


No. 05

BASIC DESIGN STUDY REPORT
ON
**THE NEW FIJI SCHOOL OF NURSING
PROJECT**

MARCH 1984

JAPAN INTERNATIONAL COOPERATION AGENCY

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BASIC DESIGN STUDY REPORT
ON
THE NEW FIJI SCHOOL OF NURSING
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MARCH 1984

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PREFACE

In response to the request of the Government of Fiji, the Government of Japan decided to conduct a Basic Design Study on the Project for the New Fiji School of Nursing and entrusted the survey to the Japan International Cooperation Agency (JICA). The JICA sent to Fiji a survey team headed by Ms. Sada NAGANO, Director, the International Nursing Foundation of Japan, from November 12 to December 3, 1983.

The team had discussions with the officials concerned of the Government of Fiji and conducted a field survey in Fiji. After the team returned to Japan, further studies were made and the present report has been prepared.

I hope that this report will serve for the development of the Project and contribute to the promotion of friendly relations between our two countries.

I wish to express my deep appreciation to the officials concerned of the Government of Fiji for their close cooperation extended to the team.

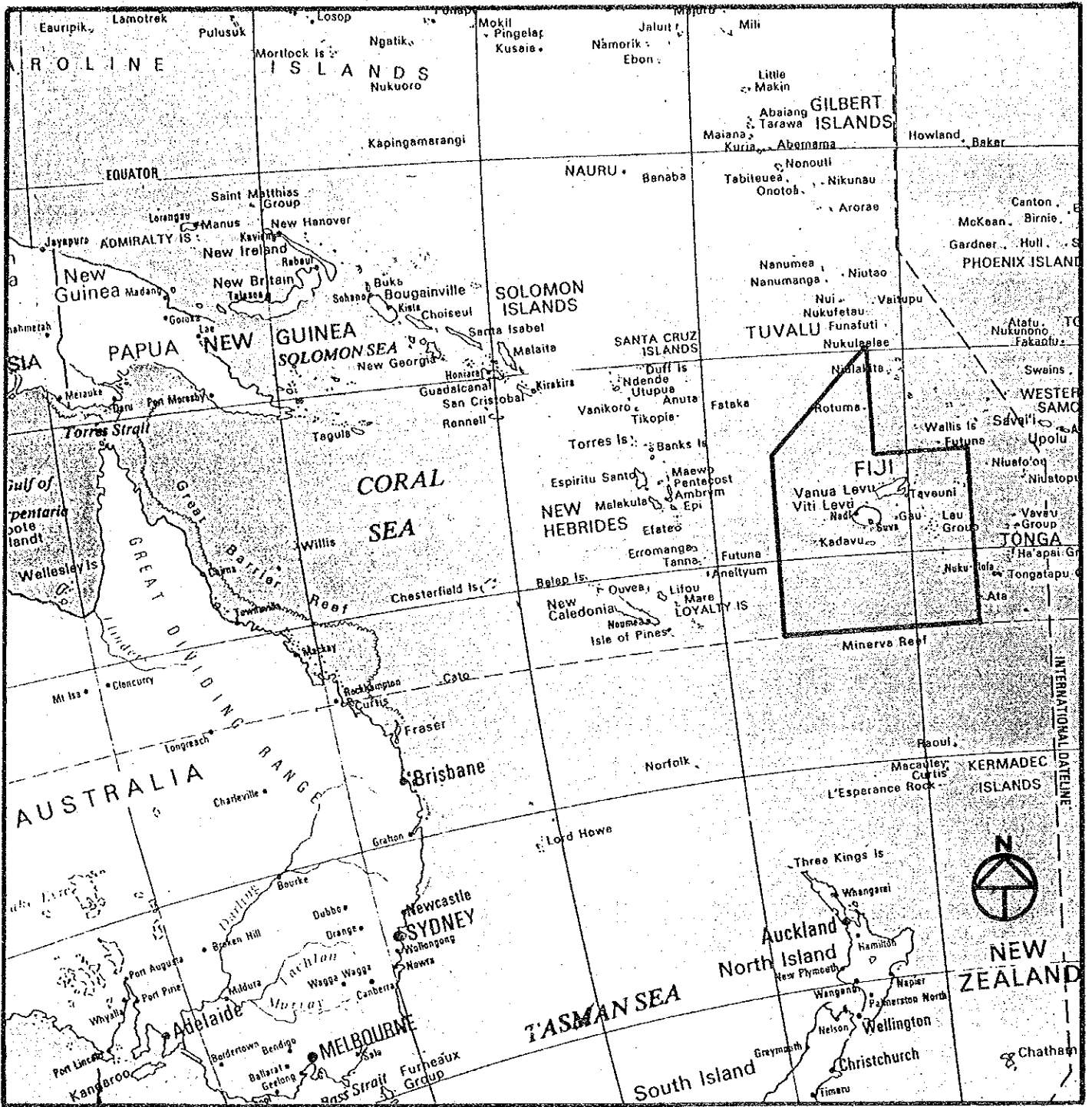
March, 1984

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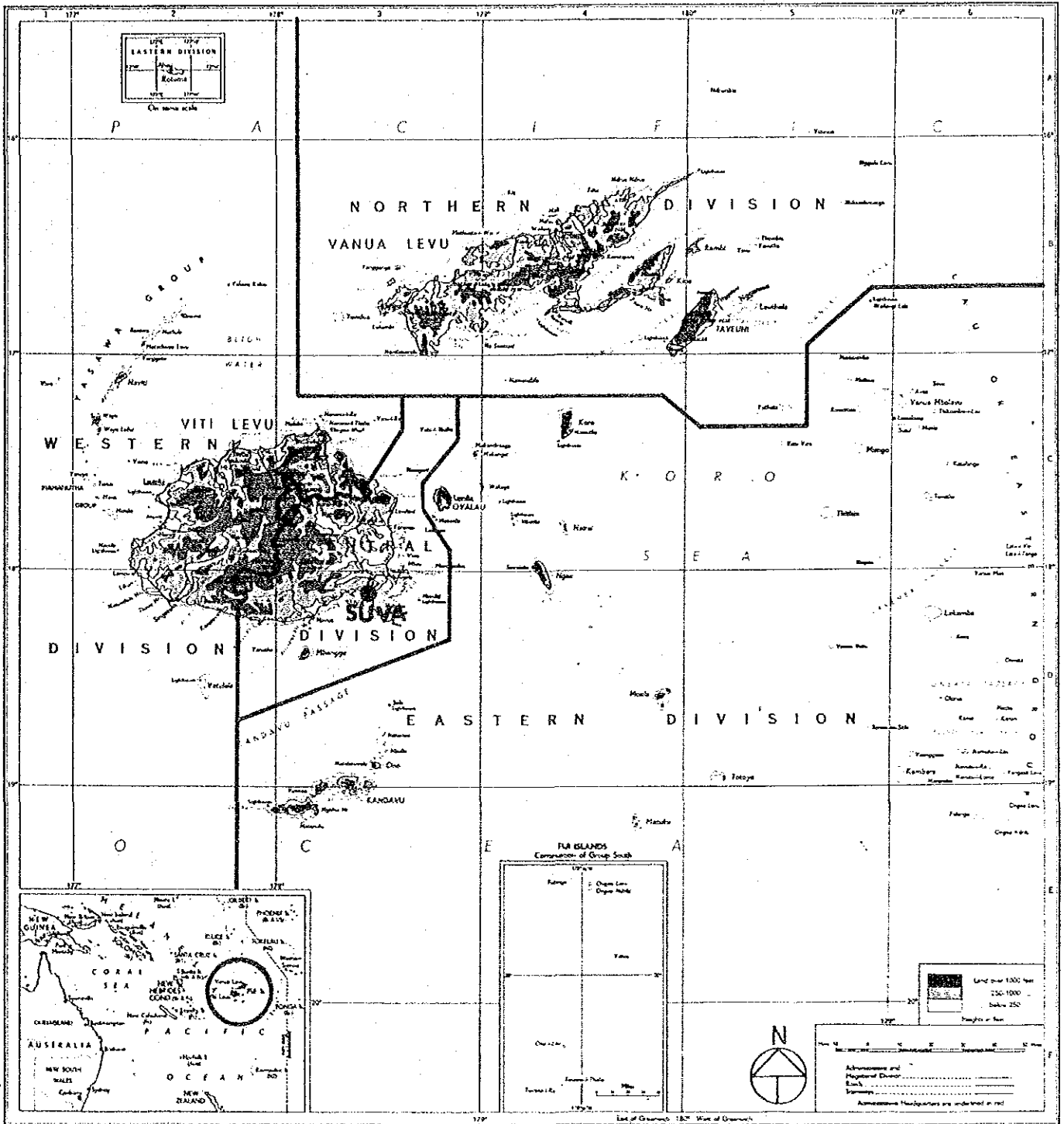
Keisuke Arita

President

Japan International Cooperation Agency

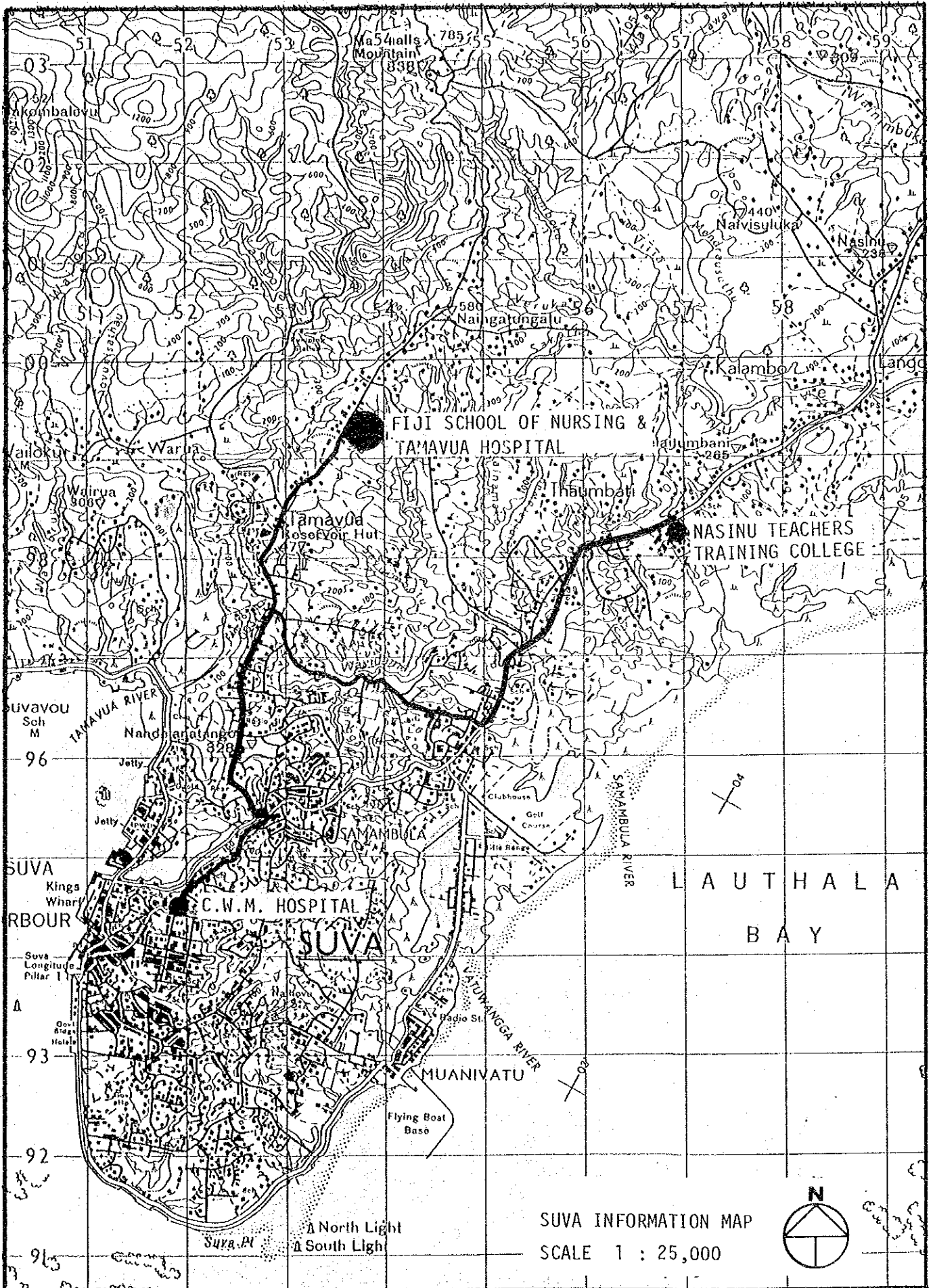


LOCATION MAP

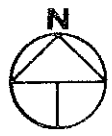


FIJI ISLANDS

LOCATION MAP



SUVA INFORMATION MAP
 SCALE 1 : 25,000



▲ North Light
 ▲ South Light

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SUMMARY

SUMMARY

The Ministry of Health is in the process of implementing the objectives set out in the Fiji's Eighth Development Plan (DP-8) namely; improve the quality of medical care and health care, equal distribution of medical service and development and construction of medical service facilities.

