)	(-)	(-)	83.	44.	39.
Simbu	154.	73.	81.	93.	43.	50.
E.Highlands	146.	76.	70.	61.	36.	25.
Morobe	141.	71.	70.	72.	31.	41.
Madang	152.	76.	76.	72.	39.	33.
East Sepik	214.	105.	109.	102.	50.	52.
West Sepik	180.	88.	92.	131.	67.	64.
Manus	110.	56.	54.	64.	32.	32.
New Ireland	95.	49.	46.	69.	36.	33.
E.N.Britain	94.	49.	45.	62.	29.	33.
W.N.Britain	111.	58.	53.	69.	36.	33.
N.Solomons	101.	51.	50.	34.	16.	18.

Source: National Statistical Office, Mortality Monograph of PNG,

M.L.BAEKER, Table XXVI and figure X13.

In 1971. NCD was part of Central Province.

In 1971. Enga was part of Western Highlands Province.

Table 7

1986 Allocations for new and ongoing Projects associated with primary health services

ALLOCATIONS TO PROVINCES	221-01-101 VARIOUS MALARIA CONTROL	221-01-104 SIX PROVINCE AOB I PROGRAM	221-01-107 RURAL HEALTH IMPROVE AOB II	272-02-201 HEALTH ADMEL BLOCK	277-02-201 MENDI HOSPITAL NURSING	227-07-106 MENDI NURSING SCHOOL	227-07-107 HEALTH INSERVICE I SUB- CENTRE	278-06-101 ENGA PROVINCIAL HEALTH DEVELOP.	286-02-01 RURAL HEALTH PROGRAM	286-02-01 MANUS HEALTH -BDAY	TOTAL	%
WESTERN	9,800.		100,000.						67,200.		177,000.	3.34
GULF	9,800.	105,000.		60,000.					134,300.		309,100.	5.83
CENTRAL	25,100.	102,000.							137,700.		264,800.	5.00
MLNE	23,600.	102,000.									226,100.	4.27
ORO	60,400.								111,600.		172,000.	3.24
SOUTHERN HIGHLANDS	123,200.		100,000.		74,600.	50,700.	108,600.	91,300.	116,000.		573,100.	10.81
ENGA	83,500.								160,000.		334,800.	6.32
WESTERN HIGHLANDS	171,400.		104,000.						185,400.		460,800.	8.69
SMBU	96,000.		100,000.						128,900.		324,900.	6.13
EASTERN HIGHLANDS	148,400.		100,000.						67,600.		316,000.	5.96
MOROBE	74,500.		100,000.						113,700.		288,200.	5.44
MADANG	73,100.								180,300.		253,400.	4.78
EAST SEPK	52,800.		104,000.						146,600.		303,400.	5.72
WEST SEPK	26,500.		104,000.						156,900.		287,400.	2.84
MANUS	18,500.								78,600.	53,700.	150,800.	1.88
NEW BELAND	44,900.								54,900.		99,800.	3.76
EAST NEW BRITAIN	99,300.		100,000.						97,300.		199,300.	6.59
WEST NEW BRITAIN	151,800.		100,000.						67,000.		349,100.	3.98
NORTH SOLOMONS	144,200.										211,200.	100.
PROVINCES TOTAL	1,436,800.	309,500.	1,112,000.	60,000.	74,600.	50,700.	108,600.	91,300.	2,004,000.	53,700.	5,301,200.	
PERCENTAGE OF TOTAL(%)	27.10	5.84	20.98	1.13	1.41	0.96	2.05	1.72	37.80	1.01	100%	

Source: Budget document No.3 and vote index document part 1 & 2.

Table 8 TUBERCULOSIS INCIDENCE AND PREVALENCE/10,000 BY PROVINCE, 1981-84

Province	1 9 8 1		1 9 8 2		1 9 8 3		1 9 8 4	
	Incidence	Prevalence	Incidence	Prevalence	Incidence	Prevalence	Incidence	Prevalence
Western	18.1	38.2	23.9	46.7	18.8	53.8	32.3	64.3
Gulf	12.7	46.4	18.1	23.9	18.1	32.6	14.9	43.8
Central	24.2	50.5	23.4	38.5	20.9	40.5	23.6	43.9
NCD	36.2	145.6	32.7	44.5	40.1	63.6	39.1	54.3
Milne Bay	10.1	22.6	9.3	26.2	7.7	27.5	6.4	30.4
Oro	7.4	15.1	5.0	13.4	10.4	17.2	17.0	25.9
Southern H/L	0.7	1.3	0.5	1.7	0.1	1.7	0.2	1.2
Enga	0.3	1.0	0.3	0.9	1.4	1.8	1.5	2.4
Western H/L	1.1	1.7	2.1	2.6	2.4	3.6	1.9	2.6
Simbu	0.9	3.7	1.3	3.6	4.7	6.4	2.7	6.5
Eastern H/L	2.3	4.5	1.4	1.7	3.5	3.8	4.5	6.4
Morobe	10.9	24.5	11.9	31.8	8.2	30.1	17.2	23.8
Madang	9.4	16.5	8.7	17.1	11.0	18.5	10.5	23.1
East Sepik	8.6	19.3	14.4	25.4	13.9	26.2	15.1	27.8
West Sepik	4.1	8.9	4.0	8.5	9.9	15.1	12.1	19.4
Manus	14.8	18.3	16.9	24.0	7.4	18.8	2.9	7.3
New Ireland	2.5	28.5	6.7	36.7	4.9	14.5	5.2	16.0
East New Brit.	13.6	25.6	11.4	24.2	17.6	28.9	17.1	29.2
West New Brit.	5.1	22.3	7.5	23.5	6.9	21.9	4.6	22.8
N. Solomons	6.9	24.0	13.4	21.0	7.6	24.2	9.9	24.1
P.N.G.	7.9	17.1	8.8	17.6	9.3	19.5	10.8	20.3

SOURCE: Division of Disease Control, Dept. of Health

Table 9 LEPROSY INCIDENCE AND PREVALENCE PER 10,000 BY PROVINCE, 1981-84

Province	1 9 8 1		1 9 8 2		1 9 8 3		1 9 8 4	
	Incidence	Prevalence	Incidence	Prevalence	Incidence	Prevalence	Incidence	Prevalence
Western	8.0	82.4	6.7	82.3	3.9	79.2	4.6	75.4
Gulf	1.5	28.7	3.6	28.0	3.4	31.3	4.1	33.5
Central	3.0	48.0	1.4	46.5	4.0	48.1	2.1	49.2
NCD	3.9	58.5	4.9	58.7	4.0	60.9	4.7	61.8
Milne Bay	2.0	23.8	2.6	25.1	1.9	26.7	1.5	24.4
Oro	0.3	6.1	0.2	6.6	0.0	6.4	1.0	7.2
Southern H/L	0.7	33.0	0.9	28.3	0.3	26.8	0.6	25.4
Enga	2.2	38.7	1.2	29.9	1.6	30.3	0.5	29.3
Western H/L	1.3	24.2	1.3	23.6	1.1	23.1	0.9	23.3
Simbu	0.2	13.4	0.0	13.3	0.1	2.24	0.1	12.5
Eastern H/L	0.2	12.0	0.4	10.4	0.2	10.3	0.1	9.6
Morobe	1.7	9.9	0.3	9.9	0.4	9.9	1.8	10.7
Madang	4.0	30.3	3.0	31.1	7.7	35.3	3.0	37.2
East Sepik	2.2	17.8	1.7	19.0	2.0	18.7	2.7	18.4
West Sepik	7.1	40.0	23.9	62.7	9.8	66.5	5.3	59.9
Manus	8.4	84.9	11.6	92.1	10.0	97.3	10.2	86.0
New Ireland	1.5	58.7	2.6	57.8	2.6	58.4	1.4	58.3
East New Brit.	5.0	25.4	1.7	24.5	3.8	25.0	3.7	23.3
West New Brit.	0.7	11.3	1.2	11.2	1.9	11.2	0.7	10.7
N. Solomons	3.5	18.5	2.6	21.9	8.0	27.7	6.5	18.5
P.N.G.	2.3	27.1	2.5	27.2	2.6	28.5	2.1	27.1

SOURCE: Division of Disease Control, Dept. of Health

Table 10 CANCER MORBIDITY 1979-1983

	1979		1980		1981		1982		1983	
	No.	%	No.	%	No.	%	No.	%	No.	%
Oral	142	17.4	143	17.8	101	10.4	112	12.2	175	16.7
Primary liver	117	14.3	118	14.7	151	15.6	147	16.0	167	15.9
Cervix	118	14.4	88	11.0	131	13.5	101	11.0	149	14.2
Fedmale breast	46	5.6	34	4.3	49	5.1	44	4.8	60	5.7
Stomach	37	4.5	37	4.6	38	3.9	36	3.9	40	3.8
Leukaemia	24	2.9	30	3.8	42	4.3	36	3.9	37	3.5
Lung	15	1.8	14	1.8	19	2.0	16	1.8	31	3.0
Rectum/anus	13	1.6	28	3.5	20	2.1	12	1.3	24	2.3
Oesophagus	11	1.3	24	3.0	35	3.6	38	4.2	30	2.9
Skin (mal.mel)	12	1.5	21	2.6	17	1.8	11	1.2	27	2.6
All others	280	34.3	262	32.7	363	37.5	361	39.4	305	29.1
TOAL	815		799		966		914		1,045	

Source : Discharge Statistics, Dept. of Health

Table 11. BED UTILIZATION AND HEALTH SERVICE FINANCING

Source of Data: 1986-1990 NHP and HPS Questionnaire and Hospital Visits in 1986

GOVERNMENT PROVINCIAL HOSPITALS	HOSPITAL UTILISATION		TREATMENT COSTS & PER CAPITA ALLOCATIONS 1985			HOSPITAL COST ALLOCATION PER HEAD OF POPULATION	PROVINCE
	NUMBER OF AVAILABLE BEDS 1986	BED UTILISATION RATE	NET HOSPITAL ALLOCATION 1985	COST PER CASE BASED ON 1985 ACTIVITY	POPULATION PROJECTED 1985		
PMGH (NCD)	704	30.11	4,697,300	181.75	136,800 129,900 266,700	17.61	NCD Central Total
BASE HOSPITALS							
Angau Memorial	379	43.35	3,208,700	164.74	348,200	9.22	Morobe
Goroka Base	360	29.85	1,804,100	132.89	300,800	6.00	Eastern Highlands
Konga Base	365	22.03	1,445,100	162.52	150,000	9.63	East New Britain
Mt. Hagen Base	226	52.57	913,600	65.57	294,200	3.11	Western Highlands
Group Totals	1,330	35.41	7,371,500	131.92	1,093,200	6.74	
PROVINCIAL LEVEL 1							
Arawa General	264	24.01	1,597,900	223.83	149,400	10.69	North Solomons
Kundlawa	239	26.68	622,100	86.61	185,200	3.36	Simbu
Madang	405	14.93	1,109,400	143.91	239,400	4.63	Madang
Mendi	221	18.49	630,400	146.40	259,300	2.47	Southern Highlands
Wewak (Boram)	298	25.47	1,382,700	152.08	249,000	5.56	East Sepik
Group Totals	1,427	21.33	5,342,500	150.79	1,078,300	4.95	
PROVINCIAL LEVEL 2							
Alotau	137	16.79	563,700	206.94	146,500	3.85	Milne Bay
Daru	110	16.36	472,800	195.86	89,400	5.29	Western
Lorengau	80	20.00	315,700	177.66	29,100	10.85	Manus
Kavieng	122	18.85	530,600	182.02	75,100	7.07	New Ireland
Kerema	82	15.85	409,500	291.46	70,300	5.83	Gulf
Kimbe	127	25.12	608,500	167.40	104,300	5.83	West New Britain
Popondetta	141	28.67	535,700	106.75	88,000	6.09	Oro
Enga Province (SOPAS)	(85)				176,300		Enga
Vanimo	110	11.82	414,800	277.47	125,800	3.38	West Sepik
Group Totals	909	19.62	3,661,300	180.27	904,800	4.27	
National Totals	4,370 (4,455)	26.67	21,272,600 kina	153.52 kina	3,343,000	6.36 kina	National

Table 12. ACTIVITY PROGRAMME OF DEPARTMENT OF HEALTH FOR 1987

FUNCTION/ ACTIVITY		CASH	ESTIMATED STAFF ON STRENGTH 1/1/87				LAB UNITS	P T B UNITS
		K'000	NAT	VOL	O'SEAS	TOTAL		
FUNCTION 1	<u>POLICY AND ADMINISTRATION</u>							
1-1	General Services	2,020.4	189	2	9	200	14	3
1-101	Malaria Control	609.1	11	-	4	15	2	1
1-107	Six Province Rural Health Improvement - ADB I	394.0	1	-	6	7	-	1
1-109	Increase Health Staff in Rural Health Services	10.0	0	-	-	0	-	-
1-111	Grants to Charitable Organisations	60.0	-	-	-	-	-	-
1-2	Primary Health Services	788.8	0	0	0	0	-	2
1-3	Secondary Health Services	85.6	0	-	0	0	-	-
1-4	Architectural Maintenance	509.3	-	-	-	-	-	-
	S U B T O T A L	5,528.6	203	2	20	225	16	7
FUNCTION 2	<u>HEALTH CARE</u>							
2-1	Port Moresby General Hospital	4,634.6	475	-	6	481	158	7
2-104	Specialist Medical Officers	1,790.5	10	-	36	46	-	-
2-2	Angau Memorial Hospital	3,142.0	381	-	3	384	120	4
2-3	Laboratory Services	522.9	31	-	1	32	14	-
2-4	Ambulance Services	190.3	-	-	-	-	-	-
	S U B T O T A L	10,280.3	897	-	46	943	292	11
FUNCTION 3	<u>MENTAL HEALTH</u>							
3-1	Laloki Psychiatric Centre	648.6	93	-	2	95	16	3
	S U B T O T A L	648.6	93	-	2	95	16	3
FUNCTION 4	<u>PHARMACEUTICAL SERVICES</u>							
4-1	General Services	7,914.6	74	2	12	88	62	6
4-101	Rural Health Programme	345.2	-	-	-	-	-	-
	S U B T O T A L	8,259.8	74	2	12	88	62	6
FUNCTION 5	<u>TRAINING</u>							
5-1	Diploma and Certificate Training	6,359.9	423	4	16	443	103	15
5-101	Physiotherapy Training	20.0	2	-	-	2	-	-
5-102	Support to Rural Diagnostic Services	36.1	-	-	-	-	-	-
5-103	Training of Base Level Health Staf	397.6	2	-	1	3	-	-
5-2	Health Messes	512.9	33	-	1	34	46	-
	S U B T O T A L	7,326.5	460	4	18	482	149	15
	G R A N D T O T A L	30,043.8	1,727	8	98	1,833	535	42
	TARGET REDUCTION BY 31/12/87		0	0	0	0		

Table 13 - A HEALTH SERVICE ACTIVITY BY PROVINCE

WESTERN PROVINCE

FUNCTION/ ACTIVITY	DESCRIPTION	CASH K'000	ESTIMATED STAFF ON STRENGTH 1/1/87				LAB	P T B UNITS
			NAT	VOL	O'SEAS	TOTAL		
FUNCTION 2	<u>HEALTH SERVICES</u>							
2-1	Rural Health Services	776.9	68	-	-	68	86	3
2-2	Hospital Services	485.5	70	-	-	70	15	1
2-3	Extension Services	152.0	13	-	-	13	7	3
2-301	Rural Water Supplies	32.3	-	-	-	-	-	-
2-401	Malaria Control	24.8	7	-	-	7	2	-
2-501	Rural Health Programme	67.2	2	-	-	2	-	-
2-6	Church Health Services	420.6	-	-	-	-	-	-
	TOTAL:	1,959.3	160	-	-	160	110	7

GULF PROVINCE

FUNCTION/ ACTIVITY	DESCRIPTION	CASH K'000	ESTIMATED STAFF ON STRENGTH 1/1/87				LAB	P T B UNITS
			NAT	VOL	O'SEAS	TOTAL		
FUNCTION 2	<u>HEALTH SERVICES</u>							
2-1	Rural Health Services	901.1	84	-	-	84	85	5
2-2	Kerema Hospital	411.1	49	2	-	51	15	1
2-3	Extension Services	170.0	12	-	-	0	-	1
2-401	Malaria Control	27.5	7	-	-	7	-	-
2-501	Rural Health Programme	99.7	1	-	-	1	4	4
2-6	Church Health Programme	322.1	-	-	-	-	-	-
	TOTAL:	1,986.3	153	2	-	155	108	12

DENTAL PROVINCE

FUNCTION/ ACTIVITY	DESCRIPTION	CASH K'000	ESTIMATED STAFF ON STRENGTH 1/1/87				LAB	P T B UNITS
			NAT	VOL	O'SEAS	TOTAL		
FUNCTION 2	<u>HEALTH SERVICES</u>							
2-1	Health Services	1,284.2	148	-	-	148	93	14
2-2	Extension Services	185.0	24	-	-	24	9	2
2-301	Rural Water Supply	60.0	0	-	-	0	-	1
2-401	Malaria Control	59.2	22	-	-	22	4	1
2-501	Rural Health Programme	104.4	7	-	-	7	10	1
2-6	Church Health Services	210.4	-	-	-	-	-	-
	TOTAL:	1,883.2	201	-	-	201	116	19

Table 13 - B HEALTH SERVICE ACTIVITY BY PROVINCE

MILNE BAY PROVINCE

FUNCTION/ ACTIVITY	DESCRIPTION	CASH K'000	ESTIMATED STAFF ON STRENGTH 1/1/87				LAB	P T B UNITS
			NAT	VOL	O'SEAS	TOTAL		
FUNCTION 2	<u>HEALTH SERVICES</u>							
2-1	Rural Health Service	1,273.2	134	-	-	134	106	4
2-2	Alotau General Hospital	584.3	71	-	1	72	25	1
2-3	Extension Services	212.4	27	-	-	27	7	1
2-301	Rural Water Supply	49.1	-	-	-	-	6	-
2-401	Malaria Control	66.5	31	-	-	31	-	-
2-501	Rural Health Sectoral Programme	105.3	15	-	-	15	6	-
2-6	Church Health Services	304.0	-	-	-	-	-	-
	TOTAL:	2,594.8	278	-	1	279	150	6

ORO PROVINCE

FUNCTION/ ACTIVITY	DESCRIPTION	CASH K'000	ESTIMATED STAFF ON STRENGTH 1/1/87				LAB	P T B UNITS
			NAT	VOL	O'SEAS	TOTAL		
FUNCTION 2	<u>HEALTH SERVICES</u>							
2-1	Rural Health Services	932.4	109	-	0	109	114	7
2-2	Popondetta Hospital	596.6	98	-	2	100	24	1
2-3	Extension Services	125.8	13	-	-	13	5	2
2-301	Rural Water Supply	40.4	-	-	-	-	-	-
2-401	Malaria Control	86.4	23	-	-	23	5	1
2-501	Rural Health Sectoral Programme	114.6	7	-	-	7	24	-
2-6	Church Health Services	68.3	-	-	-	-	-	-
	TOTAL:	1,964.5	250	-	2	252	172	11

SOUTHERN HIGHLANDS PROVINCE

FUNCTION/ ACTIVITY	DESCRIPTION	CASH K'000	ESTIMATED STAFF ON STRENGTH 1/1/87				LAB	P T B UNITS
			NAT	VOL	O'SEAS	TOTAL		
FUNCTION 2	<u>HEALTH SERVICES</u>							
2-1	Rural Health Services	2,284.6	217	0	0	217	225	13
2-2	Hospital Services	819.9	104	-	3	107	25	1
2-201	Mendi Hospital Nursing	184.8	15	-	-	15	5	1
2-3	Extension Services	84.2	17	-	-	17	-	-
2-301	Rural Water Supply	121.5	0	-	-	0	9	1
2-401	Malaria Control	125.9	7	-	7	9	2	-
2-501	Health Sectoral Programme	121.0	7	-	-	7	28	5
2-6	Church Health Services	383.2	-	-	-	-	-	-
	TOTAL:	4,124.1	367	0	3	370	301	23