The programme for these objectives is implemented through the health and medical service organization outlined in the following diagram for each of the four administrative districts; Western, Central, Northern and Eastern.



Fig. 0-1 THE HEALTH AND MEDICAL SERVICE ORGANIZATION

In Fiji, the personnels to perform these services are lacking and the training of medical and health care personnels who will possess adequate professional knowledge and capability is one of the most important programmes of the Ministry of Health.

Especially, the shortage of nursing service personnels at divisional hospital and nursing station is very serious. Therefore, in April 1983, the Ministry of Health consolidated the two schools located in Tamavua (Suva), and Lautoka into one school for the purpose of upgrading the capability and the quality of nursing education by consolidating personnels, materials, equipment and budget for nursing education. However, the desired improvement of nursing education could not be achieved owing to problems of facilities, educational equipment and materials.

In view of such conditions, the Ministry of Health set up a project plan to build a new nursing school to increase the nursing educational capacity and to expand the educational function. In order to implement this project, a grant aid of the Government of Japan was requested.

The Government of Japan responded to this request of the Government of Fiji by sending the Basic Design Study Team for the New Fiji School of Nursing Project through the Japan International Cooperation Agency (JICA) from November 12, 1983 to December 3, 1983. The team conducted the field survey and held a series of discussions for this project.

The student capacity, educational courses, educational period, etc. are outlined in the following table.

Table 0-1 BASIC COURSE & POST BASIC COURSE

Item \ Course	Basic Nurse Course		Post Basic Course			
			Midwife		Public Health Nurse	
Number of students	1 grade	120	1 course	24	1 course	16
	3 grade total	360	2 courses total	48	2 courses total	32
Education period	3 years		6 months		4 months	
Entrance qualification	Qualification to enter university		Selected by Ministry of Health (25 - 40 years age)		Selected by Ministry of Health (25 - 40 years age)	
Admission system	Two intake		Twice a year		Twice a year	
Curriculum Lesson Training	1,242 hours 2,000 hours		230 hours 610 hours		207 hours 210 hours	
Trimester	4 trimesters/year		1 trimester/6 months		1 trimester/4 months	

The Ministry of Health proposed two sites, which they own, as prospective project site. A site survey was conducted on both sites and after comparison and discussion, one of the proposed site was selected.

The selected site is on the southeast slope of a hill located about 6 km from the CWM Hospital. This site is in a quiet environment suitable for education and its area is 2.9 hectares.

The facilities and educational equipment for the project are outlined in the following tables.

Table 0-2 FACILITIES

FACILITIES		
Block	Room	Floor Area (m ²)
1 Administration	Foyer, Reception, General Office, Principal's Room, Deputy Principal's Room, Midwifery and Public Health Tutor's Rooms, Tutor's Rooms, Secretary Office, Corridor, Toilet, etc.	516.0
2 Lecture	Classrooms (30 & 60 students), Tiered Room (120 students), Library, Auditorium, Cooking Laboratory, Laboratory, Demonstration Room, Linen Room, Preparation Room, Store, Corridor, Toilet, etc.	2,080.0
3 Common facilities	Lounge, Cafeteria and Kitchen	372.0
4 Dormitory	Basic Nurse Students Dormitory (male and female), Post Basic Students Dormitory	3,828.0
5 Others	Installations	240.0
Total		7,036.0

Table 0-3 EDUCATIONAL EQUIPMENT

- | | |
|---|-----------------------------------|
| 1 | General educational equipment |
| 2 | Basic nursing technique equipment |
| 3 | Maternal health equipment |
| 4 | Child health equipment |
| 5 | Community health equipment |
| 6 | Geriatrics equipment |
| 7 | Other equipment |

It is estimated that 18 months would be necessary to complete the construction of facilities required for this project.

This project will contribute greatly to the improvement of nurse training, both in quantity and quality in Fiji thus upgrading the medical and health care services for the people. Furthermore, these nurse educational facilities can respond to the needs of the South Pacific countries.

The implementation of this project is expected to produce a very favorable influence not only to Fiji but also to the South Pacific countries. Therefore, it is recommended to implement this project as early as possible.



FIJI'S COAT OF ARMS

CHAPTER 1 INTRODUCTION

CHAPTER 1 INTRODUCTION

The medical, health care and health programme of the Government of Fiji is to implement at the national and regional levels the health sector's goals in the Fiji's Eighth Development Plan (DP-8, 1981 - 1985) namely; promotion of welfare, upgrading of health standard, equal distribution of health service to the regions and improvement of medical facilities.

The shortage of personnels for medical care is the most serious problem in accomplishing these objectives. Especially, the most urgent problem which must be solved in Fiji is the absolute shortage of nurses, health care nurses and midwives, who directly contact the population thus forming the front line of primary health care, and the nurses for the divisional hospitals which are the keystone in the health programme.

Because of this condition, the Ministry of Health consolidated the two nursing schools located at Suva and Lautoka in April, 1983 to improve these conditions and to upgrade the quality for nurse training. The Ministry of Health prepared a new curriculum to improve the efficiency of education, but unfortunately both the main school at Suva and the branch school at Lautoka have only inadequate special educational facilities.

At the Suva school, there are one building for offices of the principal, tutors and administration staffs, five students' dormitory buildings and a dining room building. Furthermore, all buildings were formerly temporary military barracks built during the Second World War which were leased. These buildings are all quite old and deteriorated. The classrooms of the Nasinu Teachers Training College belong to the Ministry of Education are used for education of the present Fiji School of Nursing.

At the Lautoka branch school, old facilities of the Lautoka Hospital are used for classrooms, but they are old and deteriorated, much past their durable life.

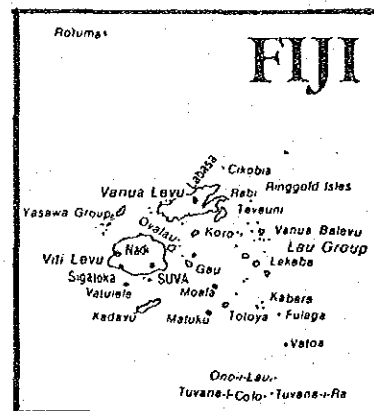
The Ministry of Health gave first priority to the construction of new buildings for the nursing school to provide a facility for conducting modern nursing education. In order to implement this project, the Government of Fiji requested the Government of Japan for a grant aid cooperation.

In response to the request made by the Government of Fiji, the Government of Japan sent, through the Japan International Cooperation Agency (JICA), a team to Fiji headed by Ms. Sada Nagano (Director, the International Nursing Foundation of Japan) to conduct a Basic Design Study on the project for the New Fiji School of Nursing from 12th to 25th November, 1983.

The team conducted the field survey and held a series of discussions and exchanged views for the request, conditions of medical and health care, nursing education with the official concerned of the Government of Fiji. The results of discussions are set forth in the exchanged Minutes of Discussions.

The Study Team based on their survey, studied and examined the necessity, background and feasibility of the programme, drafted a basic design and evaluated the project. This basic design report presents the details of these contents.

The members of the Study Team, itinerary, list of people met and the copy of Minutes of the Discussions are attached at the end of this report as Appendix.



CHAPTER 2 BACKGROUND

2-1 GENERAL

- 2-1-1 Geography
- 2-1-2 Climate
- 2-1-3 Population and Race
- 2-1-4 Religion and Language
- 2-1-5 Transportation and Communication
- 2-1-6 Government and Administration
- 2-1-7 Economic Plan
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2-2 HEALTH AND MEDICAL SERVICES

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CHAPTER 2 BACKGROUND

2-1 GENERAL

2-1-1 Geography

Fiji is situated in the central part of the South Pacific and belongs to a part of Melanesia. Fiji consists of about 330 islands, and its total land area including the Rotuma group is about 18,376 km².

The main islands are Viti Levu 10,388 km² and Vanau Levu 5,538 km².

The islands of Fiji are spread out in an area between the equator and the tropic of capricorn and between 174 degree east and 177 degree west. Fiji is neighbored in the east by Tonga and in the west by the islands of New Hebrides.

2-1-2 Climate

Fiji has a typical tropical climate. In Viti Levu island, the climate in the southeastern part of the island differs significantly with that in the northwestern part of the island. Influenced by the prevailing trade winds, Suva in the southeastern part of the island has high precipitation of 3,000 mm annually and high humidity. On the other hand, Nadi in the western part of the island has precipitation of under 1,900 mm annually and has many sunny days with dry climate.

The temperature in the Suva area is maximum 30°C and minimum around 16°C which is not very high, and humidity is high especially in summer (December - March) when many hot, humid days continue. During November to April, rainfall is quite high and at times cyclones pass through the islands during this period.

2-1-3 Population and Race

The total population is 654,769 (December, 1981). 75% of the total population lives in Viti Levu island and the population of the capital, Suva, including its suburb is about 130,000.

The Fiji Government is promoting birth control under a policy to limit population growth to 2% per annum. Recent records of birth rate are 1.9%, 1980 and 1.7%, 1981.

The race comprise mainly of Melanesians and Indians who immigrated from India during the British colonial period. The percentage of these two races are Melanesians (Fijians) 44.7% and Indians 50.2% while the remainders are European, Chinese and others.

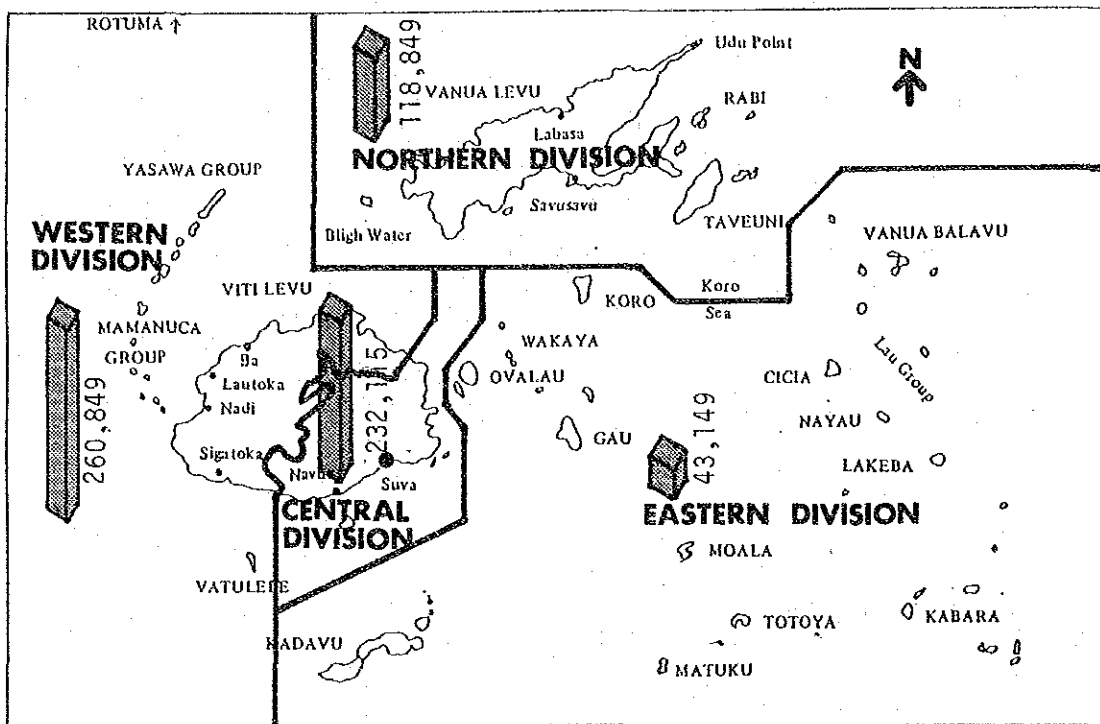


Fig. 2-1 FOUR DIVISIONAL DISTRICTS AND POPULATION

2-1-4 Religion and Language

The Melanesians are about 100% christians while the Indians are mostly hindus or moslems. The percentage of the people belonging to the different religions is christians 47%, hindus 40%, islams 9% and others.

English is the official language and the common language among the different races. The Melanesians (Fijians) speak Fijian which is influenced by Polynesia, while the Indians speak either Hindu (Hindus) or Uruduh (Moslems).

2-1-5 Transportation and Communication

The international airport is located at Nadi in Viti Levu island, and it is on the main air route in the South Pacific area. The capital is Suva which has a local airport, the Nausori airport.

The transportation within the island is motor cars, buses and taxis, and the traffic is left-side traffic. The transportation between the islands is small airplanes or non-schedule ships.

Communication is conducted by well-operated telephone and telex. Only radio broadcasting is available with one FM channel and two AM channels.

2-1-6 Government and Administration

Fiji is one of the islands in the South Pacific with the oldest evidence of residence. Pottery dating back to at least 3,000 years have been unearthed from ancient fortifications.

In February, 1643, European first arrived at Fiji, in 1857 Britain's first consul arrived at Levuka and in 1874 Fiji became a Crown Colony. On October 10, 1970 Fiji became an independent dominion within the British Commonwealth and three days later, Fiji became a member of the United Nations.

Fiji is a constitutional monarchy with the British Queen as the Head of State and is a member of the British Commonwealth. The Queen is represented in Fiji by the Governor General.

The Parliament is a bicameral parliament with a Senate with 22 members and a House of Representatives with 52 members who are elected by popular vote.

The Senate is appointed by the Governor General from the eight members nominated by the Great Council of Chiefs, seven by the Prime Minister, six by the Leader of the Opposition and one by the Council of Rotuma.

The Cabinet consists of 15 ministers including the Prime Minister. There are also 3 Ministers of State outside the Cabinet.

Fiji is administered by the Central Government, consisting of various ministries and departments, and several levels of administration under the Central Government. They are district administration, province, city and town council and island council.

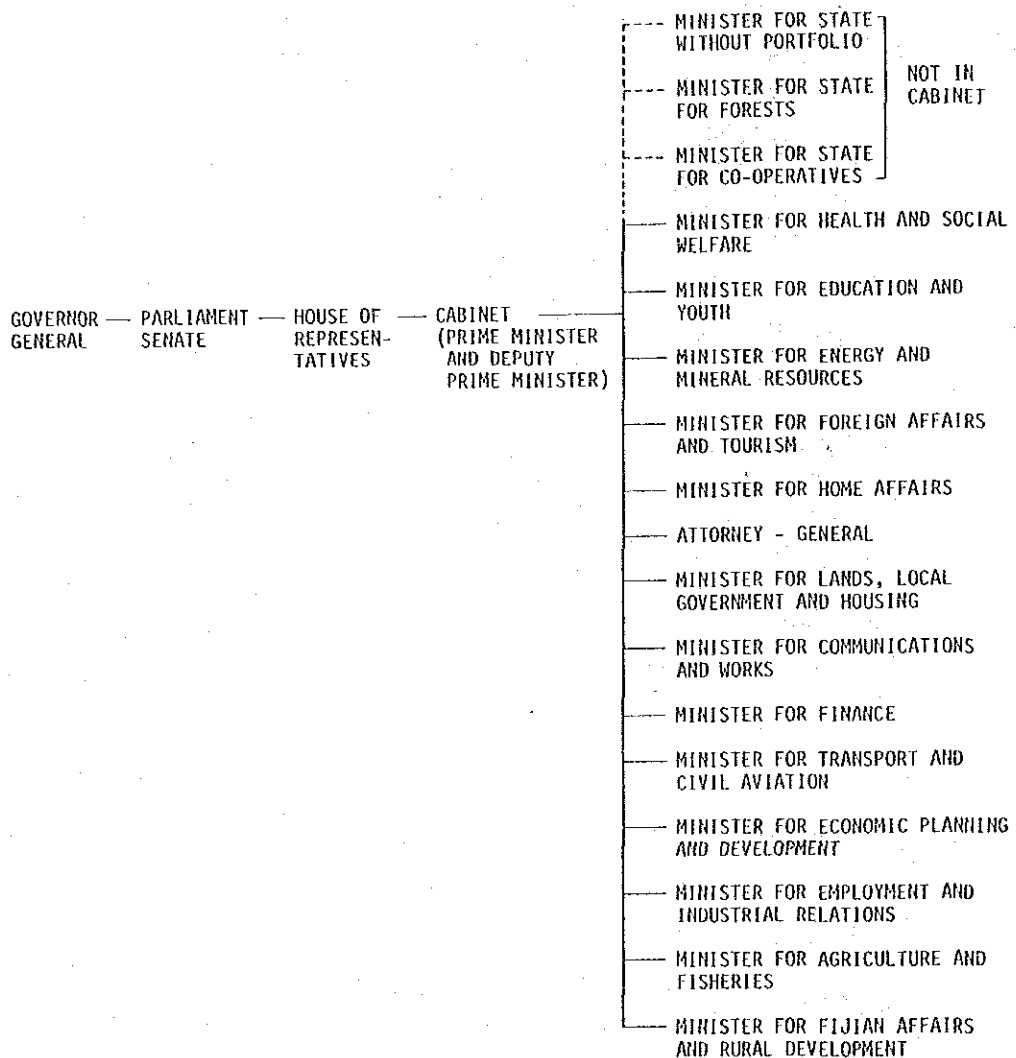


Fig. 2-2 ORGANIZATION OF THE GOVERNMENT OF FIJI

2-1-7 Economic Plan

Fiji's main industries are sugar production and tourism. In 1981, the sugar production was 470,000 tons of which 80% was exported. The export value amounted to 131.6 million Fijian dollars (34 billion yen) which represented 68% of the total amount of Fijian product export. The income from tourism amounted to 113 million Fijian dollars.

The national income (GDP) in 1981 was 1,197 million US dollars and the GDP per capita for the same year was 1,897 US dollars.

The foreign trade balance for 1981 ended in a deficit of 270 million US dollars and for 1982 a deficit of 280 million US dollars.

Ever since her independence, Fiji implemented the Sixth 5 Year Development Plan (DP-6, 1971 - 1975) and the Seventh 5 Year Development Plan (DP-7, 1976 - 1980) to promote a stable political and economic state.

As a result, the per capita income has come to exceed 1,000 US dollars, infrastructure has become built up and Fiji shows a high economic development among the South Pacific countries.

However, on the other hand, the disparity of economic development between the urban districts and the rural districts has widened, furthermore disparity also arose within the urban districts and the rural districts themselves.

The six main objectives of DP-8 are as listed below:

- (1) Diversification of economic activities (strengthen and diversify the economic base),
- (2) Establishment of an equilibrium in economic development,
- (3) Expansion of employment (establish a productive society),
- (4) Establishment of economic self-sufficiency,

(5) Development of a common national consciousness (enhance a national consciousness within a multi-racial society), and

(6) Promotion of international cooperation (promote international cooperation within the immediate region).

These objectives are broken down into targets for different divisions such as agriculture, fishery, forestry, mining, commerce, tourism, energy, education, health and social welfare.

2-1-8 Education

The education system follows that practiced in England. A compulsory educational system does not exist. (Refer to Fig. 2-3.)

The school system comprises of primary schools, secondary schools, technical and vocational schools and primary teachers colleges. These schools are administered according to the following three groups.

Number of schools as listed in 1976 statistics.

- | | |
|--|-------------|
| (1) Schools administered by the Government | 34 schools |
| (2) Schools receiving Government grants | 713 schools |
| (3) Schools receiving no Government grants | 46 schools |

Table 2-1 NUMBER OF SCHOOLS IN EACH DIVISION, 1981

Division	Population	Kinder-garten	Primary	Junior Sec-ondary	Secondary	College & University	Total
Western	260,849	84	238	10	36	14	382
Central	232,115	57	173	13	38	20	301
Northern	118,866	14	140	16	11	2	183
Eastern	43,149	6	108	7	5	2	128
Total	654,979	161	659	46	189	38	-

In 1980 a total of 996 schools were scattered over 56 islands of the Fiji group. These schools were staffed by 6,877 teachers of whom 6,341 or 92.2% were trained. The full-time roll of all schools (excluding kindergartens and special schools) was 166,102. The primary roll (excl. Form 1 & 2, refer to Fig. 2-3) in 1980 dropped by 1,117 to 116,139 while the secondary roll (incl. Form 1 & 2) increased slightly by 23 to 47,119. The rolls of technical and vocational schools dropped by 115 to 2,330 while that of the teacher training colleges decreased by 100 to 514.

Twenty-seven percent of Fiji's total population was attending school full-time. The percentage of 6-13 year olds attending school was 94.7% while the corresponding figure for 6-11 year olds was 94.9%.

The following table shows school enrollments over the last five years:

Table 2-2 SCHOOL ENROLLMENTS 1976-1980

Year	Primary	Secondary	Tech/Vocational	Tutor Training	Total
	[C1 1-8]*	[F1-FVII]			
1976	122,993 (635)	41,392 (121)	1,700 (27)	604 (3)	166,689 (786)
1977	121,095 (638)	44,340 (124)	1,678 (27)	743 (4)	167,856 (793)
1978	119,659 (639)	46,275 (128)	1,930 (28)	613 (4)	168,477 (799)
1979	117,256 (641)	47,096 (134)	2,445 (31)	614 (4)	167,411 (810)
1980	116,139 (652)	47,119 (137)	2,330 (34)	514 (4)	166,102 (827)

Note: * Excludes Forms 1 & 2 rolls: In previous Reports Forms 1 and 2 rolls were included with classes 7 and 8 in Primary.

() No. of Schools: Excludes Special schools from Primary total.

The University of the South Pacific, opened in 1968, is an international university sponsored and operated by the 10 countries located in the South Pacific. A campus consisting of 4 faculties; education, natural resources, agriculture and social economic development, is located in Suva. The faculty of education is devoted to the education and training of professional teachers. The candidates for professional tutor are given 12 weeks of special education and after evaluating their capability, a tutor's license is awarded. Teachers for the nursing school are also trained here.

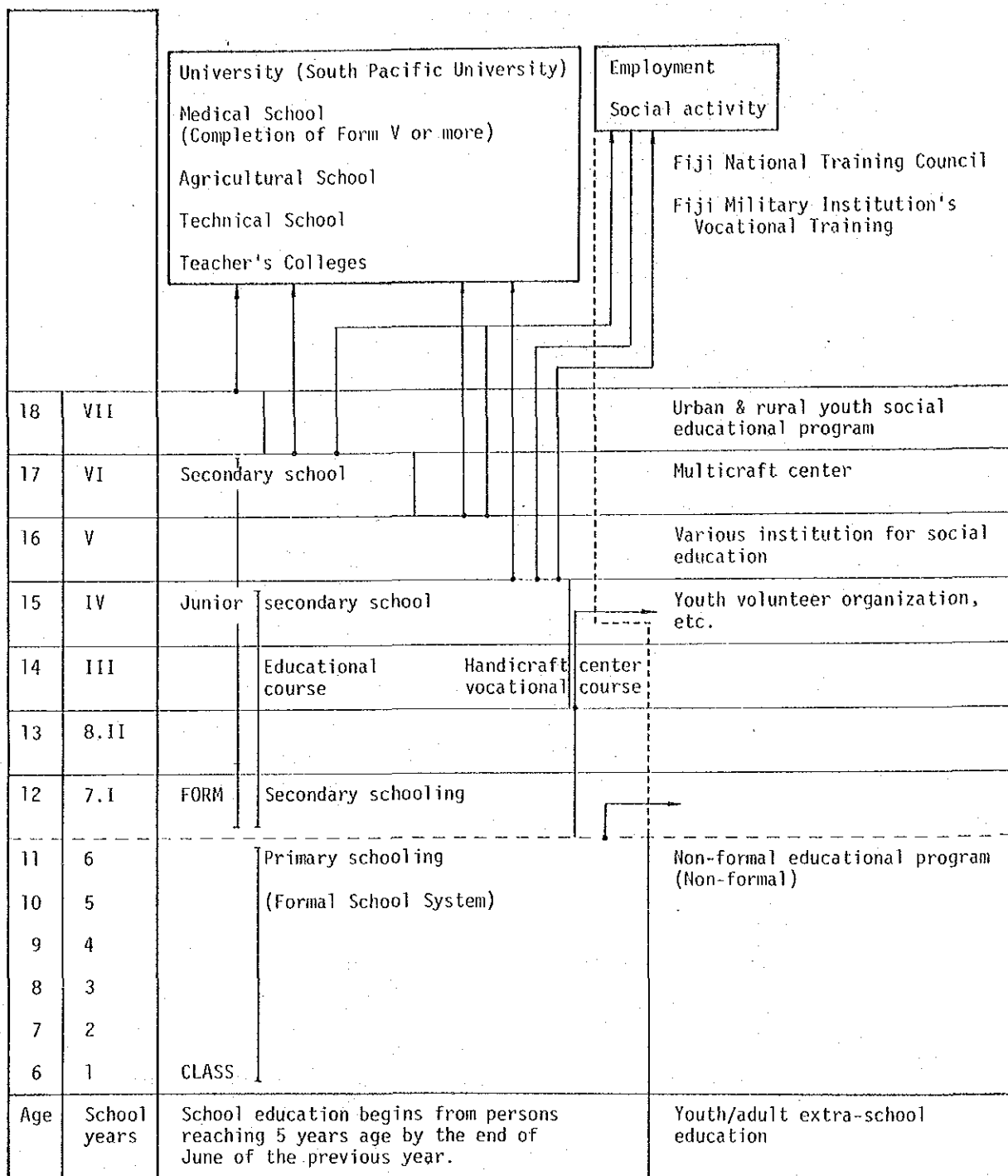


Fig. 2-3 ORGANIZATION DIAGRAM OF EDUCATION SYSTEM

2-2 HEALTH AND MEDICAL SERVICES

2-2-1 General

The health condition of Fijians is generally good. Epidemic of infectious disease is infrequent and average life span is long compared to other developing countries.