Table 13 - C HEALTH SERVICE ACTIVITY BY PROVINCE

ENGA PROVINCE

FUNCTION/ ACTIVITY	DESCRIPTION	CASH	ESTIMATED STAFF ON STRENGTH 1/1/87				LAB	P T B UNITS
		K'000	NAT	VOL	O'SEAS	TOTAL		
FUNCTION 2	<u>HEALTH SERVICES</u>							
2-1	Rural Health Services	1,599.8	185	-	1	186	180	6
2-3	Extension Services	244.1	15	-	0	15	8	4
2-301	Rural Water Supply	60.0	2	-	-	2	5	2
2-401	Malaria Control	77.7	4	-	-	4	2	1
2-501	Rural Health Sectoral Programme	160.0	0	-	-	0	3	2
2-6	Church Health Services	233.5	-	-	-	-	-	-
	TOTAL:	2,375.1	206	-	1	207	198	15

WESTERN HIGHLANDS PROVINCE

FUNCTION/ ACTIVITY	DESCRIPTION	CASH	ESTIMATED STAFF ON STRENGTH 1/1/87				LAB	P T B UNITS
		K'000	NAT	VOL	O'SEAS	TOTAL		
FUNCTION 2	<u>HEALTH SERVICES</u>							
2-1	Rural Health Services	1,242.1	114	-	-	114	160	9
2-2	Hospital	1,025.2	149	2	1	152	40	2
2-3	Extension Services	257.1	22	0	-	22	10	6
2-301	Rural Water Supply	49.8	2	-	-	2	-	-
2-401	Malaria Control	177.3	21	-	-	21	73	1
2-501	Rural Health Sectoral Programme	165.0	10	-	0	10	10	5
2-6	Church Health Services	205.6	-	-	-	-	-	-
	TOTAL:	3,122.1	318	2	1	321	293	23

SIMBU PROVINCE

FUNCTION/ ACTIVITY	DESCRIPTION	CASH	ESTIMATED STAFF ON STRENGTH 1/1/87				LAB	P T B UNITS
		K'000	NAT	VOL	O'SEAS	TOTAL		
FUNCTION 2	<u>HEALTH SERVICES</u>							
2-1	Rural Health Services	1,130.8	146	2	2	150	157	9
2-2	Hospital	654.5	109	2	0	111	21	2
2-3	Extension Services	182.5	13	0	-	13	10	1
2-301	Rural Water Supply	77.8	1	-	-	1	-	-
2-401	Malaria Control	96.0	12	-	-	12	31	2
2-501	Rural Health Sectoral Programme	142.4	15	-	-	15	3	1
2-6	Church Health Services	83.9	-	-	-	-	-	-
	TOTAL:	2,367.9	296	4	2	302	222	15

Table 13 - D HEALTH SERVICE ACTIVITY BY PROVINCE
EASTERN HIGHLANDS PROVINCE

FUNCTION/ ACTIVITY	DESCRIPTION	CASH K'000	ESTIMATED STAFF ON STRENGTH 1/1/87				LAB	P T B UNITS
			NAT	VOL	O'SEAS	TOTAL		
FUNCTION 2	<u>HEALTH SERVICES</u>							
2-1	Rural Health Services	1,165.4	243	-	1	244	-	
2-2	Hospital Services	1,860.0	282	-	1	283	39	
2-3	Health Extension Services	231.0	20	-	0	20	4	
2-301	Rural Eater Supply	95.0	-	-	-	-	-	
2-401	Malaria Control	177.0	17	-	-	17	43	
2-501	Rural Health Sectoral Programme	94.0	1	-	-	1	-	
2-6	Church Health Services	159.5	-	-	-	-	-	
	TOTAL:	3,781.9	563	-	2	565	86	

MOROBE PROVINCE

FUNCTION/ ACTIVITY	DESCRIPTION	CASH K'000	ESTIMATED STAFF ON STRENGTH 1/1/87				LAB	P T B UNITS
			NAT	VOL	O'SEAS	TOTAL		
FUNCTION 2	<u>HEALTH SERVICES</u>							
2-1	Rural Health Services	1,016.3	212	-	1	213	-	
2-3	Health Extension Services	368.1	40	-	-	40	12	
2-301	Rural Water Supply	110.9	0	-	-	0	-	
2-401	Malaria Control	224.3	8	-	-	8	10	
2-501	Rural Health Sectoral Programme	14.0	3	-	-	3	1	
2-6	Church Health Services	301.4	-	-	-	-	-	
	TOTAL:	2,164.0	263	-	1	264	23	

MADANG PROVINCE

FUNCTION/ ACTIVITY	DESCRIPTION	CASH K'000	ESTIMATED STAFF ON STRENGTH 1/1/87				LAB	P T B UNITS
			NAT	VOL	O'SEAS	TOTAL		
FUNCTION 2	<u>HEALTH SERVICES</u>							
2-1	Rural Health Services	830.3	158	-	-	158	-	
2-2	Modilon Hospital	1,281.8	212	-	-	212	40	
2-3	Extension Services	219.6	32	-	-	32	5	
2-301	Rural Water Supply	57.6	0	-	-	0	-	
2-401	Malaria Control	125.7	32	-	-	32	8	
2-501	Rural Health Sectoral Programme	180.3	16	-	-	16	21	
2-6	Church Health Services	311.5	-	-	-	-	-	
	TOTAL:	3,006.8	450	-	-	450	74	

Table 13 - E

HEALTH SERVICE ACTIVITY BY PROVINCE

EAST SEPIK PROVINCE

FUNCTION/ ACTIVITY	DESCRIPTION	CASH	ESTIMATED STAFF ON STRENGTH 1/1/87				LAB	P T B UNITS
		K'000	NAT	VOL	O'SEAS	TOTAL		
FUNCTION 2	HEALTH SERVICES							
2-1	Rural Health Services	910.8	189	-	-	189	-	-
2-2	Boram Hospital	1,378.9	224	-	1	225	36	2
2-3	Extension Services	238.8	23	-	1	24	4	1
2-301	Rural Water Supply	62.6	-	-	-	-	8	1
2-401	Malaria Control	126.8	44	-	-	44	-	1
2-501	Rural Health Sectoral Programme	137.2	3	-	-	3	3	4
2-6	Church Health Services	219.6	-	-	-	-	-	-
	TOTAL:	3,074.7	483	-	2	485	51	9

WEST SEPIK PROVINCE

FUNCTION/ ACTIVITY	DESCRIPTION	CASH	ESTIMATED STAFF ON STRENGTH 1/1/87				LAB	P T B UNITS
		K'000	NAT	VOL	O'SEAS	TOTAL		
FUNCTION 2	HEALTH SERVICES							
2-1	Rural Health Services	1,312.0	96	-	-	96	161	12
2-2	Vaniso Hospital	480.1	53	-	1	54	18	1
2-3	Extension Services	101.6	10	-	-	10	3	2
2-301	Rural Water Supply	52.7	1	-	-	1	-	-
2-401	Malaria Control	32.6	8	-	-	8	-	-
2-501	Rural Health Sectoral Programme	23.9	1	-	-	1	-	-
2-6	Church Health Services	394.7	-	-	-	-	-	-
	TOTAL:	2,397.6	169	-	1	170	182	15

MANUS PROVINCE

FUNCTION/ ACTIVITY	DESCRIPTION	CASH	ESTIMATED STAFF ON STRENGTH 1/1/87				LAB	P T B UNITS
		K'000	NAT	VOL	O'SEAS	TOTAL		
FUNCTION 2	HEALTH SERVICES							
2-1	Rural Health Services	294.8	30	-	-	30	29	1
2-101	Health Boat - Manus	56.3	0	-	-	0	-	-
2-2	Hospital Services	351.1	56	-	1	57	15	1
2-3	Extension Services	47.0	6	-	-	6	-	1
2-301	Rural Water Supply	25.0	-	-	-	-	-	-
2-401	Malaria Control	38.0	9	-	-	9	-	-
2-501	Rural Health Sectoral Programme	83.4	10	-	-	10	4	-
2-6	Church Health Services	34.5	-	-	-	-	-	-
	TOTAL:	930.1	111	-	1	112	48	3

Table 13 - F HEALTH SERVICE ACTIVITY BY PROVINCE
NEW IRELAND PROVINCE

FUNCTION/ ACTIVITY	DESCRIPTION	CASH	ESTIMATED STAFF ON STRENGTH 1/1/87				LAB	P T B UNITS
		K'000	NAT	VOL	O'SEAS	TOTAL		
FUNCTION 2	HEALTH SERVICES							
2-1	Rural Health Services	243.5	75	-	-	75	-	-
2-2	Hospital Services	551.4	64	-	0	64	32	1
2-3	Environmental Health	176.5	22	-	0	22	6	1
2-301	Rural Water Supply	48.5	-	-	-	-	-	1
2-401	Malaria Control	89.1	20	-	-	20	1	1
2-501	Rural Health Sectoral Programme	86.5	4	-	-	4	3	2
2-6	Church Health Services	196.0	-	-	-	-	-	-
	TOTAL:	1,391.5	185	-	-	185	42	6

EAST NEW BRITAIN PROVINCE

FUNCTION/ ACTIVITY	DESCRIPTION	CASH	ESTIMATED STAFF ON STRENGTH 1/1/87				LAB	P T B UNITS
		K'000	NAT	VOL	O'SEAS	TOTAL		
FUNCTION 2	HEALTH SERVICES							
2-1	Rural Health Services	465.2	88	-	1	89	-	-
2-2	Hospital Services	1,556.8	203	-	1	204	78	2
2-3	Extension Services	200.1	35	-	-	35	1	1
2-301	Rural Water Supply	40.5	-	-	-	-	5	1
2-401	Malaria Control	141.0	32	-	-	32	3	2
2-501	Rural Health Sectoral Programme	12.7	2	-	-	2	-	-
2-6	Church Health Services	267.0	-	-	-	-	-	-
	TOTAL:	2,683.3	360	-	2	362	87	6

WEST NEW BRITAIN

FUNCTION/ ACTIVITY	DESCRIPTION	CASH	ESTIMATED STAFF ON STRENGTH 1/1/87				LAB	P T B UNITS
		K'000	NAT	VOL	O'SEAS	TOTAL		
FUNCTION 2	HEALTH SERVICES							
2-1	Rural Health Services	403.1	81	2	-	83	-	-
2-2	Hospital Services	592.4	92	-	0	92	30	1
2-3	Extension Services	174.6	15	-	-	15	8	2
2-301	Rural Water Supply	48.0	-	-	-	-	-	-
2-401	Malaria Control	174.3	19	-	-	19	47	1
2-501	Rural Health Sectoral Programme	95.8	20	-	-	20	-	-
2-6	Church Health Services	191.9	-	-	-	-	-	-
	TOTAL:	1,680.1	227	2	0	229	85	4

Table 13 - G

HEALTH SERVICE ACTIVITY BY PROVINCE

NORTH SOLOMONS PROVINCE

FUNCTION/ ACTIVITY	DESCRIPTION	CASH	ESTIMATED STAFF ON STRENGTH 1/1/87				LAB	P T B UNITS
		K'000	NAT	VOL	O'SEAS	TOTAL		
FUNCTION 2	<u>HEALTH SERVICES</u>							
2-1	Rural Health Services	471.3	91	-	-	91	-	-
2-2	Hospital Services	1,578.6	137	-	2	138	69	2
2-3	Extension Services	116.7	20	0	1	21	2	2
2-301	Rural Water Supply	50.0	-	-	-	-	-	-
2-401	Malaria Control	201.0	24	-	-	24	3	2
2-501	Rural Health Sectoral Programme	83.7	-	-	-	-	-	-
2-6	Church Health Services	146.1	-	-	-	-	-	-
	TOTAL:	2,647.4	272	0	3	275	74	6

GRD. TOTAL: K46,134,700

Table 14 COMPARISON OF HEALTH FACILITY/POPULATION COVERAGE BY PROVINCE AS AT 31.12.1985 - PAPUA NEW GUINEA

Province	Citizen Population	Hospitals		Health Centers		Health Sub Centers		HC and HSC			HC and HSC		
		No.	Beds	No.	Beds	No.	Beds	Total Bed	Popul. /Ratio	Total Bed	Popul. /Ratio	Total Bed	Popul. /Ratio
Western	88,400	1	110	11	276	19	84	360	246	106	833	804	188
Gulf	68,700	1	83	9	380	8	56	436	158	70	981	828	132
Central	124,600	0	0	8	335	23	138	473	263	124	1,004	0	263
Nat. Capital	139,300	1	817	0	0	0	0	0	-	7	-	171	171
Milne Bay	140,600	1	100	8	199	26	145	344	405	96	1,464	1,406	317
Oro	85,700	1	150	5	120	11	55	177	409	86	996	571	264
S/Highlands	255,200	1	217	13	573	24	258	831	103	178	1,433	1,176	244
Enga	177,900	1	85	10	571	9	133	704	253	130	1,368	2,093	225
W/Highlands	294,400	1	212	11	278	8	36	314	938	160	1,840	1,389	560
Simbu	185,100	1	200	7	289	12	95	384	482	96	1,928	926	317
E/Highlands	301,900	1	300	7	130	22	321	451	669	131	2,304	1,006	402
Morobe	350,400	1	500	17	589	7	42	631	555	240	1,460	701	310
Madang	233,900	1	400	19	724	8	60	784	298	169	2,073	585	198
East Sepik	246,300	1	312	12	357	20	114	471	523	169	1,384	789	315
West Sepik	121,800	1	200	10	446	18	100	546	223	127	959	609	163
Manus	27,900	1	100	7	108	0	0	108	258	56	498	279	134
New Ireland	72,300	1	122	8	389	15	36	425	171	65	1,112	593	132
East New Britain	140,500	1	480	11	344	11	72	416	338	61	2,303	293	157
West New Britain	101,600	1	140	9	339	11	66	405	251	82	1,239	726	186
N. Solomons	141,000	1	250	8	428	18	96	524	269	78	1,807	564	182
Total	3,297,500	19	4,778	190	6,875	270	1,907	8,782	375	2,231	1,478	690	243

Source: Dept. of Health, Survey by Planning Div.

Table 15

DISTRIBUTION OF RURAL HEALTH FACILITIES BETWEEN THE DEPARTMENT OF HEALTH AND CHURCH HEALTH SERVICES, 1985

Province	Health Centers			Health Sub Centers			Health Centers				
	DOH	CHS	Total	DOH	CHS	Other	Total	DOH	CHS	Other	Total
Western	9	2	11	2	16	1	19	11	18	1	30
Gulf	6	3	9	2	6		8	8	9		17
Central	6	2	8	14	9		23	20	11		31
National Capital	9	-	9	-	-	-	-	9	-	-	9
Milne Bay	7	1	8	3	23		26	10	24		34
Northern	4	1	5	7	4		11	11	5		16
Southern Highlands	11*	2	3	3	20		24	14	22		36
Enga	7	3	10	5	4		9	12	7		19
Western Highlands	7	4	11	4	4		8	11	8		19
Simbu	6	1	7	7	5		12	13	6		19
Eastern Highlands	6	1	7	9	13		22	15	14		29
Morobe	13	4	17	6	1		7	19	5		24
Madang	12	7	19	2	6		8	14	13		27
East Sepik	9	3	12	6	14		20	15	17		32
West Sepik	8	2	10	-	18		18	8	20		28
Manus	4	3	7	-	-		-	4	3		7
New Ireland	3	5	8	11	4		15	14	9		23
East New Britain	8	3	11	1	9	1	11	9	12	1	22
West New Britain	6	3	9	1	10		11	7	13		20
North Solomons	5	3	8	12	6		18	17	9		26
Totals	146	53	199	95	172	2	269	241	225	2	468

* One Health Center jointly run by DOH and CHS

Table 16 1965 ALLOCATIONS FOR ARCHITECTURAL & OTHER MAINTENANCE PURPOSES OF HOSPITALS

Hospitals by Type & Level	Province	Beds* K	Allocations to Hospitals & Other Institutions		Allocations within Works Department		All Funds Grand Totals Columns K			
			Architectural Maintenance K	Housing Institutional K	Furniture Replacement K	Totals K		Fuel for Boilers K	Totals K	
NATIONAL REFERRAL										
Post Naresby General	MCD	867 17.52	112,000 8.10	8,000 8.00	5,300 10.60	125,300 8.45	270,000 25.79	130,000 28.82	400,000 26.70	523,300 17.62
Loleki Psychiatric	Central	100 2.02	26,000 1.95	4,000 4.00	2,000 4.00	32,000 2.16	12,000 1.15		12,000 0.80	44,000 1.48
Health Headquarters Reserve										
Other Institutions			138,000 10.35	14,000 14.00	4,600 9.20	156,600 10.56				156,600 5.25
Sub Totals		967 19.54	276,000 20.70	26,000 26.00	11,900 23.80	313,900 21.17	282,000 26.93	130,000 28.82	412,000 27.50	725,900 24.35
BASE HOSPITALS										
Goroka Base	Eastern H'lands	300 6.06	90,000 6.75	4,000 4.00	2,000 4.00	96,000 6.47	9,000 0.86	95,000 18.85	94,000 6.28	190,000 6.37
Angau Memorial - Lac	Horobe	489 9.88	100,000 7.50	6,000 6.00	5,000 10.00	111,000 7.48	100,000 9.55	90,000 17.47	100,000 12.02	291,000 9.76
Mt. Ilogon Base	Western H'lands	212 4.28	95,000 7.13	2,000 2.00	2,000 4.00	99,000 6.68	60,000 5.73		60,000 4.01	159,000 5.33
Konga Base - Rabaul	East New Britain	489 9.70	100,000 7.50	6,000 6.00	2,000 4.00	108,000 7.28	120,000 11.46	60,000 13.30	180,000 12.02	288,000 9.66
Sub Totals		1,481	385,000 28.88	18,000 18.00	11,000 22.00	414,000 27.92	289,000 27.60	225,000 49.89	514,000 34.31	928,000 31.13
PROVINCIAL LEVEL 1										
Arava General	North Solomons	250 5.05	80,000 6.00	3,000 3.00	2,000 4.00	85,000 5.73	70,000 6.69	16,000 3.55	86,000 5.74	171,000 5.74
Kundiana	Simbu	200 4.04	47,000 3.53	3,000 3.00	2,000 4.00	52,000 3.51	32,000 3.06		32,000 2.14	84,000 2.82
Nabang General	Madang	400 8.08	70,000 5.25	11,000 11.00	4,100 8.20	85,100 5.74	90,000 8.60	25,000 5.54	115,000 7.68	200,100 6.71
Iendi	Southern H'lands	217 4.36	42,000 3.15	4,000 4.00	3,000 6.00	49,000 3.30	35,000 3.34		35,000 2.34	84,000 2.82
Yevak	East Sepik	345 6.97	85,000 6.38	5,000 5.00	2,000 4.00	92,000 6.20	90,000 8.60	55,000 12.20	145,000 9.68	237,000 7.95
Sub Totals		1,412 28.52	324,000 24.31	26,000 26.00	13,100 26.20	363,100 24.40	317,000 30.28	96,000 21.29	413,000 27.57	776,100 26.04
PROVINCIAL LEVEL 2										
Aletau	Milne Bay	100 2.02	45,000 3.38	6,000 6.00	2,000 4.00	53,000 3.57	16,000 1.53		16,000 1.07	69,000 2.21
Daru	Western	110 2.22	50,000 3.75			50,000 3.37	30,000 2.87		30,000 2.00	80,000 2.31
Lorengau	Hania	100 2.02	45,000 3.38	4,000 4.00	2,000 4.00	51,000 3.44	15,000 1.43		15,000 1.00	66,000 2.58
Kavieng	New Ireland	122 2.46	59,000 4.43	3,000 3.00	2,000 4.00	64,000 4.32	20,000 1.91		20,000 1.34	84,000 2.82
Kereba	Gulf	83 1.68	30,000 2.25	4,000 4.00	2,000 4.00	36,000 2.43	10,000 0.96		10,000 0.67	46,000 1.54
Kimbe	West New Britain	140 2.83	57,000 4.28	3,000 3.00	2,000 4.00	62,000 4.18	30,000 2.87		30,000 2.00	92,000 3.09
Popondetta	Dro	150 3.03	50,000 3.75	2,000 2.00	2,000 4.00	54,000 3.64	18,000 1.72		18,000 1.20	72,000 2.42
Sapas SDA Hospital	Enga	85 1.72								
Vanimo	West Sepik	200 4.04	12,000 0.90	8,000 8.00	2,000 4.00	22,000 1.48	20,000 1.91		20,000 1.34	42,000 1.41
Sub Totals		1,090 22.02	348,000 26.11	30,000 30.00	14,000 28.00	392,000 26.43	159,000 15.19		159,000 10.62	551,000 18.48
Totals		4,950 100.00	1,333,000 100.00	100,000 100.00	50,000 100.00	1,483,000 100.00	1,047,000 100.00	451,000 100.00	1,498,000 100	2,981,000 100
Percent (Allocations)			89.89	6.74	3.37	100.00	69.89	30.11	100.00	100.00
Percent (All Funds)						49.75			50.25	100.00
Maintenance of Medical Equipment									200,000	
Maintenance of Hospital Equipment									200,000	
Maintenance of Static Plant & Equipment									700,000	1,100,000
GRAND TOTAL OF ARCHITECTURAL AND OTHER MAINTENANCE										4,081,000

* Source: Dept. of Health and Dept. of Works.
N.B. The following amounts allocated within the Works Department expenditure Division for the maintenance of Medical Equipment, Hospital Equipment, Static Plant & Equipment including replacements, must be added to the totals allocated above.