However, there are still problems such as various disease due to the poor sanitary condition namely, malnutrition of infants and pregnant women, anemia, dengue fever and malaria conveyed by mosquito and virus type disease. Furthermore, measles, venereal disease among youngsters and influenza are a problem.

In view of such conditions and in order to restrict population growth, the program for health and sanitation is included in the development plans (DP-7 and DP-8) and is now being implemented.

The objectives of the health programme contained in DP-8 are as follows:

- (1) Promote physical, moral and social welfare.
- (2) Improve and maintain the quality of health standard.
- (3) Provide the benefits of health service, through direct service and the monitor of basic needs, equally to districts in need.
- (4) Arrange a community with facilities for basic social welfare service to necessary districts.

The general health and medical condition in Fiji is as follows:

Table 2-3 AVERAGE LIFE SPAN

(1976 statistics)

	Men	Women
Fijians	60.7 years	63.9 years
Indians	59.6 years	62.4 years

Table 2-4 CAUSE OF MORTALITY

(1981 statistics)

1. Circulatory disease	22.9%
2. Neoplasm disease	12.1%
3. Infective and parasitic disease	10.7%
4. Respiratory disease	10.2%
5. Maternal disease	8.1%

Table 2-5 BIRTH RATE AND MORTALITY

(1980 statistics)

Birth rate	32.6 per thousand population (Japan 13.6)
Mortality	5.7 per thousand population (Japan 6.2)
Neonatal mortality	19.0 per thousand live birth (Japan 7.5)
Prenatal mortality	32.7 per thousand live birth (Japan 11.7)

Table 2-6 MORBIDITY

(1981 statistics)

1. Respiratory disease	8.3%
2. Accident, toxication, violence	7.7%
3. Circulatory disease	6.5%
4. Genito, urinary disease, infective, parasitic disease	6.0%
5. Digestive disease	4.5%

Table 2-7 TRANSITION OF REPORTED DISEASE

(per thousand population, 1981)

Disease	1976	1977	1978	1979
Influenza	64.8	38.4	36.2	69.1
Infant diarrhoea	8.6	9.4	10.3	7.7
Measle	0.2	2.4	0.4	1.6
Venereal disease	0.9	1.1	1.4	1.5
Chicken pox	0.2	0.4	0.4	0.3
Tuberculosis	0.3	0.3	0.2	0.2
Total	75.0	52.0	48.9	80.4

Table 2-8 REPORTED DISEASE MORBIDITY

(per thousand population, 1981)

Influenza	141.4
Infant diarrhoea	13.5
Measle	1.5
Venereal disease	2.64
Chicken pox	0.55
Tuberculosis	0.27
Trachoma	0.24
Food poisoning	0.19
Meningitis	0.17

2-2-2 Medical Service

Medical service in Fiji is provided through the hospitals, health centers and nursing stations located in western, central, northern and eastern districts. Here, diagnosis and therapy are carried out.

The medical facilities are administered and operated by the Government with the exception of two private hospitals run with grants from christian missionary.

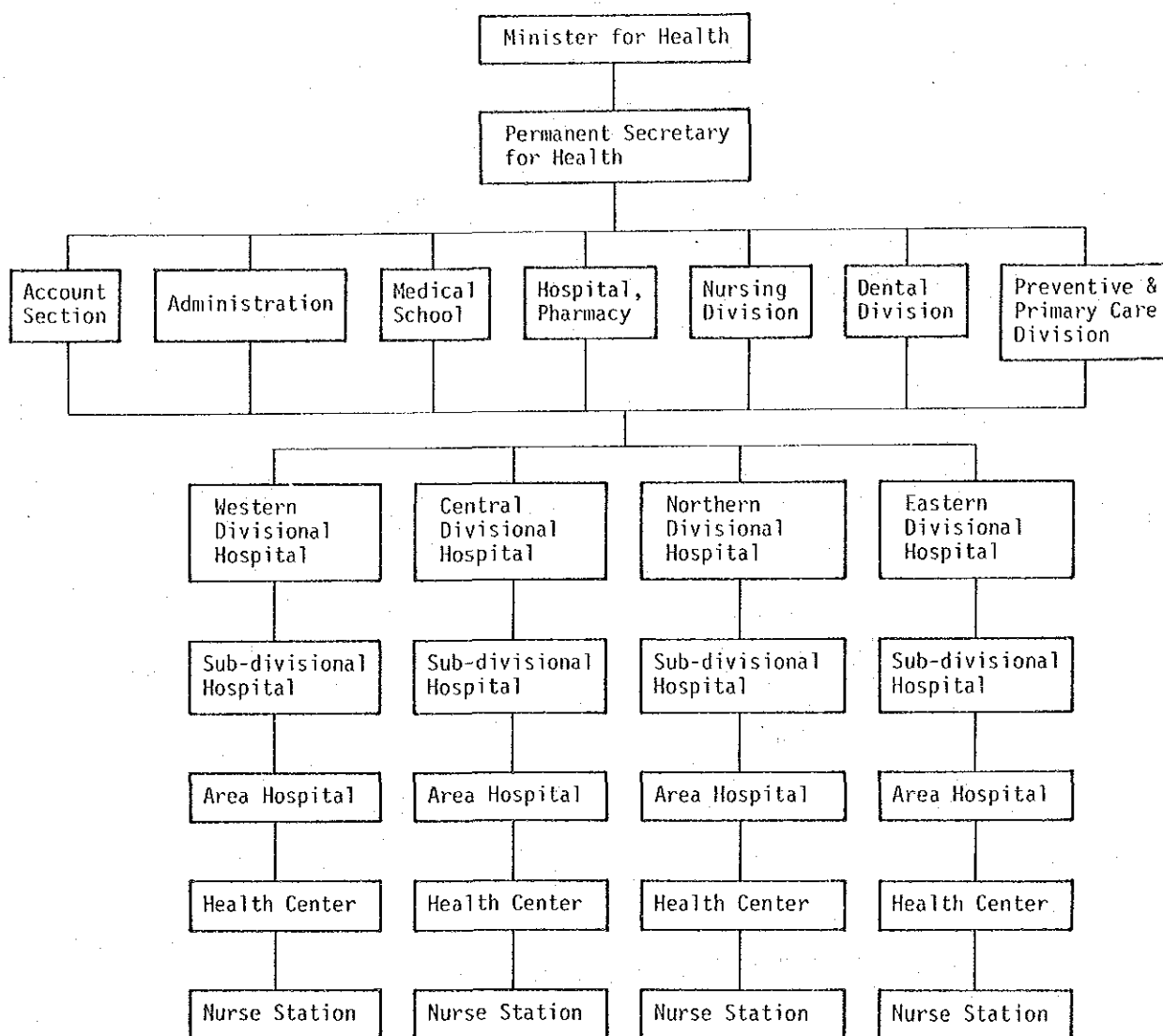


Fig. 2-4 ORGANIZATION FOR MEDICAL SERVICE

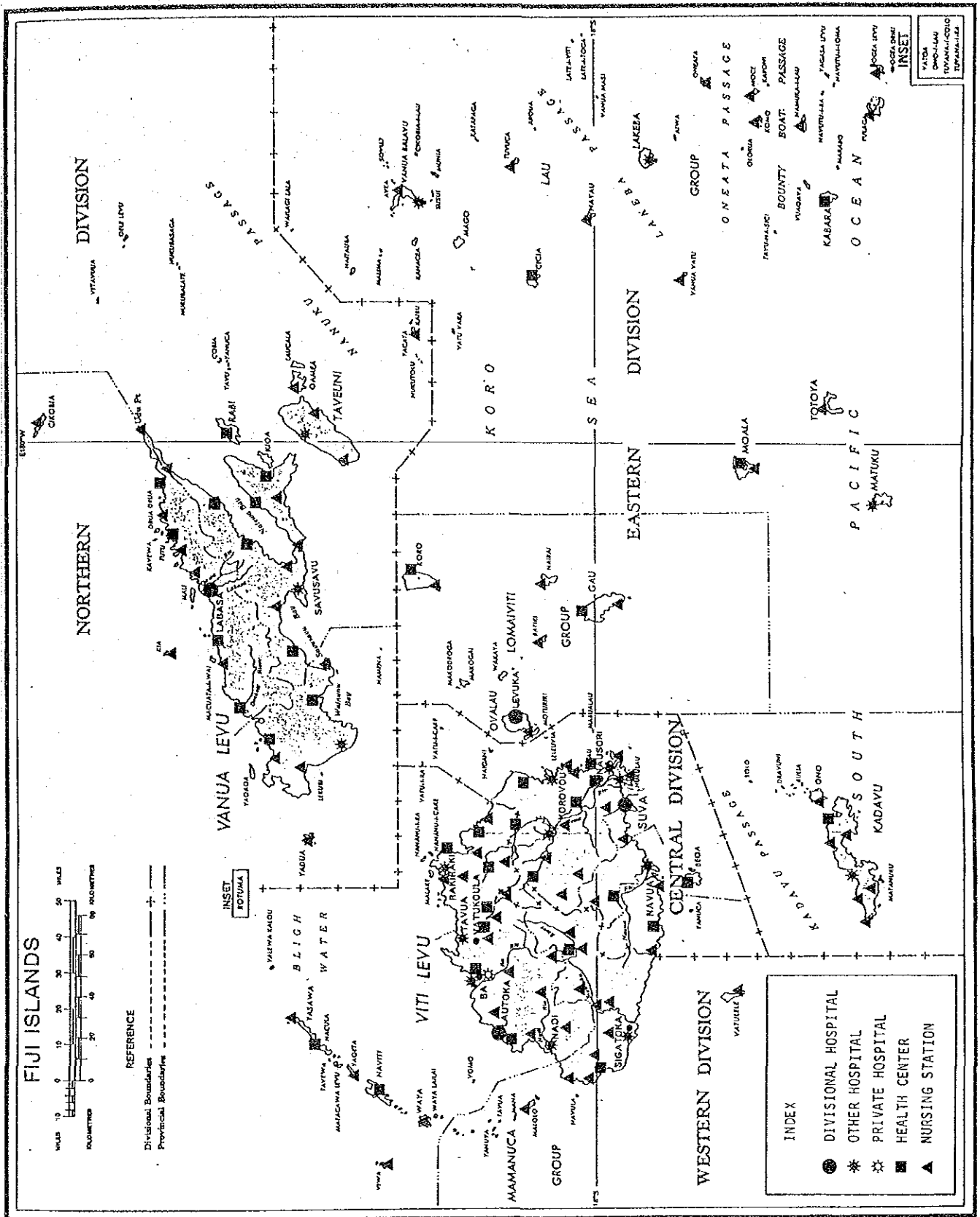


Fig. 2-5 MEDICAL SERVICE

Table 2-9 HEALTH FACILITIES COVERAGE

(1981 statistics)

Division	Population	Division Hospital	Sub-divisional Hospital	Special Hospital	Private Hospital	Maternity Unit	Health Center	Nursing Station	Number of Beds
Central	232,115	1 (CMM)	1	3	-	3	15	18	Div. 379 Spe. 437 Sub. 59 area Health Center
Western	260,639	1 (Lautoka)	3	-	2	1	12	27	Div. 305 Sub. 218 area Health Center
Northern	118,866	1 (Labasa)	3	-	-	-	12	19	Div. 124 Sub. 122 area Health Center
Eastern	43,149	1 (Levuka)	3	-	-	-	6	25	Div. 47 Sub. 83 area Health Center
Total	654,769	4	10	3	2	4	45	89	1,774

Table 2-10 SPECIAL HOSPITAL AND PRIVATE HOSPITAL

	Disease	Hospital
Special Hospital	Mental Disease Tuberculosis Lepra	St. Giles Hospital Tamavua Hospital P.J. Twomey Hospital
Private Hospital		Ba Methodist Hospital Ra Roman Catholic Hospital

2-2-3 Medical Policy

The Ministry of Health is implementing the following projects set out in the DP-8 programme.

Table 2-11 HEALTH SECTOR PROGRAMME IN DP-8

Programme	Project	Objectives
I. Primary health care	(1) Promotion of proper nutrition	<ul style="list-style-type: none"> a. Ensure that healthy infant feeding practices prevail through the intensification of breast feeding promotion and proper weaning diets. b. Provide services for the treatment of malnutrition, nutritional anaemia and goitre. c. Strengthen the health services in schools through collaboration with government and non-governmental organizations in the further development of nutritious school lunches, sanitation and tooth-brushing schemes. d. Promote the desirability of proper nutritional standards in villages and settlements.
	(2) Environmental and basic sanitation	<ul style="list-style-type: none"> a. Promote and, where necessary, provide equipment for proper and appropriate housing, water supply, sewage works, drainage, cooling facilities, refuse disposal and the penning of animals outside villages and settlements. b. Co-ordinate with local government bodies especially in peri-urban and urban areas on standards of proper water and sewerage systems and to tighten control on environmental pollution and noise.
	(3) Prevention of infectious and acute disease	<ul style="list-style-type: none"> a. Pursue national coverage against infectious diseases especially diphtheria, whooping cough, measles, tetanus, tuberculosis and poliomyelitis. b. Strengthen and improve the discovery and surveillance of infectious diseases. c. Undertake an intensified campaign for the reporting and control of diarrhoeal, child respiratory, and sexually transmitted disease.
	(4) Control and surveillance of chronic and non-communicable diseases	<ul style="list-style-type: none"> a. Promote sanitary living conditions, proper dietary habits and participation in physical fitness activities. b. Intensify and undertake specific measures for the treatment of heart diseases, bronchitis, cirrhosis, peptic ulcers and where preventable, cancer, diabetes and gout.
	(5) Family planning, maternal and child health care	<ul style="list-style-type: none"> a. Reduce the crude birth rate by 25 per thousand by 1985. b. Increase the rate of family planning protection rate to 35% by 1985. c. Provide an adequate system of care for mothers in their ante-natal stage and for mothers and children in the post-natal stages.

Programme	Project	Objectives
	(6) Health education	<ul style="list-style-type: none"> a. Provide education by making available to the public, pamphlets and charts which illustrate various measures to avoid various disorders. b. Coordinate with the Ministry of Education to implement appropriate health education programme in schools throughout the country.
2. Hospital and rural medical services	(1) Urban hospitals and medical stations	<ul style="list-style-type: none"> a. Improve facilities at the divisional hospitals; CWM, Lautoka, Labasa and at the only mental hospital, St. Giles.
	(2) Urban sub-divisional hospitals	<ul style="list-style-type: none"> a. Execute major renovations at several of these hospitals such as Nadi and Ba due to their decrepit state.
	(3) Rural medical and nursing stations	<ul style="list-style-type: none"> a. Replace the rural hospitals at Vunisea and Nabouwalu. b. Upgrade several stations to health centers and provide at least two upholding beds. c. Extend the four existing maternity unit/sub-divisional stations to accommodate additional beds. d. Complete the nurse-per-island programme to promote primary health care.
3. Bulk purchasing and distribution of drugs		<ul style="list-style-type: none"> a. Purchase and distribute under legislation at least 200 of the most useful and commonly prescribed drugs. b. Construct a drug storage facility at Walu Bay. c. Distribute drugs through government and private outlets with prescribing and dispensing being well controlled.
4. Dentistry services		<ul style="list-style-type: none"> a. Extend dental service to schools and areas where dental services are scarce, also continue free treatment for school children and active health education. b. Staffing shortage, due to doctors being trained in basic dentistry, is slowly being overcome. c. Attach dental personnel to certain rural health centers as part of the rural health team.

Programme	Project	Objectives
5. Manpower development	(1) Fiji School of Nursing	<ul style="list-style-type: none"> a. Recruit initially 30 nurse aides in the plan period to take over the non-nursing duties of the nursing staff in major hospitals. b. Intake of trainees at the nursing school will be dependent on demand for qualified personnel.
	(2) Fiji School of Medicine	<ul style="list-style-type: none"> a. Approximately 15 medical graduates and 10 medical assistants are expected to graduate during each year. b. An additional nine courses; public health, physiotherapy, radiography, dental technology, dental therapy, junior dental assistants, dietetics, laboratory technology and pharmacy technology will be continued in the plan period and intake in these courses will be annually reviewed. c. No large capital expansion is envisaged at the school, but extensions and renovations will be carried out.
	(3) Post basic training and education	<ul style="list-style-type: none"> a. Undertake training of community/village health workers. b. The cost of training medical staff taking in-service or post basic courses will be funded under this scheme.

Fiji is divided into four divisions and policy targets are set up separately and definitely for each division.

(1) Western division

- 1) Improve the staff shortage existing at all levels of medical facilities from hospitals to nursing stations.

The main problems are that the nursing station is manned by just one nurse, therefore, if the nurse should be called for sick-call, the station would be vacant and that transportation of medicine and medical equipment is inadequate, such as shortage of containers, when nurse visits outer areas from the medical facilities.

- 2) The following targets shall be pursued even though there may be staff shortage and limited funds.

- a. Increase hospitals: Increase number of beds, maternity units and out-patient departments
- b. Lautoka Hospital: Rebuild nurse dormitory and deteriorated facilities
- c. Health Center: Build four new health centers
- d. Nursing station: Build two new nursing stations

(2) Central division

- 1) Provide medical facilities to cover out district areas; also upgrade existing facilities by rebuilding deteriorated facilities.
- 2) Improve nutrition and sanitary environment; also continue survey, analysis and guidance of child and family care.
- 3) Achieve expansion target of medical facilities.

- a. CWM Hospital: Build kitchen and dining room

- b. St. Giles Hospital and Tamarua Hospital: Rebuild
- c. Health center for workman: Newly build a health center for workman's accident
- d. Health center: Build and expand six health centers

(3) Northern division

- 1) Continue the primary health care contained in the Seventh Development Plan (DP-7). This programme consists of measures for family and district health and medical care, improving environmental condition and preventing infective disease.
- 2) Improve the irregular condition of medical supply.
- 3) The programme for facilities is as follows:
 - a. Newly set up a health center
 - b. Newly set up a nursing station
 - c. Rebuild the Nabouwalu Hospital (30 beds) which was built 80 years ago

(4) Eastern division

It is very difficult to provide health care and medical facilities and aid efficiently throughout this wide division.

- 1) The present programme is to expand primary health care in two districts.
- 2) To conduct survey for improvement of nutritional condition.
- 3) Provisions are made for the following installations.
 - a. Provisions are made for efficient operation of vessels posted at four locations, distribution of small vessels and outboard motors and operation commencement of temporary runways.

- b. Upgrade and expand one hospital
- c. Upgrade five health centers, including personnels, newly build two health centers and expand one health center.
- d. Newly build two nursing stations, rebuild one nursing station and upgrade 5 nursing stations.

2-2-4 Organization of the Ministry of Health

The Ministry of Health consists of 82 divisions, sub-divisions, sections and services under the control of the Minister for Health. The Permanent Secretary also serves as chairman of various committees. (Refer to Fig. 2-6.)

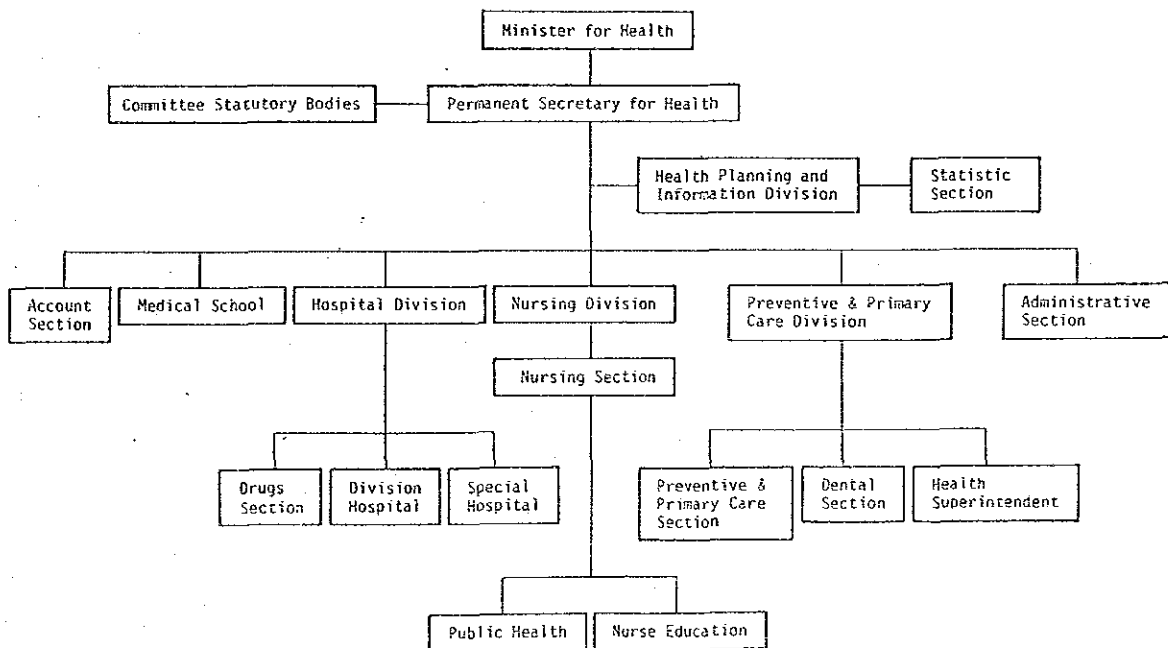


Fig. 2-6 ORGANIZATION OF THE MINISTRY OF HEALTH

2-2-5 Health Budget

The financial policy of the Ministry of Health is to provide the maximum cost benefit in terms of welfare to the people. However, such a policy is always subjected to inflation, stringent fiscal measures and increasing amount of personnel costs.

The health and medical service in Fiji is mostly borne by the Government, consequently the revenue income of the Ministry becomes quite small. However, in 1981 the hospital fees and charges were raised, but still 95% of the health expenditure is subsidized by the Government.

Table 2-12 FINANCIAL BUDGET

(Fijian dollars)

	General Budget	Extraordinary Budget	Total	Hospital Revenue	Misc. Revenue
1981	21,774,000	788,000	22,562,000	805,000	262,000
1982	27,414,400	386,900	27,801,300		
1983	29,104,000	1,218,900	30,322,900		

Table 2-13 FINANCIAL EXPENDITURE

(Unit: million Fijian dollars, 1981)

Division	Financial Expenditure	Rate (%)
Division I Policy execution (administration)		
a. General administration	0.732	3.3
b. Research	0.076	0.3
Division II Medical service		
a. City hospital/health center	12.385	55.0
b. Sub-divisional hospital	3.027	13.4
c. District health center nursing station	2.417	10.7
d. Public health service	0.681	3.0
e. Medical supplies	1.990	8.8
Division III Education and training		
a. Fiji School of Medicine	0.791	3.1
b. Fiji School of Nursing	0.533	2.4
Total	22.562	100.0

2-3 SITUATION OF NURSING

2-3-1 Related Laws and Regulations

The regulation related to nursing is specified in the "Laws of Fiji, Chapter 256, Nurses and Midwives" enacted in 1948. After this enactment, two revisions were enacted which provided for the establishment of a "Nurses and Midwives Board" and the definition regarding its operation, regulation, authority, etc. "Act No. 25" of 1982 enacted additional articles regarding the operation of the Board. Other laws and regulations relating to medical services are as follows:

- a. Public Hospitals and Dispensaries Act/Regulations
- b. Public Health Act/Regulations
- c. Quarantine Act
- d. Dangerous Drugs Act/Regulations
- e. Pharmacy and Poisons Act/Regulations
- f. Pure Food Act
- g. Medical and Dental Practitioners Act/Regulations
- h. Medical Assistants Act

2-3-2 Nursing System

(1) Classification of nurses

The Director of Nursing Services who is the head of the Nursing Division is directly responsible to the Permanent Secretary for Health in regards to all nursing matters. Then there are two Assistant Directors, who are its immediate counterparts, one dealing with Nursing Education and the other with Public Health Nursing. The classification of nurses is described in the following table.