Table 17 HOSPITAL INPATIENT ADMISSIONS/STAFF, 1985

Hospital	Adm./MO	Adm./NO	Adm./NA+HO
Daru	<u>900</u>	86	<u>120</u>
Kerema	433	76	76
PMGH	339	100	<u>158</u>
Alotau	575	79	<u>209</u>
Popondetta	<u>860</u>	<u>143</u>	100
Mendi	<u>800</u>	<u>138</u>	<u>154</u>
Mt. Hagen	<u>873</u>	<u>181</u>	<u>218</u>
Kundiawa	<u>1,650</u>	<u>129</u>	<u>122</u>
Goroka	567	84	83
Angau	<u>727</u>	<u>118</u>	85
Yomba	364	50	55
Boram	<u>888</u>	<u>104</u>	<u>154</u>
Vanimo	<u>650</u>	72	87
Lorengau	<u>800</u>	84	35
Kavieng	<u>767</u>	79	<u>110</u>
Nonga	577	94	106
Kimbe	480	92	75
Arawa	<u>1,380</u>	<u>110</u>	<u>111</u>
Average	596	102	109

MO = Medical Officer, NO = Nursing Officer,
 NA = Nursing Aide, HO = Hospital Orderly
 Source: Dept. of Health.

Table 18 PROVINCIAL POPULATION/GOVERNMENT HEALTH STAFF, 1985

Province	Pop./MO	Pop./NO	Pop./NA	Pop./HEO	Pop./HI	Pop./APO	Pop./Dent.Th.
Western	88,400	5,525	9,822	9,822	17,680	1,360	22,100
Gulf	-	3,435	4,907	5,285	13,740	2,082	34,350
Central	-	3,461	12,460	9,585	20,767	1,466	31,150
NCD	69,650	1,741	2,488	46,433	-	-	-
Milne Bay	140,600	3,605	6,391	10,815	20,086	1,654	20,086
Oro	85,700	3,174	5,713	8,570	21,425	1,058	7,142
Southern H/L	85,067	5,208	4,815	13,432	42,533	1,387	-
Enga	88,950	3,067	4,942	10,465	29,650	1,155	88,950
Western H/L	-	8,187	10,904	22,646	32,711	1,892	49,067
Simbu	-	8,414	5,609	15,425	37,020	1,596	185,100
Eastern H/L	150,950	8,626	3,972	13,126	33,544	2,126	50,317
Morobe	175,200	5,652	13,477	10,306	35,040	1,436	-
Madang	-	5,316	3,713	15,593	29,238	1,471	-
East Sepik	82,100	3,158	6,482	16,420	35,186	2,036	-
West Sepik	121,800	5,075	5,800	7,613	20,300	1,194	121,800
Manus	27,900	2,325	1,550	3,488	13,950	1,033	27,900
New Ireland	72,300	2,781	9,038	4,820	18,075	1,446	9,038
East New Brit.	140,500	7,395	23,417	11,708	14,050	2,303	23,417
West New Brit.	101,600	4,838	5,347	7,257	12,700	1,847	20,320
N. Solomons	-	2,660	58,755	11,750	17,625	1,763	-
Average	149,886	4,365	5,745	11,530	26,380	1,650	50,731

MO = Medical Officer, NO = Nursing Officer, NA = Nurse Aide, HEO = Health Extension Officer,
 HI = Health Inspector, APO = Aid Post Orderly, Dent.Th. = Dental Therapist
 Source: Dept of Health

Table 19

COMPARISON OF MANPOWER STRENGTHENING PROGRAMME
1986/1990/2000

Cadre	1986 No. Staff	1986 HOEs total	1990 No. staff	1990 HOEs total	2000 No. staff	2000 HOEs total
2040	2040	2040	1890	1890	1250	1250
Nurse aides	1404	1404	1250	1250	500	500
Hospital orderlies	741	741	438	438	0	0
Health orderlies	0	0	300	300	4690	4690
Nurses (grades 1 & 2)	1498	2037	1600	2175	1850	2515
Nurses (grades 3 - 8)	375	926	400	988	450	1111
HEOs	360	800	358	796	500	1111
Health inspectors	136	302	140	311	190	422
Med. lab. assistants	55	55	70	70	106	106
Med. lab. technicians	54	95	41	72	73	128
Med. Technologists	12	29	12	29	17	40
Pharmacists - PNG	0	0	1	3	11	32
Pharmacists - expat.	11	67	10	61	4	24
Dispensers	32	56	24	42	44	77
Radiographers	28	49	19	33	40	70
Physiotherapists	10	23	10	23	10	23
Occ. therapists	5	12	5	12	5	12
Dental therapists	100	175	95	167	141	247
Dental technicians	26	41	21	33	30	47
Dentists - PNG	12	33	13	36	19	53
Dentists - expat.	4	26	4	26	4	26
Doctors - PNG	82	248	109	330	130	393
Doctors - expat.	40	268	15	101	0	0
Specialists - PNG	11	43	16	63	32	126
Specialists - expat.	40	332	35	290	20	166
TOTAL HOEs		9803		9538		13172
TOTAL NO. STAFF	7076		6876		10116	

Table 20

COMPARISON OF SECONDARY SCHOOL OUTPUT AND REQUIREMENTS
FOR HEALTH TRAINING, 1987-1992.

	1987	1988	1989	1990	1991	1992
GRADE 8						
Health orderlies	400	500	600	700	800	800
TOTAL REQD.	400	500	600	700	800	800
TOTAL AVAILABLE	4278	4486	4708	4474	4542	4632
REQD. AS % OF AVAIL.	9.35	11.15	12.74	15.65	17.61	17.27
GRADE 10						
Nursing Officers	288	288	288	288	288	288
Med. Lab. Assistants	8	8	8	8	8	8
TOTAL REQUIRED	296	296	296	296	297	296
TOTAL AVAILABLE	7953	8253	8670	9108	9567	9744
REQD. AS % OF AVAIL.	3.72	3.59	3.41	3.25	3.09	3.04
GRADE 12						
Health Ext. Officers	40	45	50	50	60	60
Health Inspectors	18	18	18	25	25	25
Med. Lab. Technicians	15	15	20	20	20	20
Dispensers	10	10	10	10	10	10
Radiographers	10	10	10	10	10	10
Dental Therapists	12	12	15	15	15	15
Dental Technicians	0	8	0	0	8	0
Physiotherapists	2	2	2	2	2	2
Occ. Therapists	1	1	1	1	1	1
TOTAL REQUIRED	108	121	126	133	151	143
TOTAL AVAILABLE	1565	1558	1709	1767	1828	1894
REQD. AS % OF AVAIL.	6.90	7.77	7.37	7.53	8.26	7.55
FOUNDATION YEAR						
Dental Officers	6	6	6	6	6	6
Medical Officers	20	20	20	20	20	20
TOTAL REQUIRED	26	26	26	26	26	26
TOTAL AVAILABLE	400	400	400	400	400	400
REQD. AS % OF AVAIL.	6.50	6.50	6.50	6.50	6.50	6.50

Table 21

Existing Medical Equipment Comfirmed
by the Basic Design Study Team

	Port Moresby General Hospital	Angau Hospital	Mt. Hagen Hospital	Kundiana Hospital	Goroka Hospital	Madang Hospital	Mewak Hospital	Manus Hospital	Rabaul Hospital	Kimbe Hospital	Arawa General Hospital	Daru Hospital	Kerema Hospital	Total
X-Ray Unit (Condenser Dis-charge Type)	2	1	1								2			6
X-Ray Unit (Mobile Type)	2	2	1	1	1			1	1	2	1	1	1	14
Cobalt Therapic Unit		1												1
Ultrasound Scanner	1													1
Ultrasound Scanner, Port-able	1													1
Operating Table	2		2									1	1	6
Operating Lamp	2	2	2	1	2	2	2	1	2	2		1	2	21
Anesthetic Instrument	3		2									1	1	7
Steriliser	5	2	3	2	6	2	4	3	5	5	4	2	2	45
Gynecological Examining Table	1													1
Obstetric Delivery Table	10	5	5									5	5	30
Gatch Bed for ICU	1													1
Portable Defibrillator	1											1	1	3
Electrocardiograph	1											1	1	3
Laboratory Microscope	31	3	3	5	3	5	3	5	6	3	4	6	4	81
Refrigerator	2	2	1			3	1		2	2	2	1		16
Auto-analyzer	1													1
Dental X-Ray Unit	1		1	1									1	4
Dental Turbin	1			1										2

Table 22 - A

4-3-1	POM Medical Store	
	1. PNG General Hospital	
	Major Hospital Equipment	
	1-4 Ultrasound Scanner, Portable	1
	1-6 Sigmoidoscope	2
	1-7 Crystoscope	2
	1-8 Echocardiograph	1
	Minor Hospital Equipment	
	2-1 Electrocardiograph, 1-Channel	2
	2-2 ECG Cardiac Monitor, 2-Channel	4
	2-4 First Aid Kit	3
	3-1 Ventilator for Adult	2
	3-2 Resuscitation Bag(Pediatric)	3
	3-3 Resuscitation Bag(Adult)	3
	3-4 Infusion Drop Counter	4
	4-3 Gynecological Examining Table	1
	4-4 Obstetric Delivery Table	14
	4-5 Gatch Bed for ICU	6
	4-6 Standard Patient Bed	102
	5-1 Minor Operation Lamp	2
	5-2 High Pressure Steriliser	2
	5-3 Dispensary Balance	2
	5-4 Dispensary Balance	1
	6-1 Sphygmomanometer, Mercury Type	20
	6-6 Pediatric Surgical Instruments	1
	6-8 Spot Lamp for Wards	8
	6-10 Transcutaneous Stimulator	2
	6-11 Traction for Lumber & Cervical	3
	6-12 Walking Aid Frame	5
	Laboratory Equipment	
	7-1 Spectrophotometer	1
	7-3 A. A. Spectrophotometer	1
	7-4 Bilirubinometer	1
	7-7 Ultrasonic Cleaning Bath	5
	7-9 CO2 Gas Incubator	1
	7-10 Water Bath	5
	7-12 Deep Freezer	3
	7-13 Suspension Mixer	1
	8-1 Microscope, Phase Contrast	1
	8-2 Microscope, Fluorescent Microscopy	1
	8-3 Binocular Research Microscope	2
	8-4 Laboratory Microscope	5
	8-5 Trinocular Microscope W/Projection screen	2

Table 22 - B

Malaria Control Equipment & Others		
9-2	Stereoscopic Microscope	6
9-3	Trinocular Microscope W/Photo att. & Camera	1
10-1	Microcomputer	2
10-2	Typewriter, Electrical	2
10-3	Manual Fork Lift Truck	2
11-1	Dental Unit & Chair	5
11-2	Dental X-Ray Unit	2
11-3	Dental Instrument Set W/Cabinet	5

Table 22 - C

2. Daru Provincial Hospital

Major Hospital Equipment		
1-2	Mobile X-Ray Unit	1
1-3	Simple X-Ray Table	1
1-6	Sigmoidscope	1
Minor Hospital Equipment		
2-4	First Aid Kit	1
3-2	Resucitation Bag(Pediatric)	1
3-3	Resucitation Bag(Adult)	1
4-2	Operating Table, General	1
4-3	Gynecological Examining Table	1
4-4	Obstetric Delivery Table	10
5-1	Minor Operation Lamp	1
5-2	High Pressure Steriliser	1
6-1	Spygmomanometer, Mercury Type	10
6-3	Stethoscope, for Nurse	2
6-5	Minor Surgical Instrument Set	1
6-8	Spot Lamp for Wards	4
Laboratory Equipment		
7-4	Bilirubinometer	1
7-6	Top Pan Balance, Digital	1
7-11	Laboratory Autoclave	1
8-4	Laboratory Microscope	1

Table 22 - D

3. Kerema Provincial Hospital

Major Hospital Equipment		
1-2	Mobile X-Ray Unit	1
1-3	Simple X-Ray Table	1
1-6	Sigmoidscope	1
Minor Hospital Equipment		
2-4	First Aid Kit	1
3-2	Resucitation Bag(Pediatric)	1
3-3	Resucitation Bag(Adult)	1
4-2	Operating Table, General	1
4-3	Gynecological Examining Table	1
4-4	Obstetric Delivery Table	10
5-1	Minor Operation Lamp	1
5-2	High Pressure Steriliser	1
6-1	Spygmomanometer, Mercury Type	10
6-4	Stethoscope, Foetal Heart-beat	2
6-5	Minor Surgical Instrument Set	1
6-8	Spot Lamp for Wards	4
Laboratory Equipment		
7-6	Top Pan Balance, Digital	1
7-10	Water Bath	1
7-11	Laboratory Autoclave	1
8-4	Laboratory Microscope	1

Table 22 - E

4. Alotau Provincial Hospital

Major Hospital Equipment		
1-2	Mobile X-Ray Unit	1
1-3	Simple X-Ray Table	1
1-6	Sigmoidscope	1
Minor Hospital Equipment		
2-4	First Aid Kit	1
3-2	Resuscitation Bag(Pediatric)	1
3-3	Resuscitation Bag(Adult)	1
4-4	Obstetric Delivery Table	10
5-1	Minor Operation Lamp	1
5-2	High Pressure Steriliser	1
6-1	Spygmanometer, Mercury Type	10
6-4	Stethoscope, Foetal Heart-beat	2
6-5	Minor Surgical Instrument Set	1
6-8	Spot Lamp for Wards	4
Laboratory Equipment		
7-1	Spectrophotometer	1
7-6	Top Pan Balance, Digital	1
8-4	Laboratory Microscope	1

Table 22 - F

5. Popondatta Provincial Hospital

Major Hospital Equipment

1-2	Mobile X-Ray Unit	1
1-3	Simple X-Ray Table	1
1-6	Sigmoidscope	1

Minor Hospital Equipment

2-4	First Aid Kit	1
3-2	Resuscitation Bag(Pediatric)	1
3-3	Resuscitation Bag(Adult)	1
4-4	Obstetric Delivery Table	10
5-1	Minor Operation Lamp	1
5-2	High Pressure Steriliser	1
6-1	Spygmomanometer, Mercury Type	10
6-4	Stethoscope, Foetal Heart-beat	2
6-5	Minor Surgical Instrument Set	1
6-8	Spot Lamp for Wards	4

Laboratory Equipment

7-1	Spectrophotometer	1
7-2	Flamephotometer	1
7-6	Top Pan Balance, Digital	1
8-4	Laboratory Microscope	1

Table 22 - G

6. Major Health Center (50 Places)

Minor Hospital Equipment		
6-2	Sphygmomanometer, Aneroid Type	50
6-3	Stethoscope, for Nurse	50
6-4	Stethoscope, Foetal Heart-beat	50
6-5	Minor Surgical Instrument Set	50
6-7	Instruments Steriliser	50
6-9	Infant Weighing Scale	50

7. Sub. Health Center (87 places)

Minor Hospital Equipment		
6-2	Sphygmomanometer, Aneroid Type	87
6-3	Stethoscope, for Nurse	87
6-4	Stethoscope, Foetal Heart-beat	87
6-5	Minor Surgical Instrument Set	87
6-7	Instruments Steriliser	87
6-9	Infant Weighing Scale	87
Malaria Control Equipment & Others		
9-1	Binocular Microscope (600 x)	87

Table 23 - A

4-3-2 MT. HAGEN Medical Store

1. MT. Hagen Base Hospital

Major Hospital Equipment		
1-1	Condenser Discharge X-Ray Unit, Mobile Type	1
1-2	Mobile X-Ray Unit	1
1-3	Simple X-Ray Table	1
1-5	Gastroscope	1
1-6	Sigmoidscope	1
1-7	Crystoscope	2
Minor Hospital Equipment		
2-1	Electrocardiograph, 1-Channel	2
2-2	ECG Cardiac Monitor, 2-Channel	1
2-3	Portable Defibrillator	1
2-4	First Aid Kit	1
3-2	Resucitation Bag(Pediatric)	1
3-3	Resucitation Bag(Adult)	1
4-1	Operating Table, Universal	1
4-4	Obstetric Delivery Table	10
4-5	Gatch Bed for ICU	6
4-6	Standard Patient Bed	57
5-1	Minor Operation Lamp	1
5-2	High Pressure Steriliser	2
5-4	Dispensary Balance (0 - 10kg)	1
6-1	Spygmomanometer, Mercury Type	10
6-4	Stethoscope, Foetal Heart-beat	2
6-5	Minor Surgical Instrument Set	1
6-6	Pediatric Surgical Instruments	1
6-8	Spot Lamp for Wards	8
6-11	Traction for Lumber & Cervical	1
6-12	Walking Aid Frame	5
Laboratory Equipment		
7-5	Analytical Balance	1
7-6	Top Pan Balance, Digital	1
7-7	Ultrasonic Cleaning Bath	1
7-8	Laboratory Incubator	1
7-11	Laboratory Autoclave	1
7-13	Suspension Mixer	1
8-4	Laboratory Microscope	1
Malaria Control Equipment & Others		
10-1	Microcomputer	1
10-3	Manual Fork Lift Truck	2

Table 23 - B

2. MENDI Provincial Hospital

Major Hospital Equipment

1-1	Condenser Discharge X-Ray Unit, Mobile Type	1
1-6	Sigmoidscope	1

Minor Hospital Equipment

2-4	First Aid Kit	1
3-2	Resuscitation Bag(Pediatric)	1
3-3	Resuscitation Bag(Adult)	1
4-2	Operating Table, General	2
4-4	Obstetric Delivery Table	10
4-6	Standard Patient Bed	48
5-1	Minor Operation Lamp	1
5-2	High Pressure Steriliser	1
6-1	Spygmomanometer, Mercury Type	10
6-4	Stethoscope, Foetal Heart-beat	2
6-5	Minor Surgical Instrument Set	1
6-8	Spot Lamp for Wards	4

Laboratory Equipment

7-1	Spectrophotometer	1
7-6	Top Pan Balance, Digital	1
8-4	Laboratory Microscope	1

Table 23 - C

3. WABAG Provincial Hospital

Major Hospital Equipment		
1-1	Condenser Discharge X-Ray Unit, Mobile Type	1
1-6	Sigmoidscope	1
Minor Hospital Equipment		
2-4	First Aid Kit	1
3-2	Resuscitation Bag(Pediatric)	1
3-3	Resuscitation Bag(Adult)	1
4-4	Obstetric Delivery Table	10
5-1	Minor Operation Lamp	1
5-2	High Pressure Steriliser	1
6-1	Spygmomanometer, Mercury Type	10
6-4	Stethoscope, Foetal Heart-beat	2
6-5	Minor Surgical Instrument Set	1
6-8	Spot Lamp for Wards	4
Laboratory Equipment		
7-6	Top Pan Balance, Digital	1
8-4	Laboratory Microscope	1

Table 23 - D

4. Major Health Center (34 Places)		
Minor Hospital Equipment		
6-2	Spygmomanometer, Aneroid Type	34
6-3	Stethoscope, for Nurse	34
6-4	Stethoscope, Foetal Heart-beat	34
6-5	Minor Surgical Instrument Set	34
6-7	Instruments Steriliser	34
6-9	Infant Weighing Scale	34
5. Sub Health Center (40 Places)		
Minor Hospital Equipment		
6-2	Spygmomanometer, Aneroid Type	40
6-3	Stethoscope, for Nurse	40
6-4	Stethoscope, Foetal Heart-beat	40
6-5	Minor Surgical Instrument Set	40
6-7	Instruments Steriliser	40
6-9	Infant Weighing Scale	40
Malaria Control Equipment & Others		
9-1	Binocular Microscope (600 x)	40

Table 24 - A

4-3-3 LAE MEDICAL STORE
1. LAE Base Hospital

Major Hospital Equipment		
1-4	Ultrasound Scanner, Portable	1
1-5	Gastroscope	1
1-6	Sigmoidoscope	1
1-7	Crystoscope	2
Minor Hospital Equipment		
2-1	Electrocardiograph, 1-Channel	2
2-2	ECG Cardiac Monitor, 2-Channel	1
2-3	Portable Defibrillator	1
2-4	First Aid Kit	1
3-2	Resuscitation Bag(Pediatric)	1
3-3	Resuscitation Bag(Adult)	1
3-4	Infusion Drop Counter	2
4-1	Operating Table, Universal	1
4-3	Gynecological Examining Table	1
4-4	Obstetric Delivery Table	12
4-5	Gatch Bed for ICU	6
4-6	Standard Patient Bed	62
5-1	Minor Operation Lamp	1
5-2	High Pressure Steriliser	2
5-3	Dispensary Balance (0 - 200g)	2
5-4	Dispensary Balance (0 - 10kg)	1
6-1	Spygmomanometer, Mercury Type	10
6-4	Stethoscope, Foetal Heart-beat	2
6-5	Minor Surgical Instrument Set	1
6-6	Pediatric Surgical Instruments	1
6-8	Spot Lamp for Wards	8
6-10	Transcutaneous Stimulator	1
6-11	Traction for Lumber & Cervical	1
6-12	Walking Aid Frame	5
Laboratory Equipment		
7-4	Bilirubinometer	1
7-5	Analytical Balance	1
7-6	Top Pan Balance, Digital	1
7-7	Ultrasonic Cleaning Bath	1
7-8	Laboratory Incubator	1
7-9	CO2 Gas Incubator	1
8-4	Laboratory Microscope	2

Table 24 - B

Malaria Control Equipment & Others		
9-2	Stereoscopic Microscope	3
9-3	Trinocular Microscope W/Photo att. & Camera	1
10-1	Microcomputer	1
10-3	Manual Fork Lift Truck	2

Table 24 -- C

2. GOROKA Base Hospital		
Major Hospital Equipment		
1-5	Gastroscope	1
1-6	Sigmoidscope	1
Minor Hospital Equipment		
2-1	Electrocardiograph, 1-Channel	2
2-2	ECG Cardiac Monitor, 2-Channel	1
2-3	Portable Defibrillator	1
2-4	First Aid Kit	1
3-2	Resucitation Bag(Pediatric)	1
3-3	Resucitation Bag(Adult)	1
4-4	Obstetric Delivery Table	12
4-5	Gatch Bed for ICU	6
5-1	Minor Operation Lamp	1
5-2	High Pressure Steriliser	2
5-3	Dispensary Balance (0 -200g)	2
6-1	Spygmomanometer, Mercury Type	10
6-4	Stethoscope, Foetal Heart-beat	2
6-5	Minor Surgical Instrument Set	1
6-6	Pediatric Surgical Instruments	1
6-8	Spot Lamp for Wards	8
6-12	Walking Aid Frame	5
Laboratory Equipment		
7-2	Flamephotometer	1
7-4	Bilirubinometer	1
7-5	Analytical Balance	1
7-6	Top Pan Balance, Digital	1
7-7	Ultrasonic Cleaning Bath	1
7-13	Suspension Mixer	1
8-4	Laboratory Microscope	2
Malaria Control Equipment & Others		
9-2	Stereoscopic Microscope	3
9-3	Trinocular Microscope W/Photo att. & Camera	1
10-1	Microcomputer	1

Table 24 - D

3. KUNDIAWA Provincial Hospital

Major Hospital Equipment		
1-1	Condenser Discharge X-Ray Unit, Mobile Type	1
1-2	Mobile X-Ray Unit	1
1-3	Simple X-Ray Table	1
1-6	Sigmoidoscope	1
Minor Hospital Equipment		
2-4	First Aid Kit	1
3-2	Resuscitation Bag(Pediatric)	1
3-3	Resuscitation Bag(Adult)	1
4-2	Operating Table, General	1
4-4	Obstetric Delivery Table	10
4-6	Standard Patient Bed	47
5-1	Minor Operation Lamp	1
5-2	High Pressure Steriliser	1
6-1	Spygmomanometer, Mercury Type	10
6-4	Stethoscope, Foetal Heart-beat	2
6-5	Minor Surgical Instrument Set	1
6-8	Spot Lamp for Wards	4
Laboratory Equipment		
7-1	Spectrophotometer	1
7-2	Flamephotometer	1
7-6	Top Pan Balance, Digital	1
8-4	Laboratory Microscope	1

Table 24 - E

4. Major Health Center (31 Places)		
Minor Hospital Equipment		
6-2	Spygmomanometer, Aneroid Type	31
6-3	Stethoscope, for Nurse	31
6-4	Stethoscope, Foetal Heart-beat	31
6-5	Minor Surgical Instrument Set	31
6-7	Instruments Steriliser	31
6-9	Infant Weighing Scale	31
5. Sub Health Center (41 Places)		
Minor Hospital Equipment		
6-2	Spygmomanometer, Aneroid Type	41
6-3	Stethoscope, for Nurse	41
6-4	Stethoscope, Foetal Heart-beat	41
6-5	Minor Surgical Instrument Set	41
6-7	Instruments Steriliser	41
6-9	Infant Weighing Scale	41
Malaria Control Equipment & Others		
9-1	Binocular Microscope (600 x)	41

Table 25 - A

4-3-4 MADANG MEDICAL STORE

1. MADANG Provincial Hospital

Major Hospital Equipment		
1-2	Mobile X-Ray Unit	1
1-3	Simple X-Ray Table	1
1-5	Gastroscope	1
1-6	Sigmoidscope	1
1-7	Crystoscope	2
Minor Hospital Equipment		
2-3	Portable Defibrillator	1
2-4	First Aid Kit	1
3-2	Resucitation Bag(Pediatric)	1
3-3	Resucitation Bag(Adult)	1
4-1	Operating Table, Universal	1
4-4	Obstetric Delivery Table	10
4-6	Standard Patient Bed	80
5-1	Minor Operation Lamp	1
5-2	High Pressure Steriliser	1
5-4	Dispensary Balance (0 - 10kg)	1
6-1	Spygmomanometer, Mercury Type	10
6-4	Stethoscope, Foetal Heart-beat	2
6-5	Minor Surgical Instrument Set	1
6-6	Pediatric Surgical Instruments	1
6-8	Spot Lamp for Wards	4
6-13	Slit Lamp Microscope	1
Laboratory Equipment		
7-6	Top Pan Balance, Digital	1
7-7	Ultrasonic Cleaning Bath	1
7-11	Laboratory Autoclave	1
8-4	Laboratory Microscope	1
Malaria Control Equipment & Others		
10-3	Manual Fork Lift Truck	2

Table 25 - B

2. Major Health Center (19 Places)

Minor Hospital Equipment

6-2	Spygmomanometer, Aneroid Type	19
6-3	Stethoscope, for Nurse	19
6-4	Stethoscope, Foetal Heart-beat	19
6-5	Minor Surgical Instrument Set	19
6-7	Instruments Steriliser	19
6-9	Infant Weighing Scale	19

3. Sub Health Center (8 Places)

Minor Hospital Equipment

6-2	Spygmomanometer, Aneroid Type	8
6-3	Stethoscope, for Nurse	8
6-4	Stethoscope, Foetal Heart-beat	8
6-5	Minor Surgical Instrument Set	8
6-7	Instruments Steriliser	8
6-9	Infant Weighing Scale	8

Malaria Control Equipment & Others

9-1	Binocular Microscope (600 x)	8
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Table 26 - A

4-3-5 WEWAK MEDICAL STORE

1. WEWAK Provincial Hospital

Major Hospital Equipment

1-1	Condenser Discharge X-Ray Unit, Mobile Type	1
1-2	Mobile X-Ray Unit	1
1-3	Simple X-Ray Table	1
1-6	Sigmoidoscope	1

Minor Hospital Equipment

2-1	Electrocardiograph, 1-Channel	1
2-3	Portable Defibrillator	1
2-4	First Aid Kit	1
3-2	Resuscitation Bag(Pediatric)	1
3-3	Resuscitation Bag(Adult)	1
4-1	Operating Table, Universal	1
4-4	Obstetric Delivery Table	10
4-6	Standard Patient Bed	60
5-1	Minor Operation Lamp	1
5-2	High Pressure Steriliser	1
5-4	Dispensary Balance (0 - 10kg)	1
6-1	Sphygmomanometer, Mercury Type	10
6-4	Stethoscope, Foetal Heart-beat	2
6-5	Minor Surgical Instrument Set	1
6-6	Pediatric Surgical Instruments	1
6-8	Spot Lamp for Wards	4

Laboratory Equipment

7-6	Top Pan Balance, Digital	1
7-7	Ultrasonic Cleaning Bath	1
7-8	Laboratory Incubator	1
7-10	Water Bath	1
7-11	Laboratory Autoclave	1
8-4	Laboratory Microscope	2

Malaria Control Equipment & Others

10-3	Manual Fork Lift Truck	2
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Table 26 - B

2. VANIMO Provincial Hospital

Major Hospital Equipment		
1-1	Condenser Discharge X-Ray Unit, Mobile Type	1
1-2	Mobile X-Ray Unit	1
1-3	Simple X-Ray Table	1
1-6	Sigmoidscope	1
Minor Hospital Equipment		
2-4	First Aid Kit	1
3-2	Resucitation Bag(Pediatric)	1
3-3	Resucitation Bag(Adult)	1
4-4	Obstetric Delivery Table	10
5-1	Minor Operation Lamp	1
5-2	High Pressure Steriliser	1
6-1	Spygmomanometer, Mercury Type	10
6-2	Spygmomanometer, Aneroid Type	2
6-5	Minor Surgical Instrument Set	1
6-8	Spot Lamp for Wards	4
Laboratory Equipment		
7-6	Top Pan Balance, Digital	1
8-4	Laboratory Microscope	1

Table 26 - C

3. Major Health Center (22 Places)

Minor Hospital Equipment		
6-2	Sphygmomanometer, Aneroid Type	22
6-3	Stethoscope, for Nurse	22
6-4	Stethoscope, Foetal Heart-beat	22
6-5	Minor Surgical Instrument Set	22
6-7	Instruments Steriliser	22
6-9	Infant Weighing Scale	22

4. Sub Health Center (38 Places)

Minor Hospital Equipment		
6-2	Sphygmomanometer, Aneroid Type	38
6-3	Stethoscope, for Nurse	38
6-4	Stethoscope, Foetal Heart-beat	38
6-5	Minor Surgical Instrument Set	38
6-7	Instruments Steriliser	38
6-9	Infant Weighing Scale	38
Malaria Control Equipment & Others		
9-1	Binocular Microscope (600x)	38

Table 27 - A

4-3-6 RABAU MEDICAL STORE

1. RABAU Base Hospital

Major Hospital Equipment		
1-5	Gastroscope	1
1-6	Sigmoidoscope	1
1-7	Crystoscope	2
Minor Hospital Equipment		
2-1	Electrocardiograph, 1-Channel	1
2-2	ECG Cardiac Monitor, 2-Channel	1
2-3	Portable Defibrillator	1
2-4	First Aid Kit	1
3-2	Resucitation Bag(Pediatric)	1
3-3	Resucitation Bag(Adult)	1
4-1	Operating Table, Universal	1
4-4	Obstetric Delivery Table	10
4-5	Gatch Bed for ICU	6
4-6	Standard Patient Bed	86
5-1	Minor Operation Lamp	1
5-2	High Pressure Steriliser	2
5-3	Dispensary Balance (0 - 200g)	2
5-4	Dispensary Balance (0 - 10kg)	1
6-1	Spygmomanometer, Mercury Type	10
6-4	Stethoscope, Foetal Heart-beat	2
6-5	Minor Surgical Instrument Set	1
6-6	Pediatric Surgical Instruments	1
6-8	Spot Lamp for Wards	8
6-10	Transcutaneous Stimulator	1
6-11	Traction for Lumber & Cervical	1
6-12	Walking Aid Frame	5
6-13	Slit Lamp Microscope	1
Laboratory Equipment		
7-5	Analytical Balance	1
7-6	Top Pan Balance, Digital	1
7-7	Ultrasonic Cleaning Bath	1
7-8	Laboratory Incubator	1
7-11	Laboratory Autoclave	1
7-13	Suspension Mixer	1
8-4	Laboratory Microscope	2

Table 27 - B

Malaria Control Equipment & Others		
9-2	Stereoscopic Microscope	3
9-3	Trinocular Microscope W/Photo att. & Camera	1
10-1	Microcomputer	1
10-3	Manual Fork Lift Truck	2

Table 27 - C

2. KIMBE Provincial Hospital

Major Hospital Equipment		
1-1	Condenser Discharge X-Ray Unit, Mobile Type	1
1-2	Mobile X-Ray Unit	1
1-3	Simple X-Ray Table	1
1-6	Sigmoidoscope	1
Minor Hospital Equipment		
2-4	First Aid Kit	1
3-2	Resuscitation Bag(Pediatric)	1
3-3	Resuscitation Bag(Adult)	1
4-4	Obstetric Delivery Table	10
4-6	Standard Patient Bed	24
5-1	Minor Operation Lamp	1
5-2	High Pressure Steriliser	1
6-1	Spygmomanometer, Mercury Type	10
6-4	Stethoscope, Foetal Heart-beat	2
6-5	Minor Surgical Instrument Set	1
6-8	Spot Lamp for Wards	4
Laboratory Equipment		
7-6	Top Pan Balance, Digital	1
8-4	Laboratory Microscope	2

Table 27 - D

3. MANUS Provincial Hospital

Major Hospital Equipment

1-1	Condenser Discharge X-Ray Unit, Mobile Type	1
1-2	Mobile X-Ray Unit	1
1-3	Simple X-Ray Table	1
1-6	Sigmoidscope	1

Minor Hospital Equipment

2-4	First Aid Kit	1
3-2	Resuscitation Bag(Pediatric)	1
3-3	Resuscitation Bag(Adult)	1
4-4	Obstetric Delivery Table	10
4-6	Standard Patient Bed	14
5-1	Minor Operation Lamp	1
5-2	High Pressure Steriliser	1
5-4	Dispensary Balance (0 - 10kg)	10
6-4	Stethoscope, Foetal Heart-beat	2
6-5	Minor Surgical Instrument Set	1
6-8	Spot Lamp for Wards	4

Laboratory Equipment

7-1	Spectrophotometer	1
7-6	Top Pan Balance, Digital	1
8-4	Laboratory Microscope	1

Table 27 - E

4. KAVING Provincial Hospital

Major Hospital Equipment

1-1	Condenser Discharge X-Ray Unit, Mobile Type	1
1-2	Mobile X-Ray Unit	1
1-3	Simple X-Ray Table	1
1-6	Sigmoidscope	1

Minor Hospital Equipment

2-4	First Aid Kit	1
3-2	Resuscitation Bag(Pediatric)	1
3-3	Resuscitation Bag(Adult)	1
4-4	Obstetric Delivery Table	10
5-1	Minor Operation Lamp	1
5-2	High Pressure Steriliser	1
5-4	Dispensary Balance	10
6-4	Stethoscope, Foetal Heart-beat	10
6-5	Minor Surgical Instrument Set	1
6-8	Spot Lamp for Wards	4

Laboratory Equipment

7-1	Spectrophotometer	1
7-6	Top Pan Balance, Digital	1
8-4	Laboratory Microscope	1

Table 27 - F

5. ARAWA Provincial Hospital

Major Hospital Equipment		
1-6	Sigmoidoscope	1
Minor Hospital Equipment		
2-2	ECG Cardiac Monitor, 2-Channel	1
2-3	Portable Defibrillator	1
2-4	First Aid Kit	1
3-2	Resucitation Bag(Pediatric)	1
3-3	Resucitation Bag(Adult)	1
4-4	Obstetric Delivery Table	12
4-6	Standard Patient Bed	60
5-1	Minor Operation Lamp	1
5-2	High Pressure Steriliser	2
5-3	Dispensary Balance	2
6-1	Spygmanometer, Mercury Type	10
6-4	Stethoscope, Foetal Heart-beat	2
6-5	Minor Surgical Instrument Set	1
6-6	Pediatric Surgical Instruments	1
6-8	Spot Lamp for Wards	8
6-11	Traction for Lumber & Cervical	1
6-12	Walking Aid Frame	5
Laboratory Equipment		
7-2	Flamephotometer	1
7-6	Top Pan Balance, Digital	1
7-7	Ultrasonic Cleaning Bath	1
8-4	Laboratory Microscope	1

Table 27 - G

6. Major Health Center (43 Places)

Minor Hospital Equipment		
6-2	Sphygmomanometer, Aneroid Type	43
6-3	Stethoscope, for Nurse	43
6-4	Stethoscope, Foetal Heart-beat	43
6-5	Minor Surgical Instrument Set	43
6-7	Instruments Steriliser	43
6-9	Infant Weighing Scale	43

7. Sub Health Center (55 Places)

Minor Hospital Equipment		
6-2	Sphygmomanometer, Aneroid Type	55
6-3	Stethoscope, for Nurse	55
6-4	Stethoscope, Foetal Heart-beat	55
6-5	Minor Surgical Instrument Set	55
6-7	Instruments Steriliser	55
6-9	Infant Weighing Scale	55
Malaria Control Equipment & Others		
9-1	Binocular Microscope (600x)	55

Table 28 - A

SUMMARY LIST OF DESIGNED MEDICAL EQUIPMENT

Major Hospital Equipment		
1-1	Condenser Discharge X-Ray Unit, Mobile Type	9
1-2	Mobile X-Ray Unit	12
1-3	Simple X-Ray Table	12
1-4	Ultrasound Scanner, Portable	2
1-5	Gastroscope	5
1-6	Sigmoidoscope	20
1-7	Cystoscope	10
1-8	Echocardiograph	1
Minor Hospital Equipment		
2-1	Electrocardiograph, 1-Channel	10
2-2	ECG Cardiac Monitor, 2-Channel	9
2-3	Portable Defibrillator	7
2-4	First Aid Kit	21
3-1	Ventilator for Adult	2
3-2	Resuscitation Bag(Pediatric)	21
3-3	Resuscitation Bag(Adult)	21
3-4	Infusion Drop Counter	6
4-1	Operating Table, Universal	5
4-2	Operating Table, General	5
4-3	Gynecological Examining Table	4
4-4	Obstetric Delivery Table	200
4-5	Gatch Bed for ICU	30
4-6	Standard Patient Bed	640
5-1	Minor Operation Lamp	20
5-2	High Pressure Steriliser	25
5-3	Dispensary Balance	10
5-4	Dispensary Balance	6
6-1	Spygmomanometer, Mercury Type	200
6-2	Spygmomanometer, Aneroid Type	468
6-3	Stethoscope, for Nurse	468
6-4	Stethoscope, Foetal Heart-beat	504
6-5	Minor Surgical Instrument Set	486
6-6	Pediatric Surgical Instruments	8
6-7	Instruments Steriliser	468
6-8	Spot Lamp for Wards	100
6-9	Infant Weighing Scale	468
6-10	Transcutaneous Stimulator	4
6-11	Traction for Lumber & Cervical	7
6-12	Walking Aid Frame	30
6-13	Slit Lamp Microscope	2