Table 2-14 CLASSIFICATION OF NURSES

Post/Title	Grade	Minimum Qualifications
Controller of Nursing Services	NU01	Registered General Nurse. Post basic qualification in Midwifery or other speciality and holds a Diploma in Nursing Administration or equivalent. Public health and Clinical Nursing experience in a supervisory capacity essential.
Principal Fiji School of Nursing	NU02	Registered General Nurse and registered Midwife with a Diploma in Nursing Education or equivalent. Should have at least 5 years satisfactory clinical experience including public health and 2 year satisfactory experience as a teacher in a School of Nursing.
Senior Supervising Health Sister (Headquarters)	NU02	Registered General Nurse and registered midwife with Certificate in Public Health Nursing and Diploma in Nursing Service or equivalent. Must have at least 8 years of satisfactory relevant experience including at least 5 years in a supervisory capacity.
Senior Supervisor Nursing Training (Headquarters)	NU02	Registered General Nurse, Registered Midwife, hold a Diploma in Nursing Education and a Diploma/Certificate in Public Health Nursing. A Bachelor's Degree in Nursing is desirable. Must have at least 8 years of proven satisfactory relevant experience, including recent formal teaching experience at, or in a School of Nursing. Must possess top level administrative ability and wide administrative experience as a Nurse Administrator/Educator; must also possess qualities of leadership and intellectual ability to appreciate educational needs of the Nursing Profession.
Senior Matron	NU02	Registered General Nurse and registered midwife with Diploma in Nursing Service Administration or equivalent. Must have had at least 8 years satisfactory experience in the clinical field in a supervisory capacity. Satisfactory experience in Nursing Education would be an advantage.

Post/Title	Grade	Minimum Qualifications
Matron	NU03	Registered General Nurse and registered midwife with at least 5 years satisfactory experience in the clinical field in a supervisory capacity. Diploma in Nursing Service Administration and satisfactory experience in teaching of students either in the clinical field or Public Health would be desirable.
Matron (In-Service Training)	NU03	Registered General Nurse and registered midwife with at least 5 years satisfactory experience in the clinical field in a supervisory capacity. Diploma in Nursing Service Administration or Nursing Education and satisfactory experience in teaching of students either in the clinical field or Public Health would be desirable.
Supervising Health Sister	NU03	Registered General Nurse and registered midwife with Certificate or Diploma in Public Health Nursing. Should have at least 5 years satisfactory experience in Administration and teaching in Public Health Nursing. Diploma or Certificate in Nursing Administration would be desirable.
Senior Tutor Sister	NU03	Registered General Nurse with a recognized post basic qualification. Should have at least 5 years satisfactory relevant experience or at least 2 years satisfactory experience as a Tutor Sister. Applicant with Diploma in Nursing Education an advantage.
Senior Tutor Sister (Midwifery)	NU03	Registered General Nurse and registered midwife. Should have at least 5 years satisfactory clinical experience or at least 2 years satisfactory experience at a Tutor Sister. Should have at least 5 years satisfactory continuous experience as a practicing midwife in a training hospital. Vocational Teachers Certificate an advantage.

Post/Title	Grade	Minimum Qualifications
Senior Tutor Sister (Public Health)	NU03	Registered General Nurse and registered midwife with Diploma in Public Health Nursing. Should have at least 5 years satisfactory experience or at least 2 years as a Tutor Sister. Vocational Teachers Certificate an advantage.
Senior Supervisor (St. Giles)	NU04	Registered General Nurse with a Certificate or Diploma in Psychiatric Nursing. Minimum of 5 years satisfactory experience in Psychiatric Nursing Administration and Education.
Senior Sister	NU05	Registered General Nurse with minimum of 3 years satisfactory experience as a Sister. Relevant post basic qualification an advantage.
Senior Sister (Special Departments)	NU05	Registered General Nurse with minimum of 3 years satisfactory experience as a Sister with the specific department. Relevant post basic qualification an advantage.
Tutor Sister	NU05	Registered General Nurse with relevant post basic qualification and experience. Must have minimum of 5 years satisfactory clinical experience. Vocational Teachers Certificate an advantage.
Senior Health Sister	NU05	Registered General Nurse and registered midwife. Must hold a Certificate in Public Health Nursing. Should have a minimum of 5 years satisfactory Public Health Nursing experience including rural service.
Supervisor (St. Giles)	NU06	Must have at least 5 years satisfactory experience as a Charge Orderly and have demonstrated the ability to supervise and direct subordinate staff.

Post/Title	Grade	Minimum Qualifications
Sister (General Duties)	NU07	Registered General Nurse with at least 5 years satisfactory experience for nurses who qualified in Fiji prior to 1978 or at least four years satisfactory experience for nurses whose qualifications were gained in New Zealand or schools of equivalent standards. Certificate in midwifery and other post basic qualifications would be desirable.
Sister (Special Departments)	NU07	Registered General Nurse with at least 5 years satisfactory experience for nurses who qualified in Fiji prior to 1978 or at least 4 years satisfactory experience for nurses whose qualifications were gained in New Zealand or similar schools. Evidence will be required of at least 3 years satisfactory continuous experience in the specified department.
Health Sister	NU07	Registered General Nurse with a minimum of 3 years satisfactory general nursing experience. Applicant must hold registrable Public Health Nursing and Midwifery Certificates.
Staff Nurse	NU08	Registered General Nurse with any qualification registrable with the Fiji Nurses and Midwives Board.
Charge Orderly	NU09	Must have at least 3 years satisfactory experience as an Orderly. Applicant with experience in psychiatric work may also be considered.

(2) Registration system

In Fiji, the "Nurses and Midwives' Board" deals with the application and registration of nurses and midwives. The Board consists of the Permanent Secretary for Health as the Chairman, the Director of Nursing Services as the Register, the Principal of the Nursing School and other nominated members.

The condition of admission as a Nurse or Midwife to the Register is that such a person:

- 1) Has undergone a course of training approved by the Board in an institution approved by the Board and has passed, to the satisfaction of the Board, an examination approved; or
- 2) Has been registered as a Nurse or Midwife in a country where the standard of training and examination is not lower than that required by this ordinance and satisfy the Board as to his good character; or
- 3) Possesses such special qualifications as in the opinion of the Board justify the admission of such person to the appropriate part of the Register.

(3) Working condition

Fiji nurses work 37 hours per week on a 5 days basis with 2 days off. Hospital staff work on shift while clinical staff plus public health nurses work normal hours of 8:00 - 16:30 with Saturday and Sunday off. If duty hours exceed the basic hours on a weekly basis, overtime is paid according to the rate laid down by the Government.

2-3-3 Nursing Personnel Training Programme

Nursing personnel training programme is a most difficult and complicated problem. The Ministry of Health has conducted the training of personnels to acquire capability and professional knowledge required in DP-8, but it is far from resolving the existing personnel shortage. The most critical personnel shortage in the medical health field is in the nursing service field.

Nursing training has been conducted for a long time at the Tamavua and the Lautoka nursing schools which were consolidated into one school in April 1983 by the Ministry of Health. The objectives of the merger were to consolidate educational personnel, equipment, material and budget into one school to upgrade the capability and quality of nursing education and to reduce the operation and administration costs.

The demand for midwives and health nurses with professional knowledge is very high at district nurse stations, but the district nurse stations cannot be closed while the midwives and health nurses are attending training courses.

Post basic education has been conducted with scholarship granted by W.H.O. and other grants and aids from Australia, New Zealand, the Philippines and Great Britain. But overseas studies which will result in a shortage of the main medical personnels for a long period cannot possibly be permitted by the Ministry of Health. In future, the training of specialists will still depend on overseas institutes, but such training must be conducted carefully to avoid undue bad influence. This problem also exists in post basic education conducted within the country.

2-3-4 Situation of Present Nursing Training

(1) Nurse training system

1) System

The nurses are trained in the basic nurse course provided at the school and in the post basic course, and after passing the examination by the "Nurses and Midwives' Board", the nurses are registered as qualified nurses. An outline of the training system is described in the following paragraphs.

a. Basic nurse education

Admission requirements

A healthy person who passed the New Zealand qualification (NZSC) and who passed the admission examination (English, 3 science subjects and interview). A person holding a University Entrance qualification has an advantage. Both male and female applicants are considered.

Number of students

80 students to a class with a total of 240 students. There are 4 - 5 students in each class who are foreign students (expense is borne by the respective countries).

Training period

The training period is 3 years (52 weeks x 3 years), and each year is divided into 4 trimesters of 13 weeks.

Curriculum

The education provided at the school is as follows:

Basic nurse	1,242 hours
(General education	414 hours
Professional education	828 hours

Obligatory duty

The nurses are required to serve an obligatory duty after graduation for a period of one year at either the Suva, Lautoka and Labasa Hospitals and after that, a period of two years at a district nursing station.

b. Post basic education

Admission requirement

Candidates shall be of an age from 25 years to 40 years and should pass the admission criteria set by the Selection Committee.

Number of students

Midwives:	48
Public health nurses:	32
Total (per year):	80

Education period

Midwives:	27 weeks
Public health nurses:	12 weeks

Curriculum

Midwives	840 hours	{	Schooling	230 hours
			Clinical training	610 hours
Public health nurses	417 hours	{	Schooling	207 hours
			Clinical training	210 hours

2) Tutors

The education of nurses, midwives and public health nurses is conducted by 18 tutors, including the principal, and 26 instructors.

(2) Existing condition of nursing school

1) Consolidation of nursing schools

The Ministry of Health in Fiji consolidated the two nursing schools located separately at Tamavua and Lautoka in Suva into one school from April, 1983, and set up a new curriculum to raise the educational efficiency.

The education for the first two years of the three-year course is conducted at Tamavua where basic training tutors are available, and the clinical training of the third year is conducted mainly at Lautoka.

Tamavua and Lautoka nursing schools have a long history.

Tamavua School: 1900 Opened inside the Suva Hospital
1910 Moved to the CWM Hospital
1953 Moved to Tamavua where it now exists.

Lautoka School: 1926 Opened inside the Lautoka Hospital
1975 Moved to the Lautoka General Hospital
newly built with aid from Great
Britain where it still exists.

2) Shortage of educational facility

Both Tamavua and Lautoka schools have practically no special educational facilities. The Tamavua School has one building containing rooms for the principal, the tutors and the administrative staffs. Also it has five student's dormitories and a dining hall building. The classrooms are those borrowed from the Nasinu Teachers Training College which is under the jurisdiction of the Ministry of Education. The Lautoka School has one classroom and a student's dormitory which are remodelled from an old building of the Lautoka Divisional Hospital which is a clinical training hospital.

The building of the Tamavua School is composite wood and concrete block structures built during the Second World War as temporary barracks for the armed forces. The building of the Lautoka School is wooden structures built in 1925. Both buildings are decrepit buildings way passed their life period.

Transport problems do not exist for the Lautoka School since it stands next to the clinical training hospital, but problems do exist for the Tamavua School since it stands at a very inconvenient location about 6 km west of the Nasinu School and about 6 km east of the CWM Hospital, the clinical training hospital. At present, the students transport on two buses owned by the Ministry of Health, but since the buses are not a special transport bus, the students find it difficult to transport.

The borrowed classrooms at the Nasinu School are good since the building is a reinforced concrete structure, but there are no satisfactory desks nor chairs; furthermore, educational equipment is very inadequate.

3) Nurse students

The students pay no tuition also dormitory and work clothes are supplied free of charge. The students in the clinical training serve as assistant in the hospital and they are paid a remuneration.

The school capacity is 80 students but the graduates are about 70 students and about 10 students fail to graduate. One problem is to reduce the number of failures and to improve the contents of education.

The students who completed the basic nurse course are required to serve one year obligatory duty at the Suva, Lautoka or Labasa Hospitals and two years obligatory duty at district nursing stations, but almost all students do

not wish to serve in district region. They marry immediately after graduation resulting in difficulties to station them to nursing stations and they take long period leave for child care. This is one of the causes that creates an obstacle especially for securing nurses for district region.

The number of students for basic nurse and are shown in the following table.