Table 28 - B

Laboratory Equipment		
7-1	Spectrophotometer	7
7-2	Flamephotometer	4
7-3	A. A. Spectrophotometer	1
7-4	Bilirubinometer	4
7-5	Analytical Balance	11
7-6	Top Pan Balance, Digital	18
7-7	Ultrasonic Cleaning Bath	12
7-8	Laboratory Incubator	4
7-9	CO2 Gas Incubator	2
7-10	Water Bath	7
7-11	Laboratory Autoclave	6
7-12	Deep Freezer	3
7-13	Suspension Mixer	5
8-1	Microscope, Phase Contrast	1
8-2	Microscope, Fluorescent Microscopy	1
8-3	Binocular Research Microscope	2
8-4	Laboratory Microscope	28
8-5	Trinocular Microscope W/Projection screen	2
Malaria Control Equipment & Others		
9-1	Binocular Microscope (600x)	269
9-2	Stereoscopic Microscope	15
9-3	Trinocular Microscope W/Photo att. & Camera	4
10-1	Microcomputer	6
10-2	Typewriter, Electrical	2
10-3	Manual Fork Lift Truck	12
11-1	Dental Unit & Chair	5
11-2	Dental X-Ray Unit	2
11-3	Dental Instrument Set W/Cabinet	5

FIGURES

LIST OF FIGURES

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- 1 Health Service Facility and District
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(Population of Western Province)
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(Population of Gulf Province)
- 4 Health Service Facility and District
(Population of Milne Bay Province)
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(Population of Manus Province)
- 18 Health Service Facility and District
(Population of New Ireland Province)
- 19 Health Service Facility and District
(Population of North Solomons Province)