Table 2-15 NUMBER OF STUDENTS (1982)

	First Grade	Second Grade	Third Grade	Total
Tamavua School	54	39	35	128
Lautoka School	33	29	33	95
Total	87	68	68	223

Table 2-16 ANNUAL RENUMERATION OF STUDENTS (1983)

Grade	Annual Remuneration
First grade	F\$776 (186,000 yen)
Second grade	F\$995 (238,000 yen)
Third grade	F\$1,106 (265,000 yen)

4) Reception of South Pacific countries' nurse students

A number of students are received annually from South Pacific countries for both basic nurse course and post basic course. Therefore, the neighboring countries are hoping that nursing schools would be built up.

Table 2-17 BREAKDOWN OF OVERSEAS STUDENTS

	Country	1981	1982	1983
Basic nurse course	Wallis	1	-	-
	Tuvalu	2	4	-
	Tokelau	1	1	-
	Total	4	5	-
Post basic course	TTPI	-	2	2
	Tonga	-	1	2
	Cook Islands	1	1	1
	Vanuatu	3	1	1
	Tokelau	-	1	-
	Solomon Islands	3	-	2
	Gilbert Islands	3	3	3
	Niue Islands	-	1	-
	Tuvalu	-	1	-
	Total	11	10	11

2-3-5 Shortage of Nurses

The Ministry of Health is confronted with the serious problem of shortage of medical care and health service personnels and finds it necessary to train personnels to acquire adequate professional knowledge and capability in order to achieve the objectives set out in Fiji's Eighth Development Plan (DP-8) namely; promotion of welfare, upgrading of health standard, equal distribution of health to the regions and construction of medical installations.

Furthermore, under the present nurse training and supply condition, the increase of 762 nurses recommended by the Select Committee of Inquiry in 1978 cannot possibly be fulfilled. At present, the source of nurse supply are graduates from nursing schools and immigrant nurses from foreign countries, but the actual number of increase, which can be expected is only about 70 nurses a year. (Refer to Table 2-18.)

The rate of loss of nurses (retirement, long term vacation, overseas study, post basic training, etc.) cannot be definitely stated owing to lack of accurate data, but an estimate can be made by calculating the difference between the increased number of nurses and supplied number of nurses. For example, if we take the period from 1980 to 1982, the loss can be calculated as follows:

Supplied number - increased number = Lost number
70 nurses x 2 years - 130 nurses = 10 nurses
therefore the loss per year would be 5 nurses.

From this figure, it can be assumed that the increase of nurses from the present school capacity of 80 nurses is about 65 nurses a year. Under this condition, it would take 11.7 years just to fill the shortage of the 762 nurses in 1978 ($762 \div 65 = 11.7$).

The Ministry of Health is confronted with the necessity of urgently upgrading the quality and number of nurses to fulfill the requirements arising from the increase of nursing station which form the front line of primary health care and to increase the present one nurse attendant to two nurse attendants.

Table 2-18 OCCUPATIONAL BREAKDOWN OF WORK PERMITS

Code ISCO	Occupation	Number	% of Total
01	Physical Scientists	13	0.7
02	Architects, Engineers	126	7.1
03	Surveyors, Draughtsmen, Engineering Technicians	41	2.3
04	Aircraft and Ship Officers	88	5.0
05	Life Scientists	2	0.1
06	Doctors	27	1.5
07	Nurses	3	0.2
08	Statisticians, Mathematicians	8	0.4
09	Economists	3	0.2
11	Accountants	98	5.5
12	Judges, Lawyers	3	0.2
13	Tutors	295	16.7
14	Religious Workers	158	8.9
15 - 19	Journalists, Authors, Artists, Other Professional	55	3.1
2	Administrators, Managers	374	21.1
3	Clerical Workers	15	0.8
4	Sales Workers	16	0.9
5	Service Workers	68	3.8
6	Agricultural Workers	48	2.7
7/8/9	Production, Construction, Operators	150	8.5
Sub-Total	0-9	1,591	90.0
-	Not Classified	176	10.0
TOTAL WORK PERMITS		1,767	100%

Notes: (1) ISCO = International Standard Classification of Occupations
(2) Totals may not add due to rounding.

Table 2-19 NUMBERS OF MEDICAL FACILITIES AND NURSE

Indicators	1978	1980	1982
(a) Number of Hospital Beds	1,611	1,729	1,729
(b) Number of Nurses - all grades	1,207	1,240	1,370
Number of increase		33	130
(c) Number of Nursing Stations	84	88	89
(d) Number of Health Centers	37	46	49

2-3-6 Overseas Assistance and Cooperation

The Fiji economy which relied largely on the financial assistance from Great Britain, the mother country, before its independence in 1970, still relies on overseas financial assistance for most of the financing for Government development funds.

Main assisting countries:

Great Britain, New Zealand, Australia, U.S.A.
(Assistance from Japan is desired for the future.)

International agencies:

World Bank, UNDP, Asian Development Bank

The recent assistance and aids for medical and related project are shown in the following table.

Table 2-20 OVERSEAS ASSISTANCE AND AIDS

Country or Agency	Item
Australia	Grants for medical equipment (1981-1983) Receive two senior nurses for training (1983)
New Zealand	Grants for medical equipment (1981-1983)
U.S.A. Peace Corps	Dispatched nurse (1981-1983) Dispatched nurse instructor (1981, 2 persons; 1982, 2 persons; 1983, 5 persons)
Thailand	Receive two midwife students (1983-1984)
W.H.O.	Nurse training at Australia (1981-1983)

CHAPTER 3 NEW FIJI SCHOOL OF NURSING PROJECT

3-1 OBJECTIVE OF THE PLAN

3-2 EXECUTION ORGANIZATION

3-2-1 Organization and Operation

3-2-2 Budget

3-3 EDUCATION PROGRAMME

3-3-1 Students

3-3-2 Contents of Education

3-3-3 Tutors

3-4 NECESSARY FACILITIES

CHAPTER 3 NEW FIJI SCHOOL OF NURSING PROJECT

3-1 OBJECTIVE OF THE PLAN

The objective of this plan is to resolve the shortage of nurses and to train nurses who will have adequate professional knowledge and practical technique for conducting high quality medical care and primary health care.

From April 1983, the Ministry of Health has consolidated the two nursing schools at Tamavua and Lautoka for administrative reasons and has prepared a new curriculum to alleviate this condition.

The Ministry of Health has also set up a plan to build a new consolidated nursing school in Suva to meet the urgent demand and thus prepared this project. The objectives of this project are as listed below:

Long term objectives

- (1) Train suitable nurses to acquire adequate professional knowledge and capability to meet the changing requirement for health services in Fiji.
- (2) Upgrade the nursing standard of health services in Fiji.

Short term objectives

- (3) Improve the overall nursing education capability and quality by consolidating personnels, materials and funds for all educational purposes into one school.
- (4) Expand the accommodation capacity and increase the function of the nursing school installation to accommodate more basic nurse students and post basic students.

3-2 EXECUTION ORGANIZATION

The Director of Nursing Service, under the supervision of the Permanent Secretary of the Ministry of Health, will be responsible to execute this project.

3-2-1 Organization and Operation

The Nursing School is administrated by the Deputy Director of Nursing Service who is responsible for nurse education under the direction of the Director of Nursing Service (refer to Fig. 3-1).

The school is operated under cooperation and coordination between the Hospital Nursing Service and the Public Health Service.

The overall operation policy is drawn up by the Permanent Secretary based on the cooperation from educational and technological institutes and experts outside the Ministry of Health, also from other domestic and international agencies together with recommendation from the Nurse and Midwife Commission.

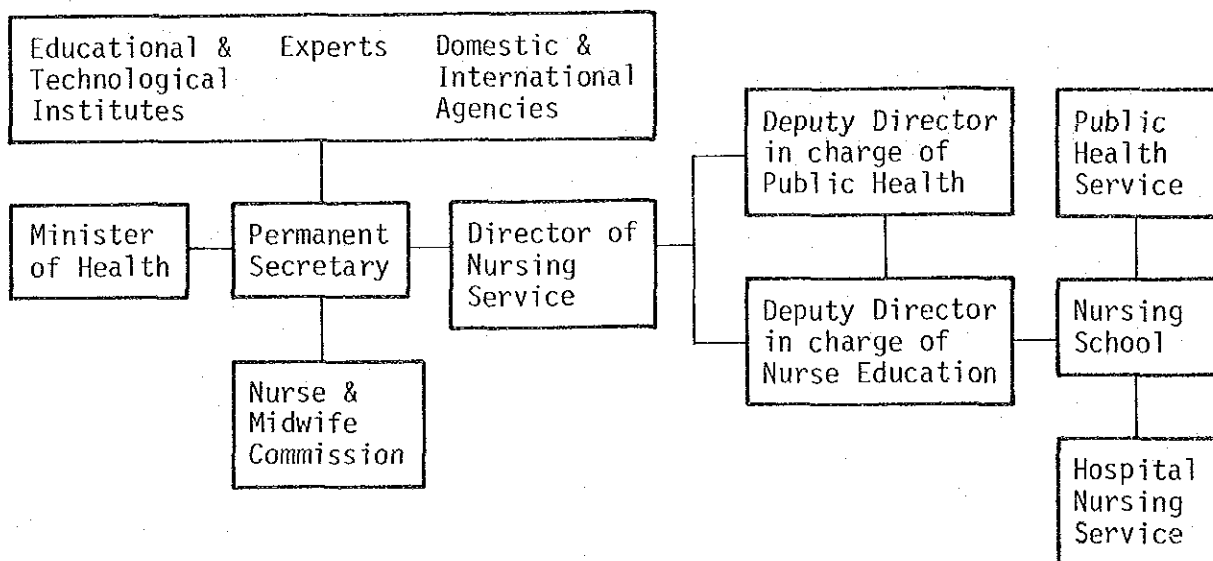
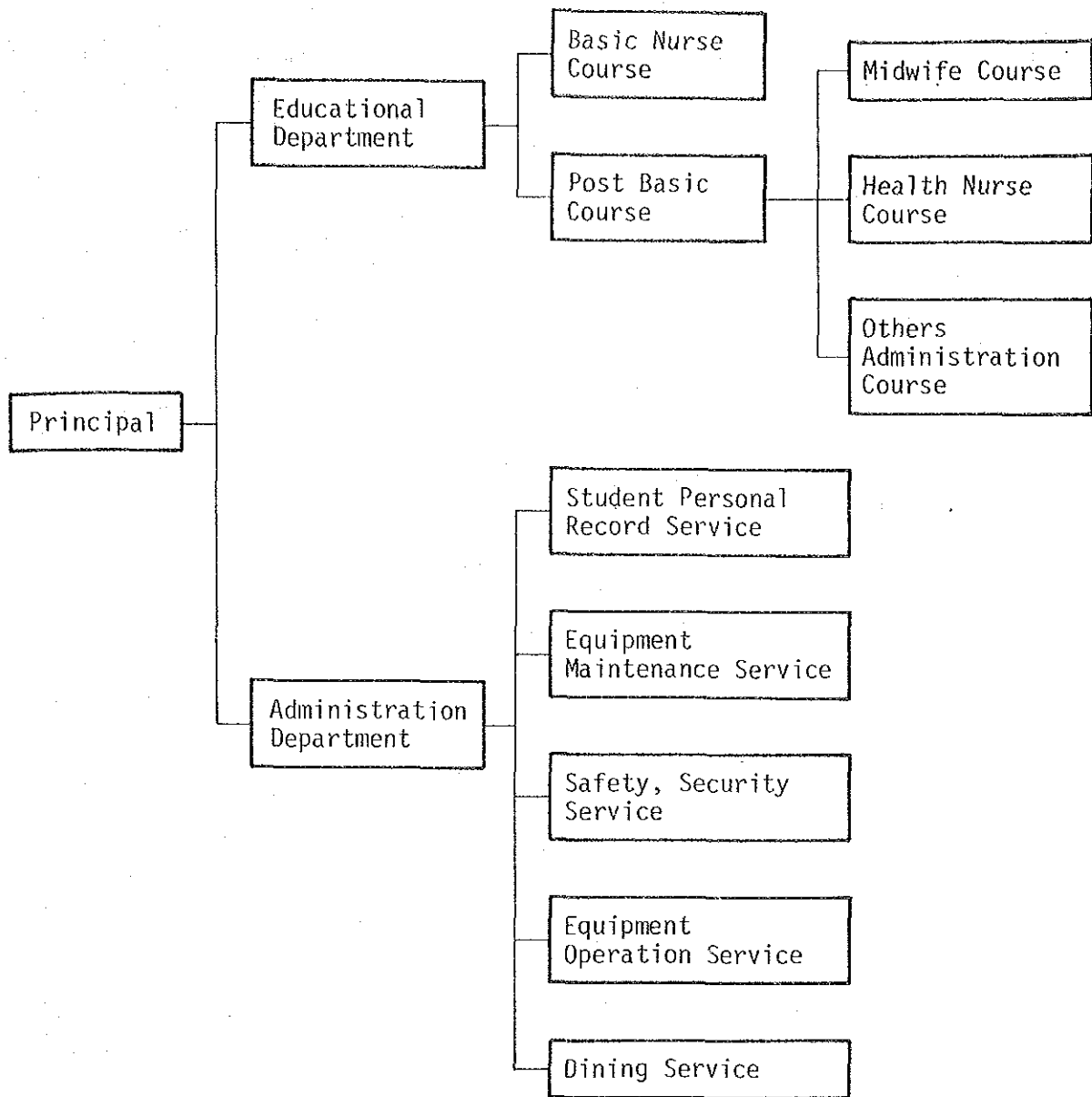


Fig. 3-1 POSITION OF NURSING SCHOOL IN ORGANIZATION



Tutors and staff

Full time 21 persons (except a principal)

Part time

Staff, laborer

Fig. 3-2 ORGANIZATION CHART OF SCHOOL OPERATION

3-2-2 Budget

The present Fiji School of Nursing is under the administration of the Nursing Section of the Ministry of Health and education and operation are conducted by the principal and tutors provided for this purpose.