Fig. 1 Province Profile

I. Port Moresby Medical Store: Central Province

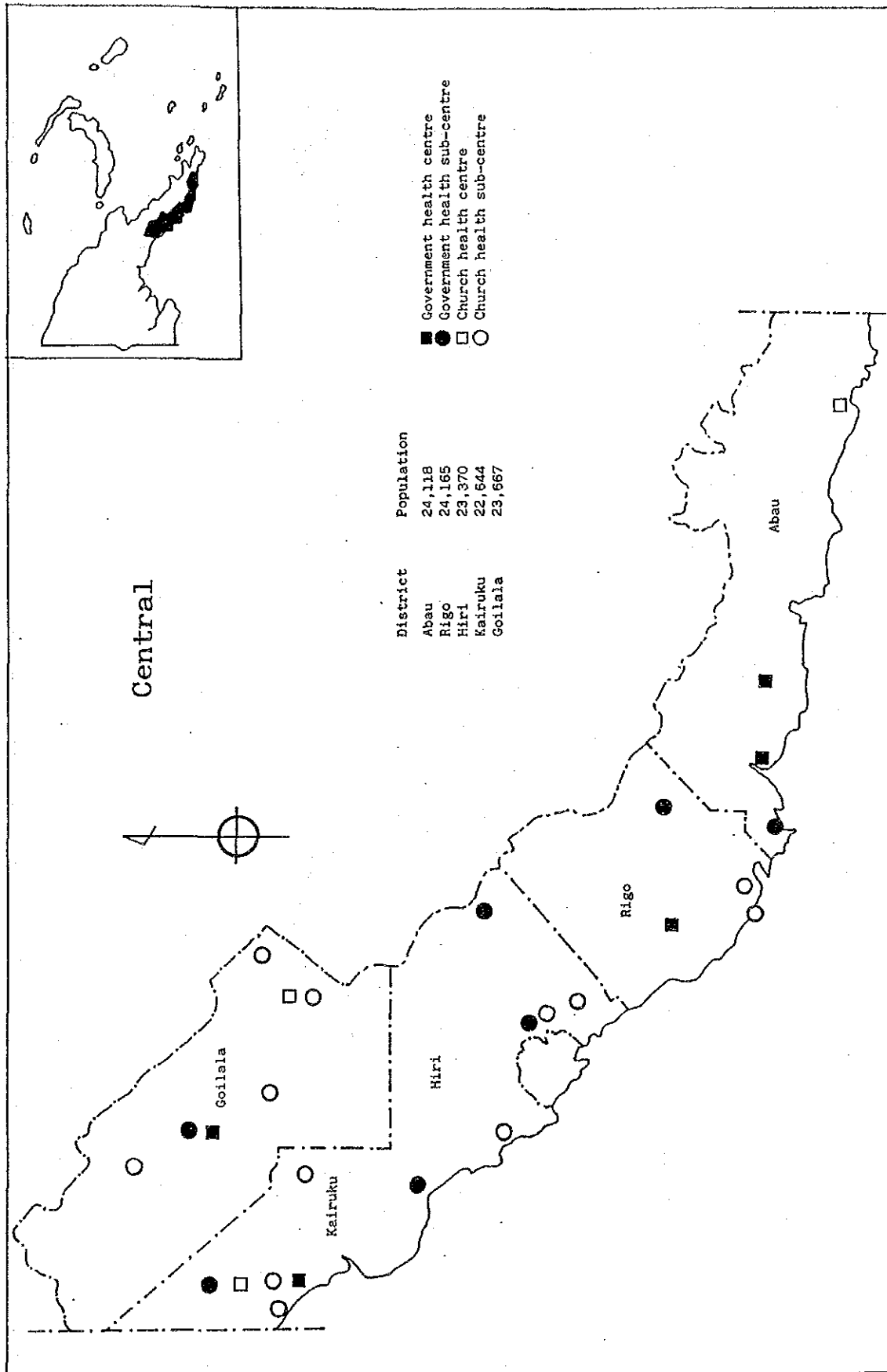


Fig. 2 Provincial Profile

I Port Moresby Medical Store: Western Province

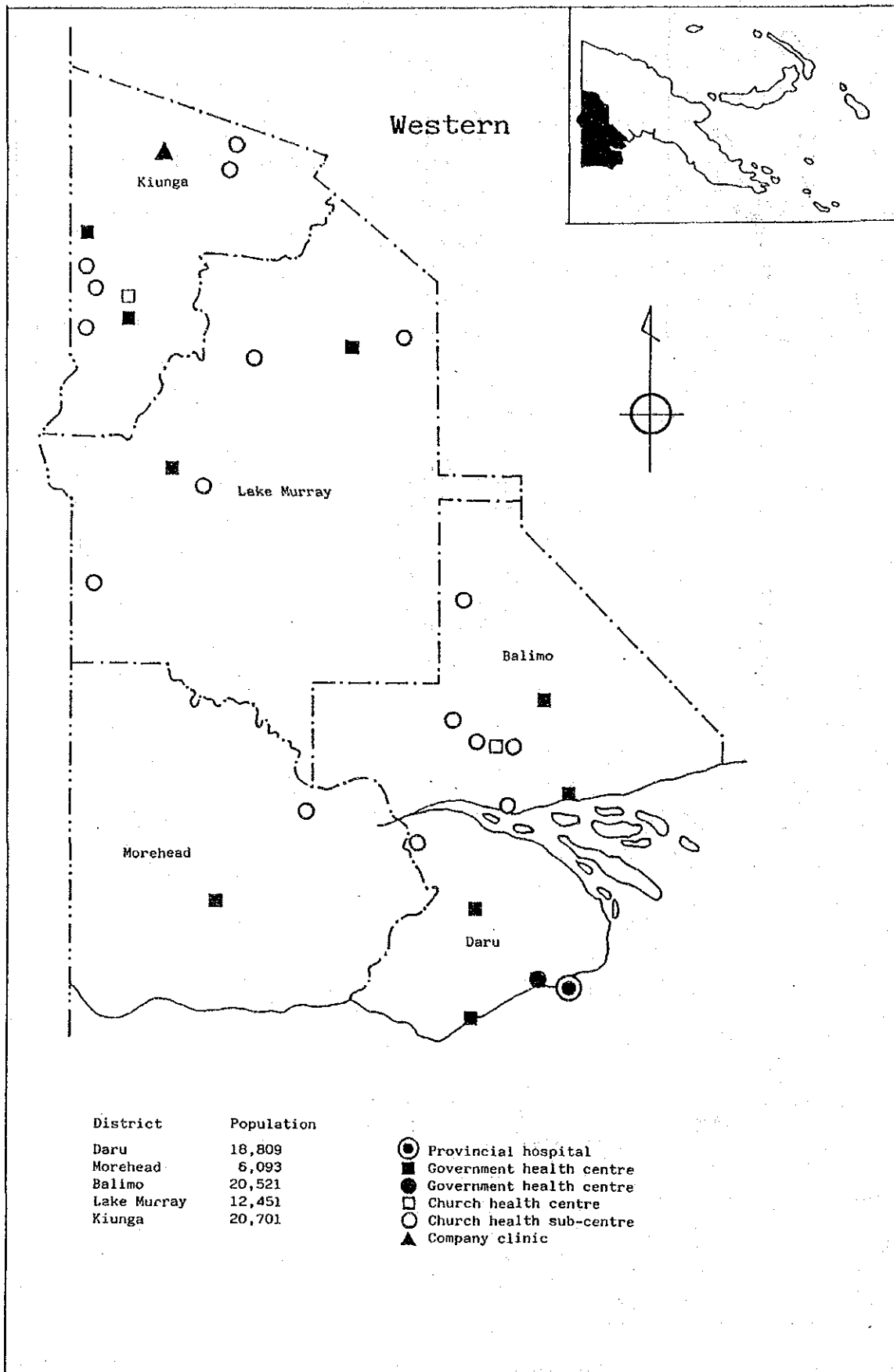


Fig. 3 Provincial Profile

I. Port Moresby Medical Store: Gulf Province

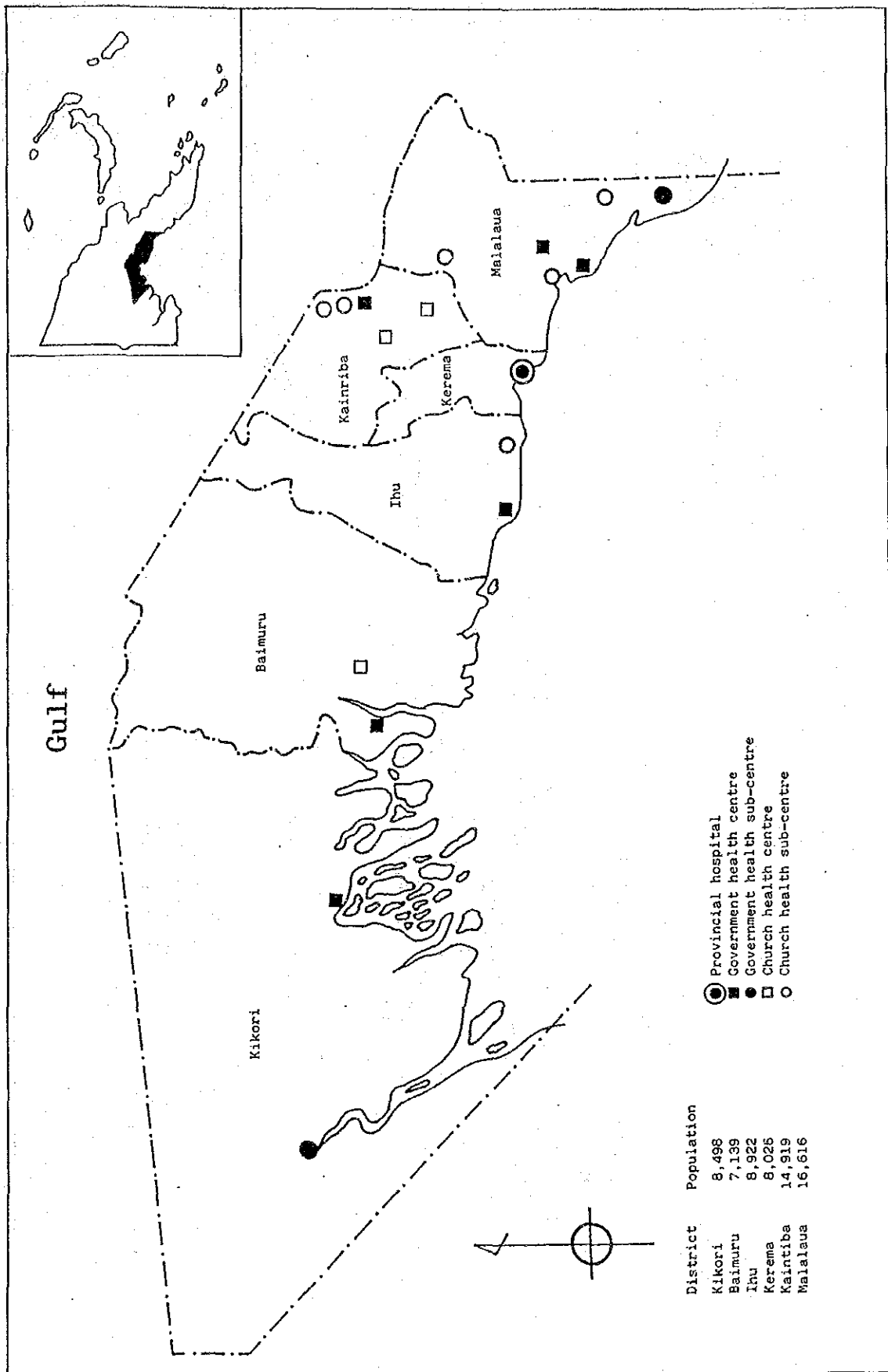


Fig. 4 Provincial Profile

I. Port Moresby Medical Store: Milne Bay Province

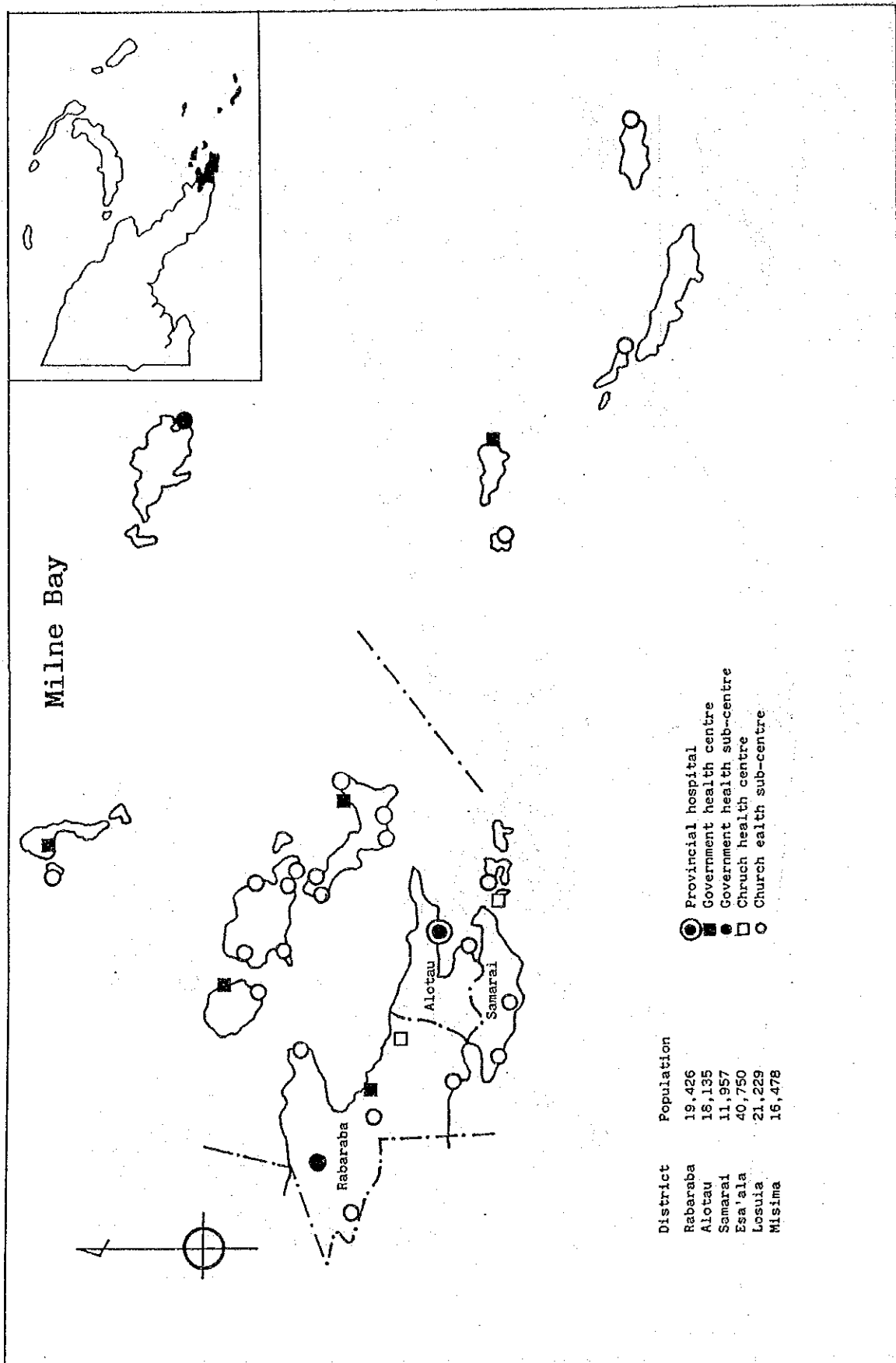


Fig. 5 Provincial Profile

I. Port Moresby Medical Store: Oro Province

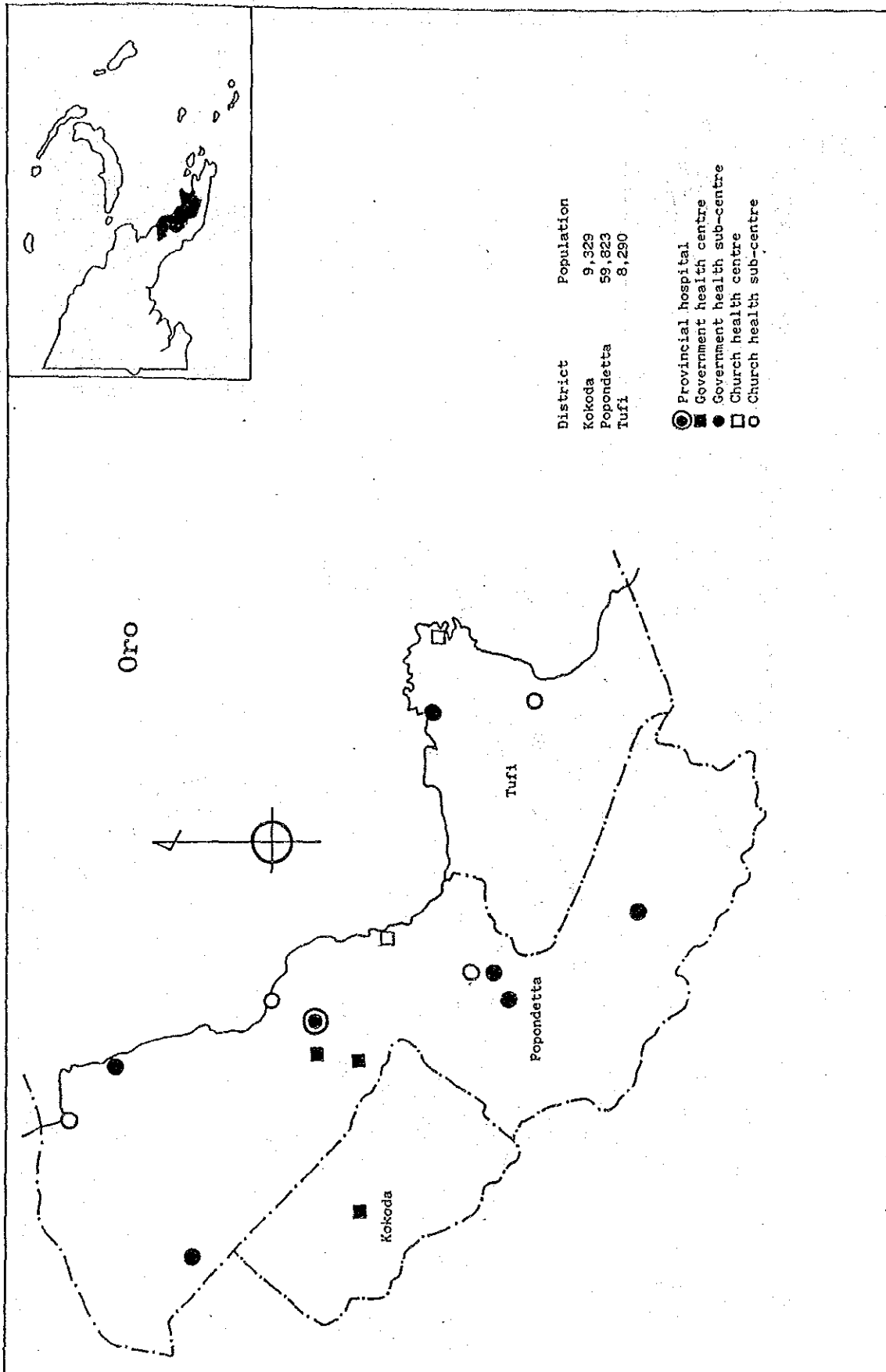


Fig. 6 Provincial Profile

II. Mr. Hagen Medical Store: Western Highlands Province

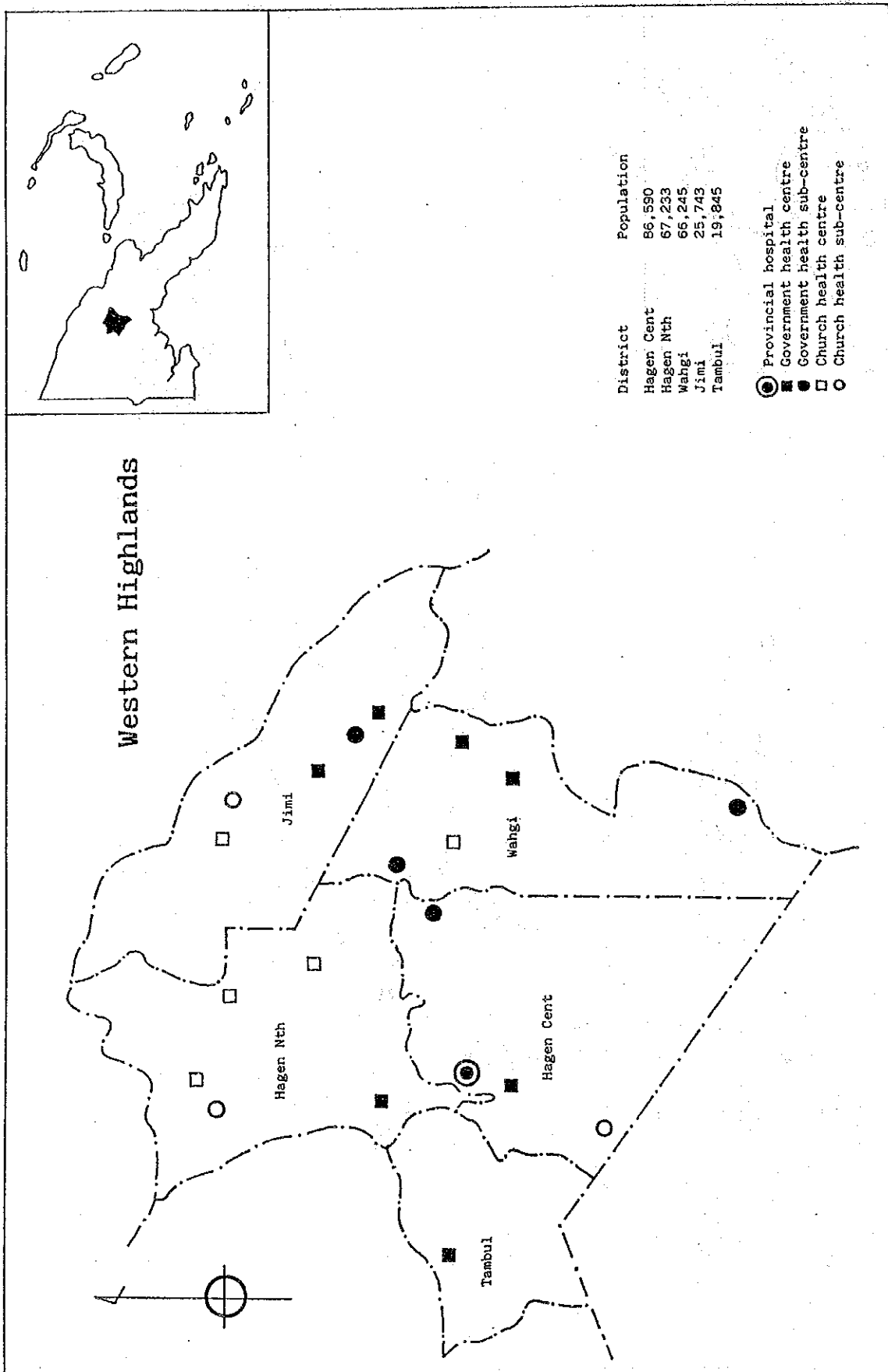


Fig. 7 Provincial Profile

II. Mt. Hagen Medical Store: Southern Highlands Province

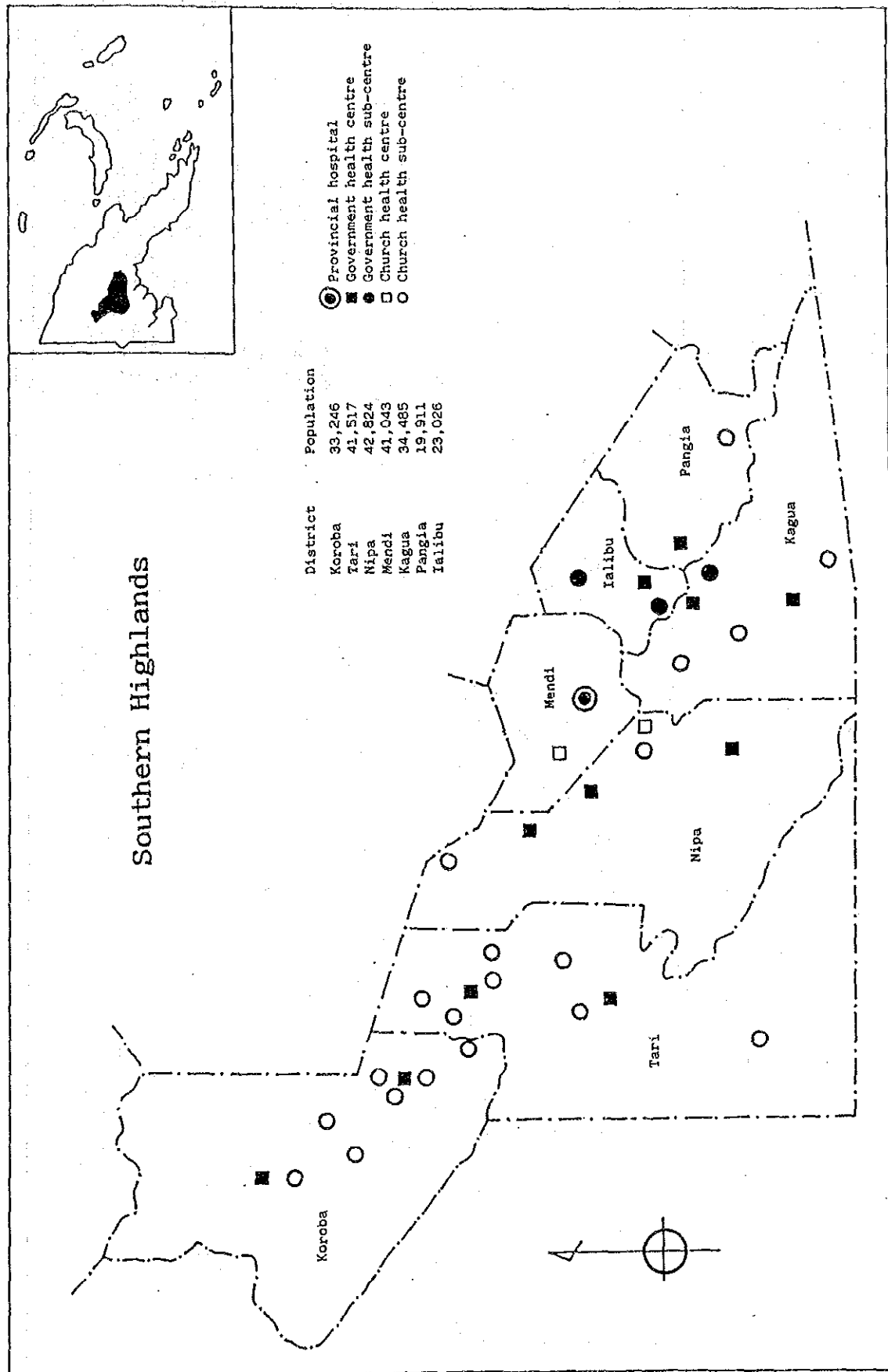


Fig. 8 Provincial Profile

II. Mt. Hagen Medical Store: Enga Province

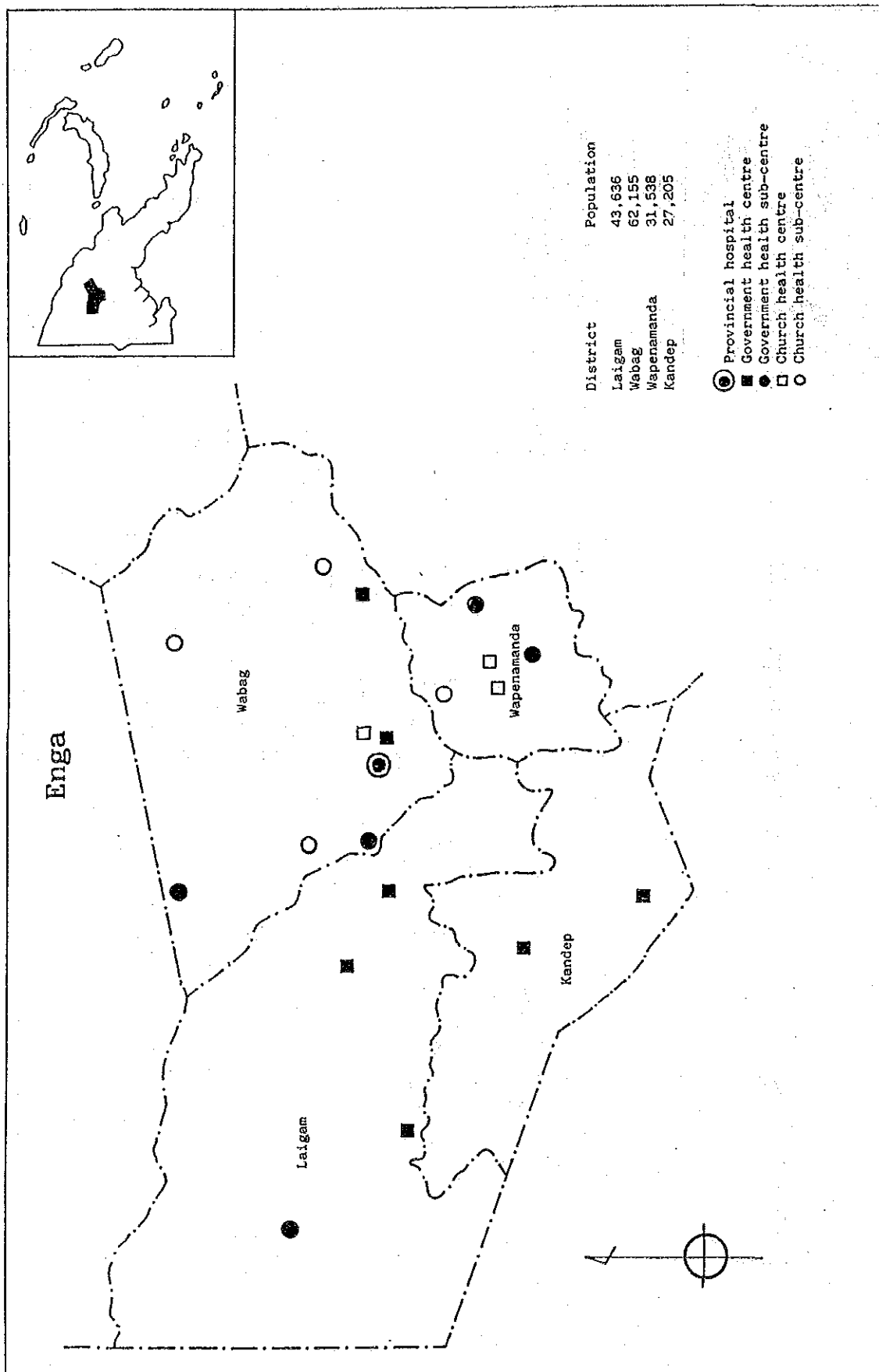


Fig. 9 Provincial Profile

III. Lae Medical Store: Morobe Province

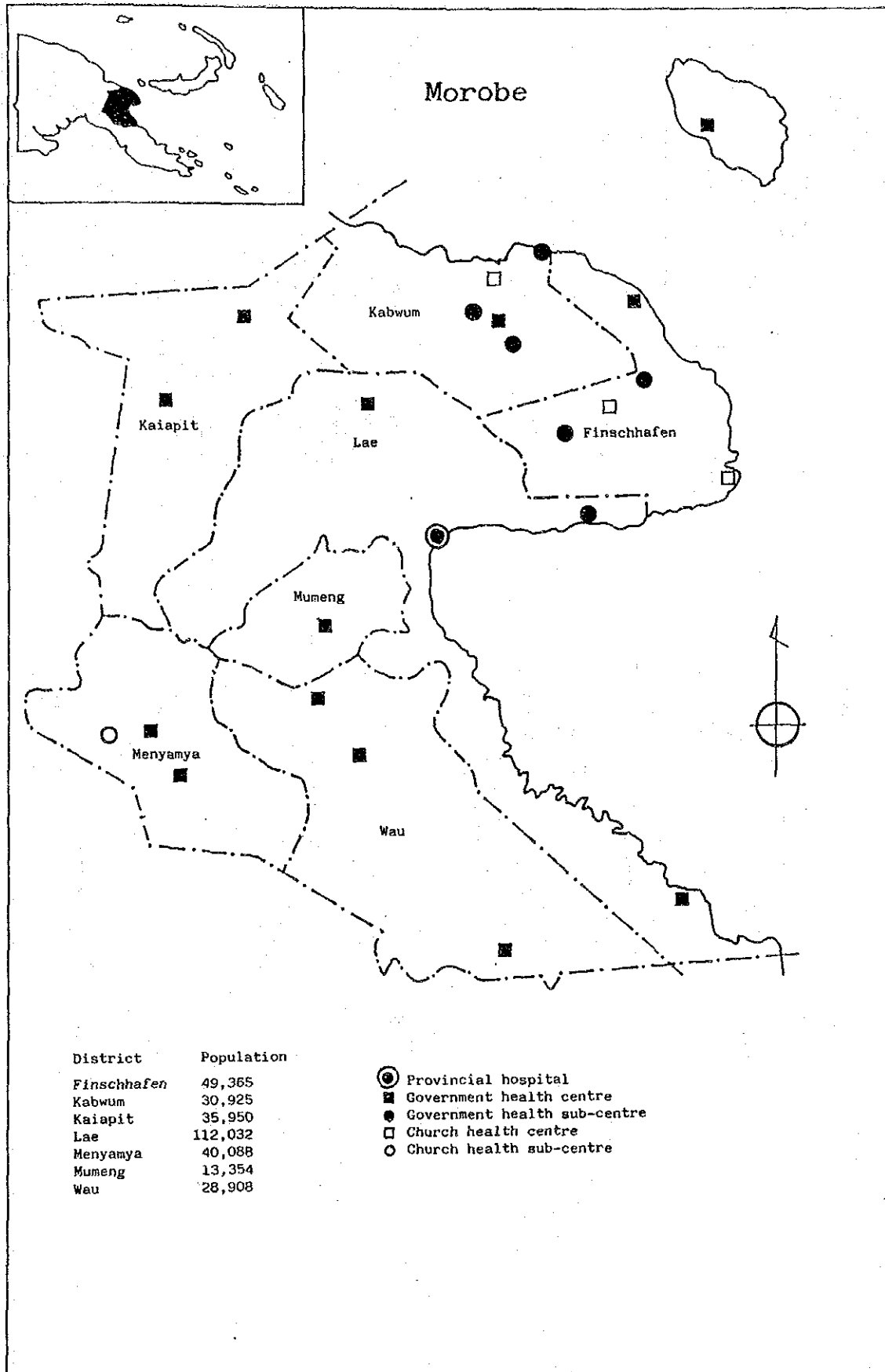


Fig. 10 Provincial Profile

III. Lae Medical Store: Eastern Highlands Province

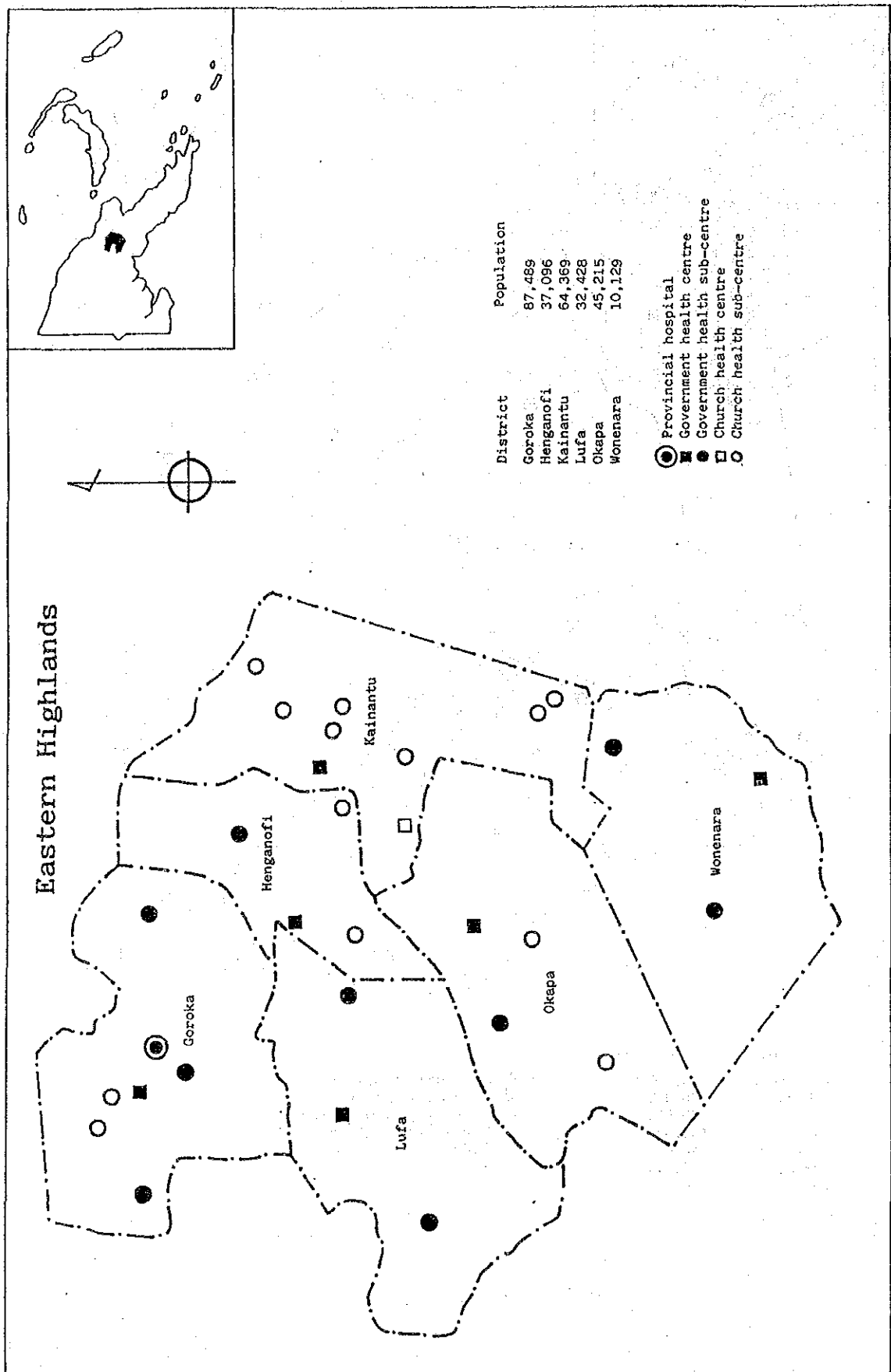


Fig. 11 Provincial Profile

III. Lae Medical Store: Simbu Province

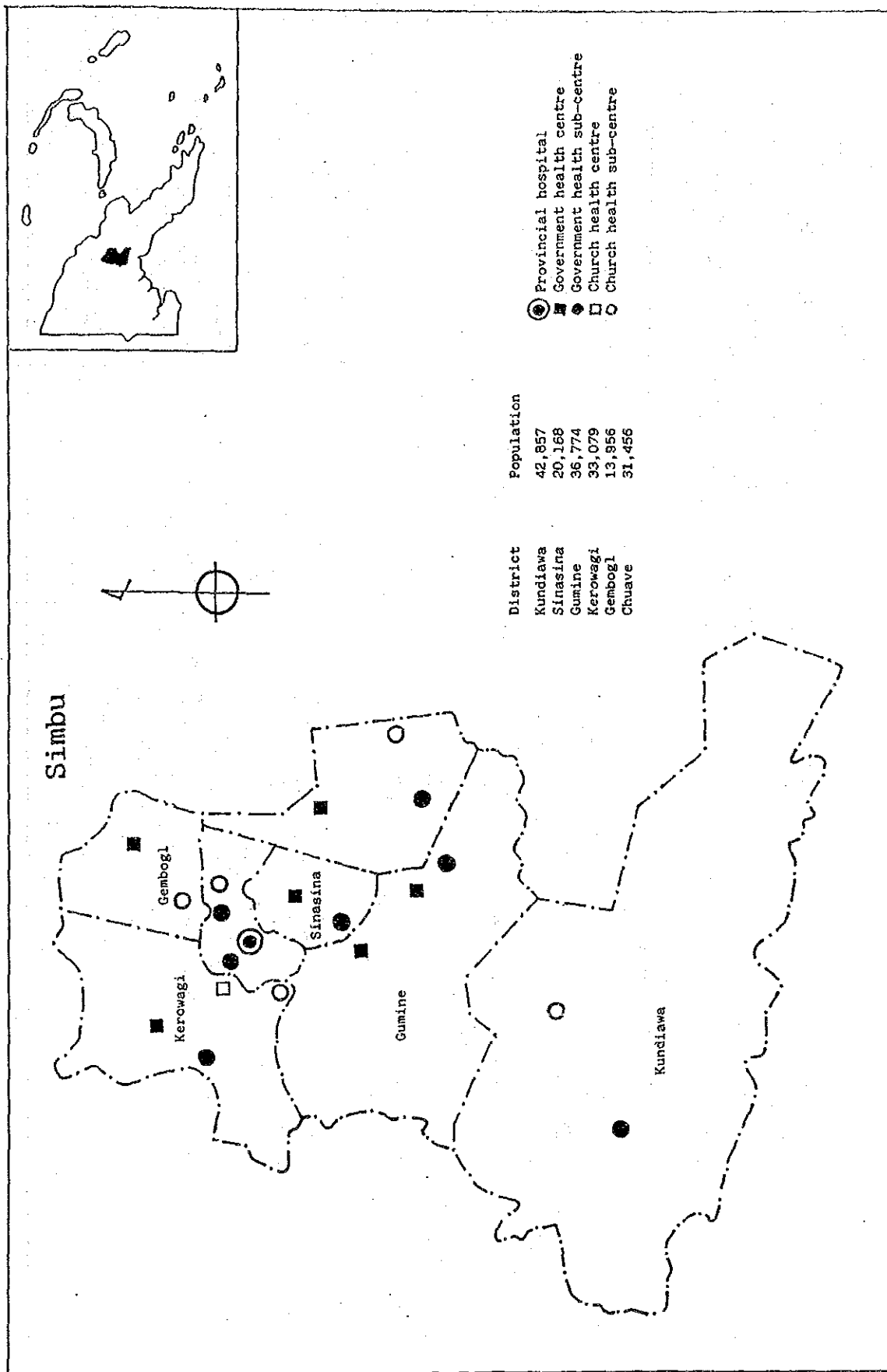


Fig. 12 Provincial Profile

IV. Madang Medical Store: Madang Province

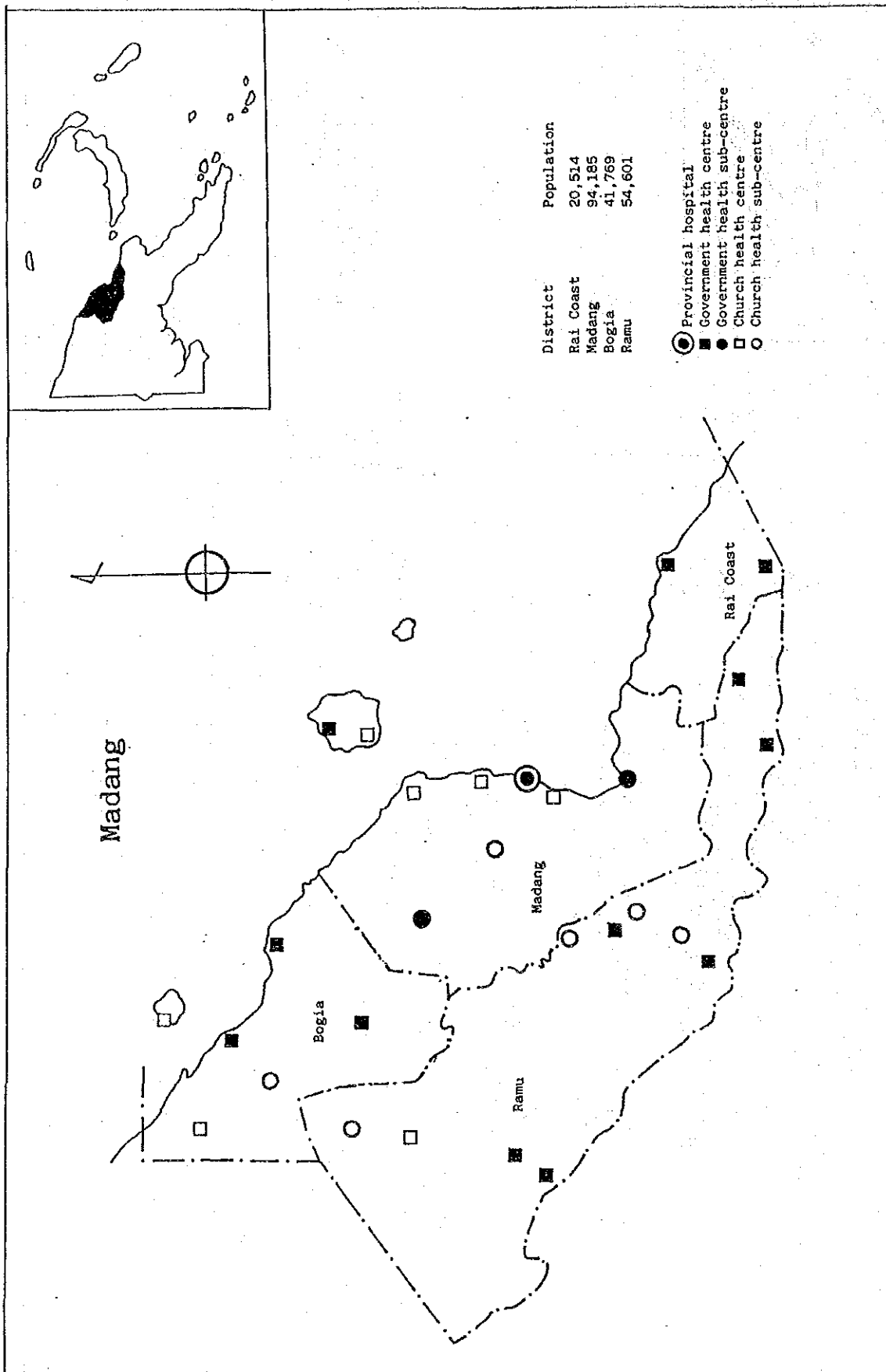


Fig. 13 Provincial Profile

V. Wewak Medical Store: East Sepik Province

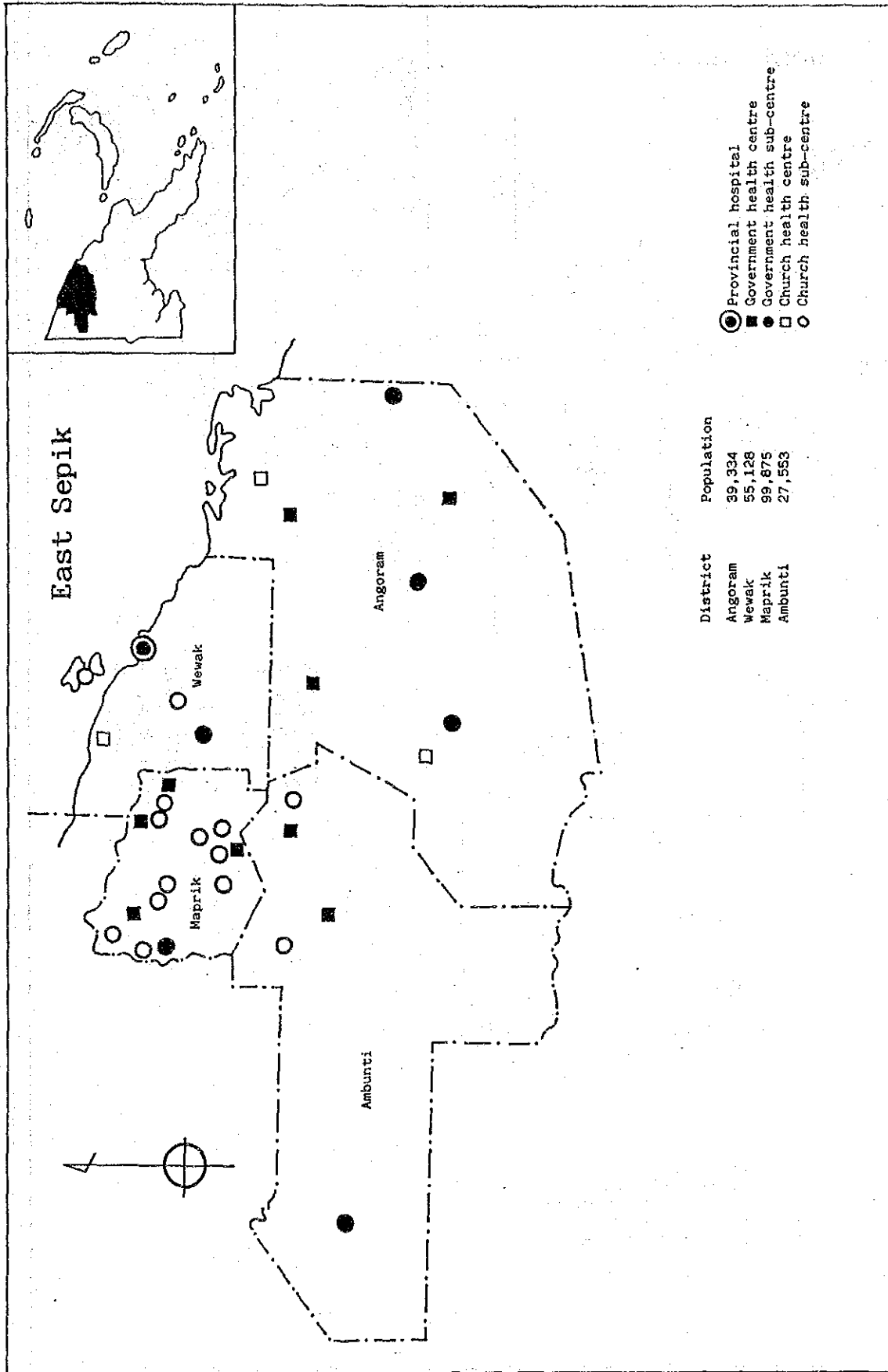


Fig. 14 Provincial Profile

V. Wewak Medical Store: West Sepik Province

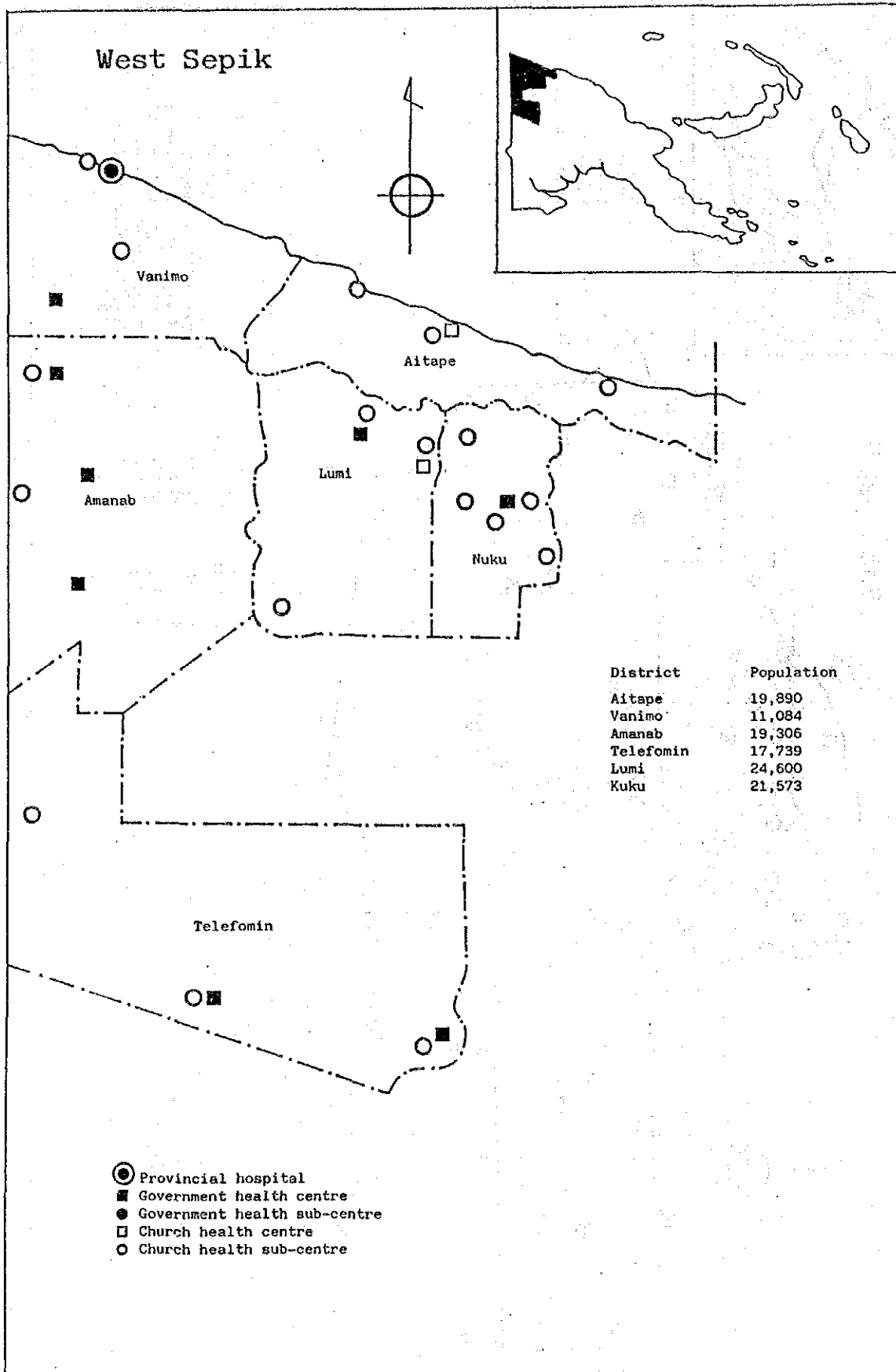


Fig. 15 Provincial Profile

VI. Rabaul Medical Store; East New Britain Province

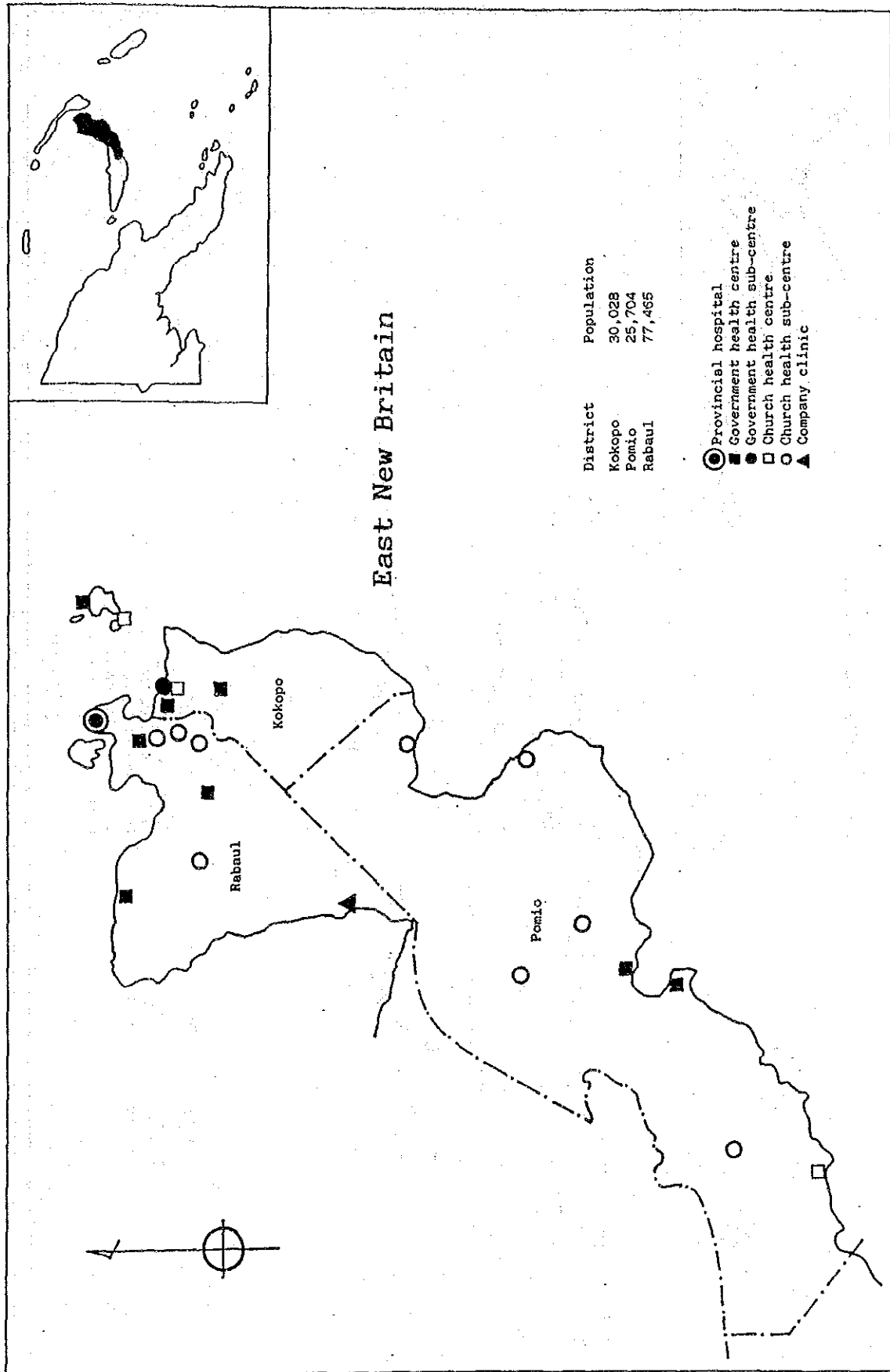


Fig. 16 Provincial Profile

VI. Rabaul Medical Store: West New Britain Province

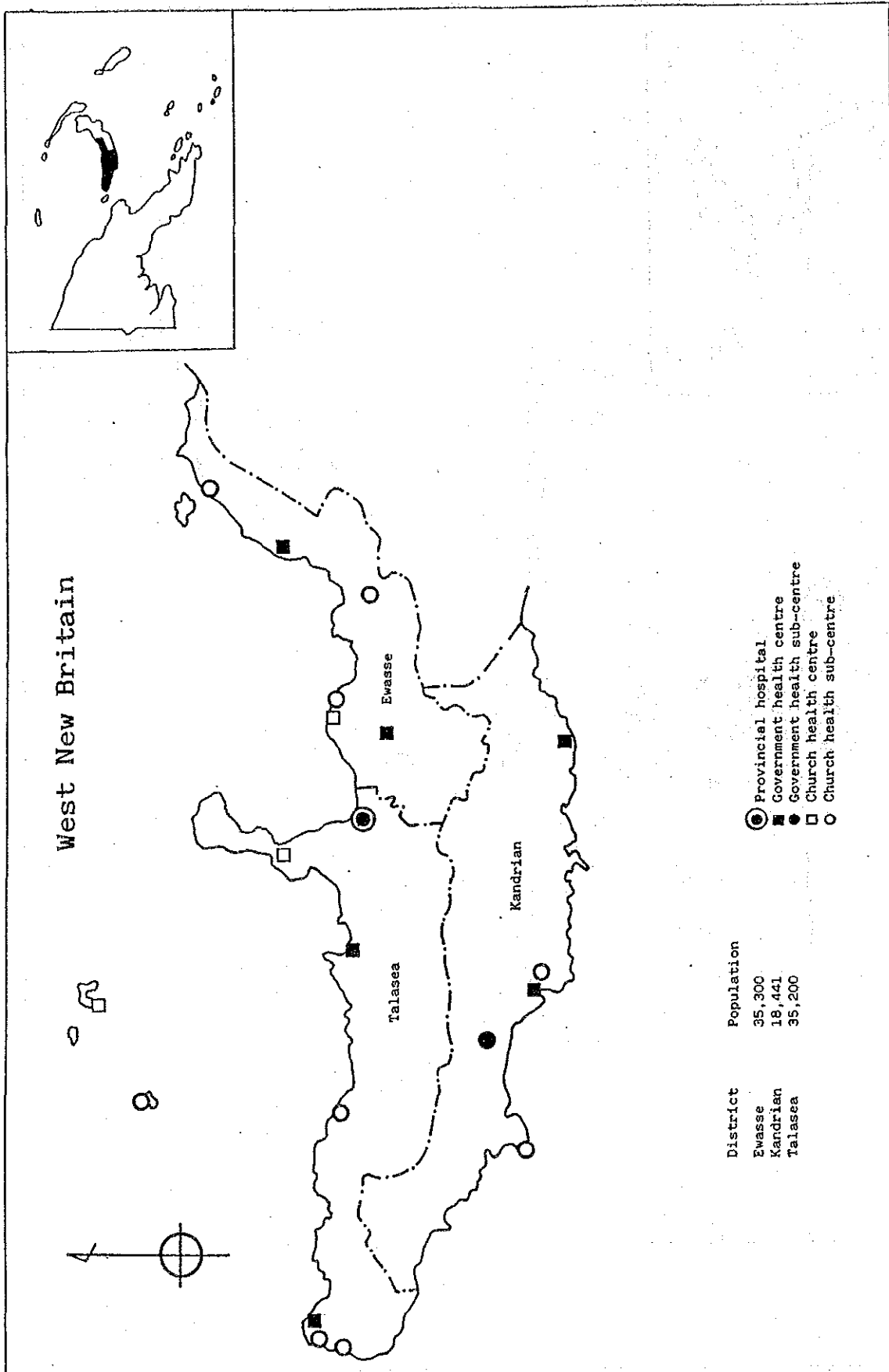


Fig. 17 Provincial Profile

VI. Rabaul Medical Store: Manus Province

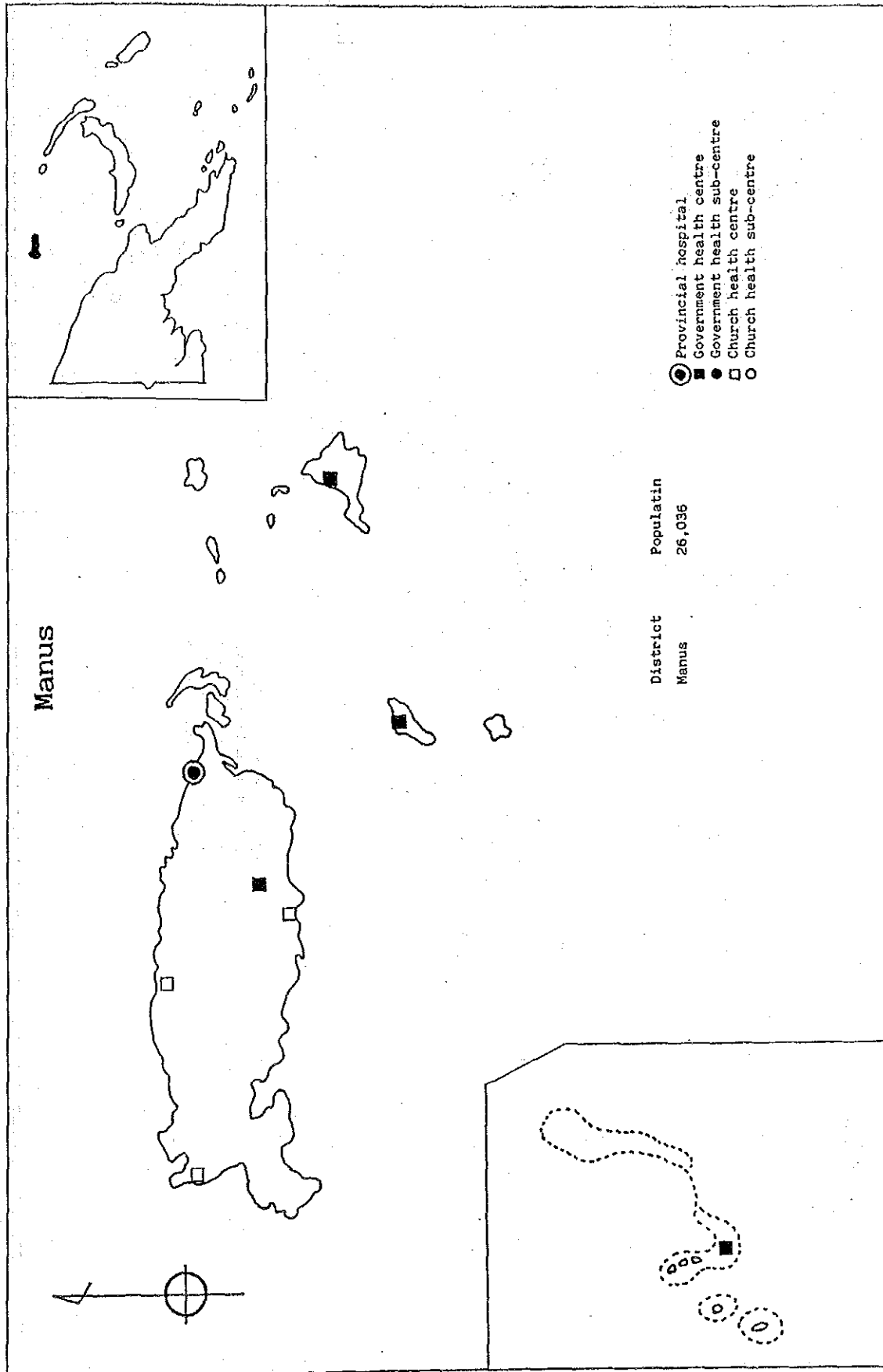


Fig. 18 Provincial Profile

VI. Rabaul Medical Store: New Ireland Province

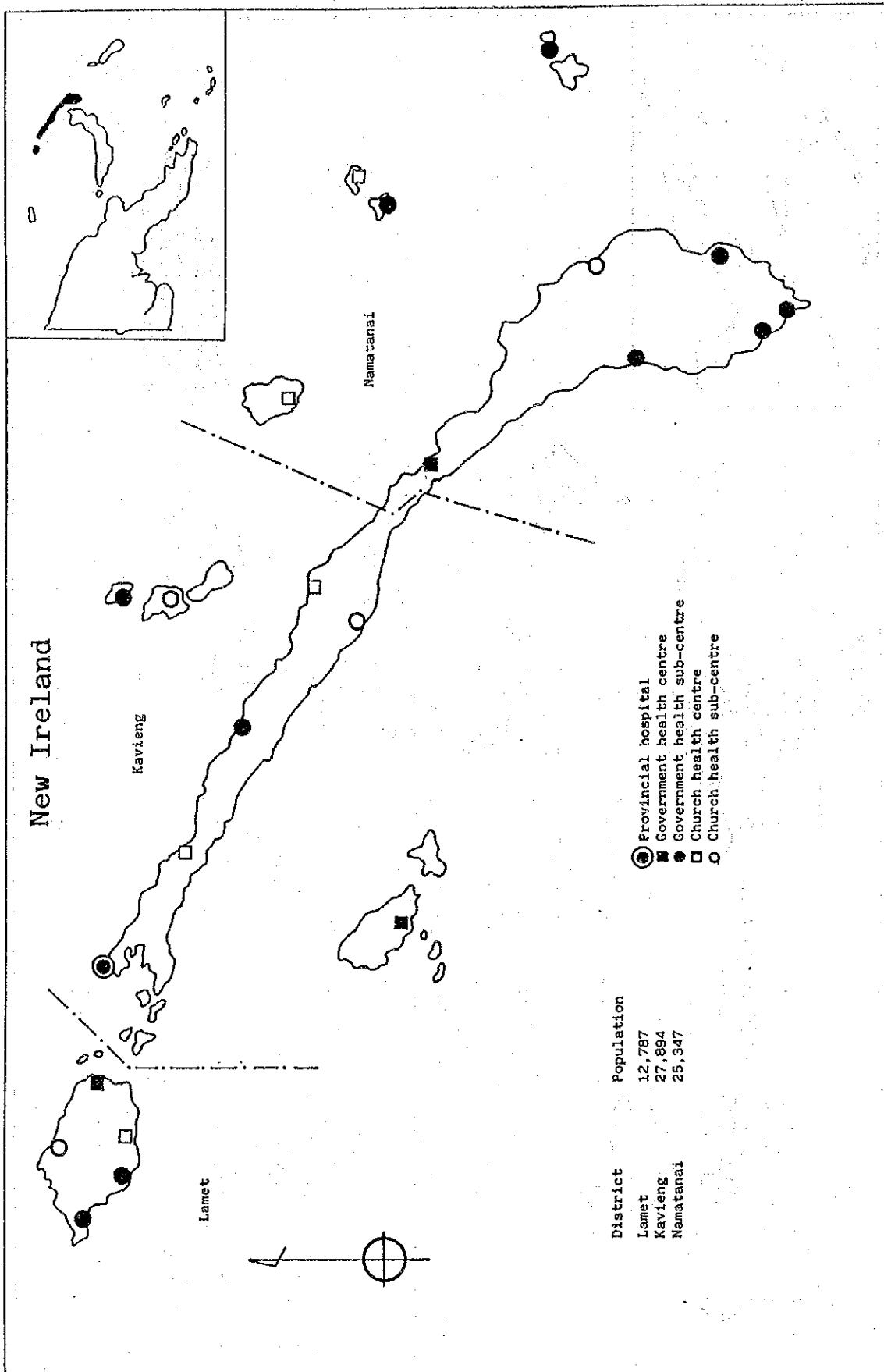
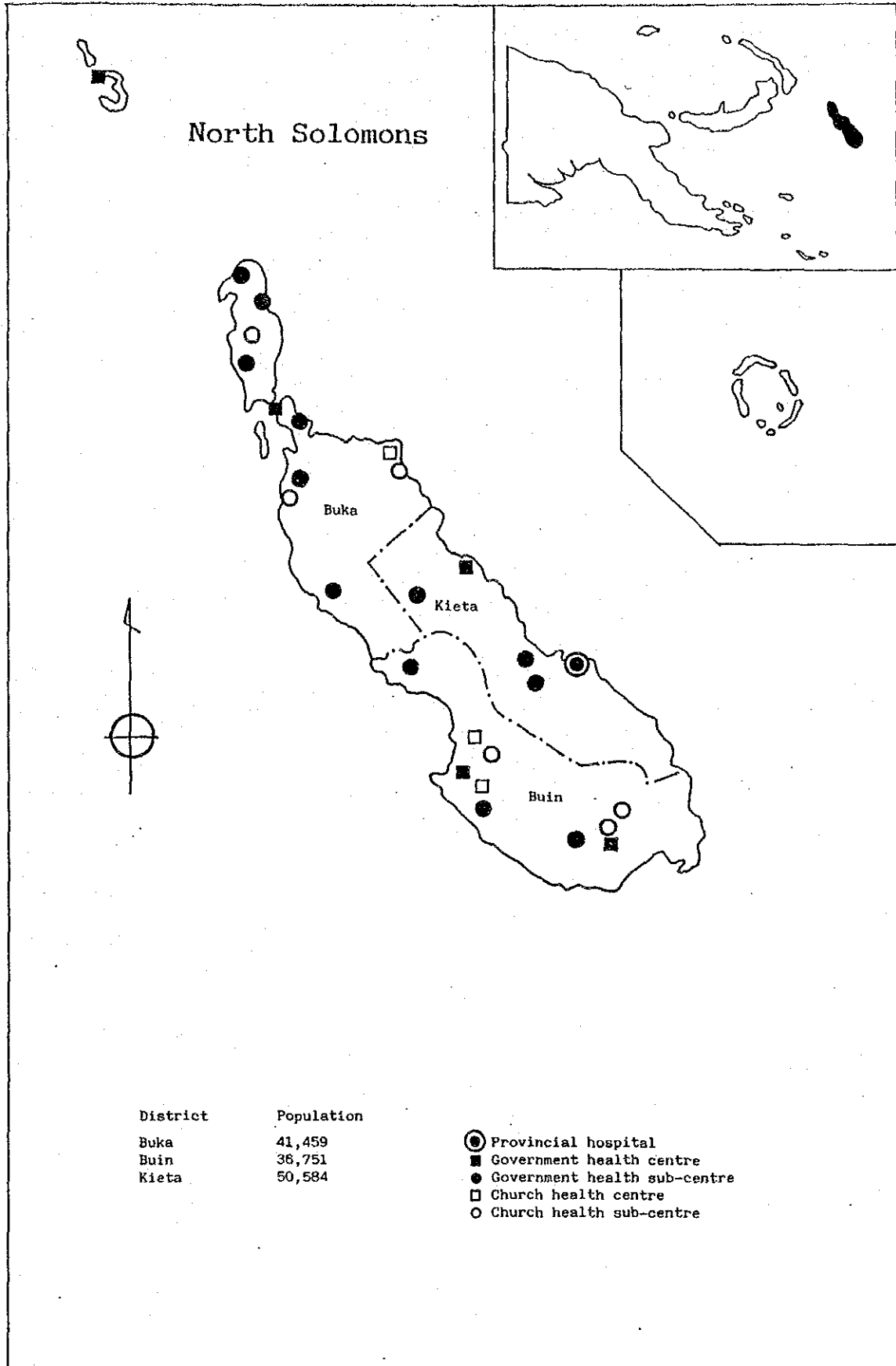
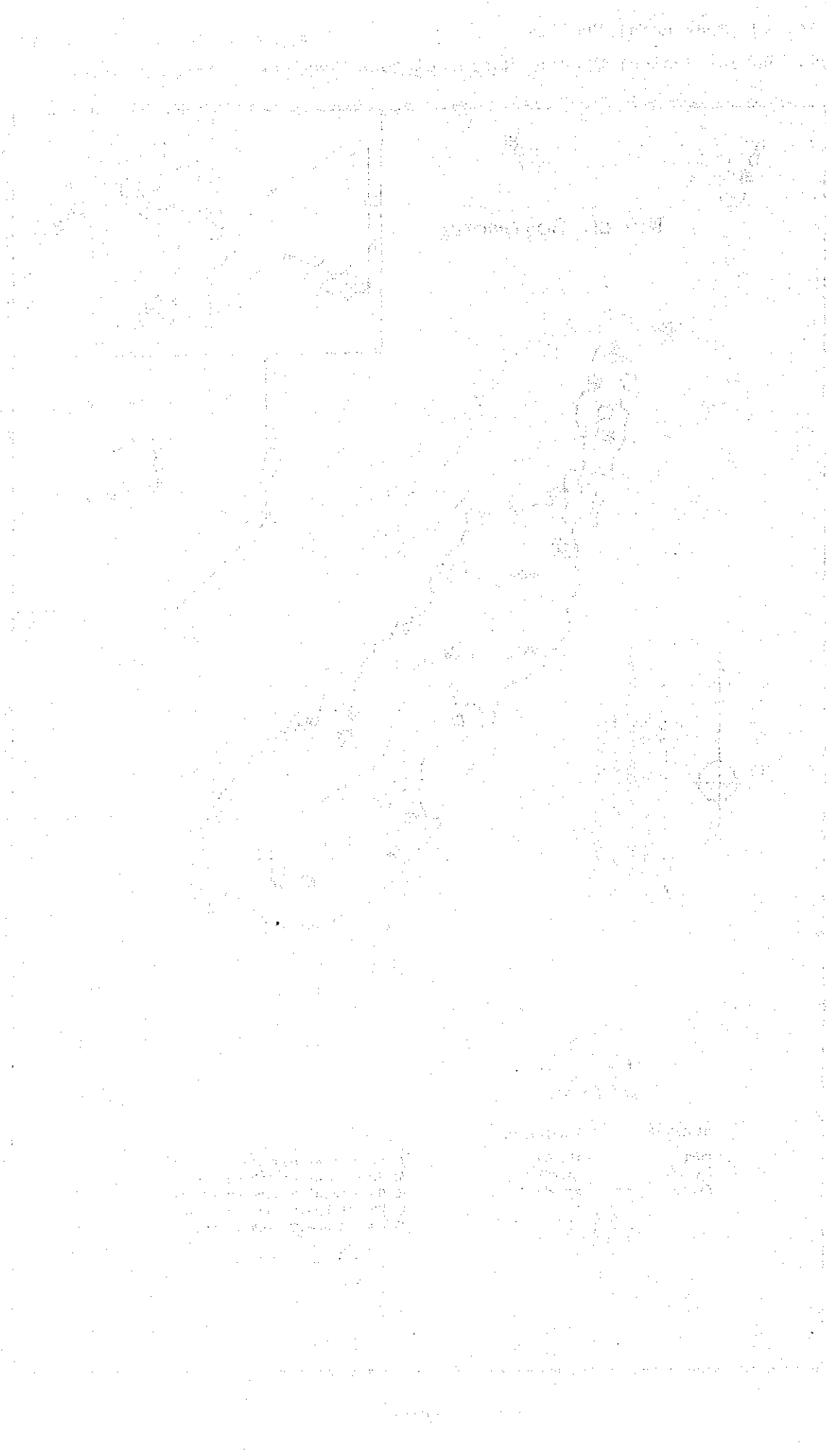


Fig. 19 Provincial Profile

VI. Rabaul Medical Store: North Solomons Province





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