The New Fiji School of Nursing, presently planned, will be operated by a similar organization under the allocated budget. Operation expenses consist mainly of personnel expenses, administration expenses and utility expenses. Items of these expenses are as follows:

- (1) Personnel expenses
 - 1) Staff salary
 - 2) Remuneration for students
- (2) Administration expenses
 - 1) Educational cost ... teaching materials cost, library cost, research funds and conference cost
 - 2) Office cost ... fixtures cost, management cost, travelling allowance, traffic cost and correspondence cost
 - 3) Maintenance cost
 - 4) Food cost
 - 5) Miscellaneous
- (3) Utility expenses
 - 1) Electricity and telephone costs
 - 2) Water and sewage costs
 - 3) Fuel costs

3-3 EDUCATION PROGRAMME

The nursing education will consist of two courses namely, the basic nurse course and the post basic course (midwife and public health nurse).

3-3-1 Students

The present capacity of students for the basic nurse course is 80 students for each grade, but in order to fulfill the objective of this project, the capacity is increased by 40 students up to 120 students. Since one to four foreign students were enrolled in each grade of the basic nurse course up to now, five foreign students are received for each grade.

The training of male students was started in 1975 and in 1983 there was a total of eight male students (1st grade 1 student, 2nd grade 2 students, 3rd grade 5 students) which is 3.6% of the total number of students. In order to promote this tendency, for policy reason, eight male students will be enrolled for each grade totalling 24 male students (6.7%). Four seats in the post basic course is earmarked for students dispatched from South Pacific countries.

The difference between this school and the existing schools, aside from the increase of student capacity, is that a two intake system is adopted and 60 students will be admitted at each intake. The two intake system is adopted for the following reasons.

- (1) Limitation of the training hospital's capacity to train students
- (2) Efficient utilization of tutors with teaching course and of educational equipment
- (3) Short term assistance for students who fail to keep up
- (4) Improvement of learning effect through teaching by senior students to junior students

The number of students for the two courses and education period are shown in the following table.

Table 3-1 NUMBER OF STUDENTS, ENTRANCE QUALIFICATION AND EDUCATION PERIOD

Item	Course Name	Basic Nurse Course	Post Basic Course			
			Midwife	Public Health Nurse		
Number of students	1 grade	120	1 course	24	1 course	16
	3 grades total	360	2 courses total	48	2 courses total	32
Entrance qualification	Qualification to enter university		Selected by Ministry of Health (25 - 40 years age)		Selected by Ministry of Health (25 - 40 years age)	
Education period	3 years		6 months		4 months	

3-3-2 Contents of Education

Up to 1976, the two nursing schools of Tamavua and Lautoka were operating under the curriculum of New Zealand school, but in this year the curriculum was replaced with a nursing course which reflected the conditions in Fiji. In 1981, the Ministry of Health reviewed the entire curriculum with the cooperation of a consultant provided by W.H.O. However, with the consolidation of the two schools in April 1983, a study to implement a new curriculum was started. This new curriculum greatly upgraded than the old curriculum.

The new curriculum for basic nurse course provided sufficient hours for lecture classes and upgraded the quality of professional education.

Basic nurse class	1,242 hours
General education class	414 hours
Vocational education class	828 hours
Total	2,484 hours

The year for all 3 grades consisted of 13 weeks divided into 4 trimesters. The yearly programme is set up as shown in Table 3-2.

Table 3-2 IMPLEMENTATION PLAN CLASS 1983

Tri- mester	Year I	Hours	Year II	Hours	Year III	Hours
1	Anatomy & Physiology	45	Medical-Surgical Nursing II	45	Introduction to Research	54
	Psychology	18	Maternal & Child Nursing III	72	Professional Ethics II	36
	Fundamentals of Nursing Practice I	72	Communication Arts	18	Educational Methods	54
	Professional Ethics I	18				
		<u>153</u>		<u>135</u>		<u>144</u>
2	Anatomy & Physiology II	45	Medical-Surgical Nursing II	45	Career Development	8 wks
	Psychology	18	Community Health Nursing I	54	General Hospital Nursing Services	11 wks
	Fundamentals of Nursing Practice II	90	Creative Writing	36	Special Hospital Nursing Services	16 wks
					Community Health Nursing Services	
		<u>153</u>		<u>135</u>	School of Nursing	4 wks
3	Psychology	18	Community Health Nursing II	90		
	Maternal & Child Nursing I	72	Maternal & Child Nursing IV	54		
	Medical-Surgical Nursing I	30				
		<u>120</u>		<u>144</u>		
4	Sociology	54	Management of Nursing Services	54	<u>Culmination of Activities</u>	4 wks
	Medical-Surgical Nursing I	24	Psychiatric Nursing	72	Presentation & discussion of projects	
	Maternal & Child Nursing II	36	Seminar in Nursing	18	Evaluation of curriculum	
					Preparation for graduation	
		<u>114</u>		<u>144</u>		

Students' annual leave 2 weeks
 Faculty academic break 4 weeks annually

Note: Co-curricular activities are to be scheduled weekly where feasible.

The educational course under the new curriculum implemented at the consolidated new school had the following 4 courses aside from the basic nurse course.

- (1) Public health nurse course
- (2) Midwife course
- (3) Ward administration course
- (4) Vocational teacher course

The vocational teacher course is conducted at the University of South Pacific mainly for teachers of this school. The courses which will be taken up in this project are public health course and midwife course.

3-3-3 Tutors

There is no legislation regulating the tutor training system for the nursing school and the necessary tutors are employed from within the country and from overseas countries based on the Government's personnel employment programme.

The present school is composed of tutors listed in the following table.

Table 3-3 COMPOSITION OF TUTORS IN THE PRESENT NURSING SCHOOL

Principal	1
Senior tutors	4
Clinical tutors	13
Midwifery tutors	3
Public health tutor	1

In addition to the number in listed Table 3-3, 5 US Peace Corps Volunteers are also employed as instructors. Therefore total instructors is 26 excluding the principal.

Basic nurse course	17	} 21 (excluding the principal)
Post basic course	4	
US Peace Corps Volunteers	5	

The employment of tutors by the Ministry of Health is conducted according to the standards outlined in Table 3-4. Over half of the present tutors have either a vocational teacher license or a nursing education diploma.

Table 3-4 QUALIFICATION OF TUTORS

Qualification	Qualification Standard
1. Tutor	Registered nurse with post-graduate education qualification and with at least 5 years clinical experience. Persons with only vocational teacher licence are not desirable.
2. Senior tutor	Registered nurse with post-graduate education qualification, with at least 5 years clinical experience and with at least 2 years tutor sister experience. Persons with only nursing education diploma are not desirable.
3. Midwifery tutor	Registered nurse with midwife qualification, with at least 5 years clinical experience and with at least 2 years tutor sister experience, furthermore must have at least 5 continuous years of midwife experience at a training hospital. Persons with only vocational teacher license are not desirable.
4. Public health tutor	Registered nurse with midwife qualification and with public health nursing diploma, also with at least 5 years clinical experience and with at least 2 years tutor sister experience. Persons with only vocational teacher license are not desirable.

3-4 NECESSARY FACILITIES

The building facilities and educational equipment necessary for completing the nursing school to conduct the educational programme described in paragraph 3-3 are listed below:

(1) Buildings

1) Administration Block

Foyer
Reception
General Office
Principal's Room
Deputy Principal's Room
Midwifery Tutor's Room
Public Health Tutor's Room
Tutors' Room

2) Lecture Block

Classrooms
Large Lecture Room
Library
Auditorium
Seminar Rooms
Cooking Laboratory
Laboratory
Demonstration Room
Linen Store
Store

3) Common Facilities

Lounge
Kitchen and Cafeteria

4) Dormitory Block

5) Others

(2) Equipment

- 1) General Education Equipment
- 2) Basic Nursing Technique Equipment
- 3) Maternal Health Equipment
- 4) Child Health Equipment
- 5) Community Health Equipment
- 6) Geriatrics Equipment
- 7) Other Equipment

CHAPTER 4 BASIC DESIGN

4-1 CONSTRUCTION SITE

- 4-1-1 Selection of Site
- 4-1-2 Topographical and Geological Conditions
- 4-1-3 Climatic Condition
- 4-1-4 Natural Disaster
- 4-1-5 Environmental Condition

4-2 BASIC CONCEPT

4-3 PLAN OF THE FACILITY

- 4-3-1 Layout Plan
- 4-3-2 Building Plan
- 4-3-3 Structure Design
- 4-3-4 Mechanical Equipment Installation
- 4-3-5 Electrical Installation
- 4-3-6 Drawings

4-4 EDUCATIONAL EQUIPMENT

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- 4-5-2 Implementation Schedule
- 4-5-3 Construction Plan
- 4-5-4 Supervision Plan
- 4-5-5 Procurement Plan for Construction Materials
- 4-5-6 Division of Undertaking
- 4-5-7 Cost Estimate
- 4-5-8 Cost Estimate for the Fiji side

CHAPTER 4 BASIC DESIGN

4-1 CONSTRUCTION SITE

4-1-1 Selection of Site

Two sites proposed by the Permanent Secretary of the Ministry of Health were investigated and a selection was made. Both sites are under the jurisdiction of the Ministry of Health.

(1) Proposed site I (Refer to Fig. 4-1)

Proposed site I is located within the compound of the CWM Hospital (Colonial War Memorial Hospital, general hospital with 400 beds) and is very near to the clinical training hospital. CWM Hospital is located near the center of Suva city halfway up a hill with a good sight of the sea. The location is very convenient for transportation.

This proposed site is a quite flat area of about 5,000 m², but a part of this area serves as a heliport for the CWM Hospital (emergency patients from outer islands), therefore the available area for construction is about 3,000 m².

The site is located some distance from the main road, but there is no problem in the infrastructure.

(2) Proposed site II (Refer to Fig. 4-2)

Proposed site II is located within the compound of the Tamavua Hospital (special hospital for tuberculosis, leprosy, etc.) and has an area of about 29,000 m². At present, there are administration department, dining room and students' dormitory, for the existing nursing school, housed in an old hospital facility of wood and concrete block structure, built during the Second World War, and presently borrowed by the nursing school.

The proposed site is in a relatively quiet environment and is a rectangular shaped area inclining toward the southeast, but since the entire area is a rolling area, some land levelling and some removal of existing structures are necessary.

Infrastructures such as electricity and water supply are located in the road on the northwest side so there are no problems, only a sewage treatment facility is necessary since no sewage facility exists.

The proposed site is located 6 km from the CWM Hospital and is serviced by a bus route but since a large number of students will be moving at regular interval, special transportation such as school bus must be considered.

(3) Selection of construction site

Proposed site I is satisfactory from the points of environment, and distance to clinical training hospital, but the site is too small to construct the required school and dormitory. The size of the school site area excluding the dormitory should be 2 - 4 times the school area plus a 20% extra allowance. The total school floor area is estimated to be 3,000 - 3,500 m² therefore a site area of 7,200 - 12,600 m² would be necessary.

Furthermore, a plan to construct the dormitory for the Fiji School of Medicine on the same site is proceeding. Due to these reasons, this site was rejected.

Proposed site II contains a number of conditions more disadvantageous than proposed site I such as: the burden for the Fiji side will increase and transportation of students to the CWM Hospital must be secured, but proposed site II was selected owing to the following reasons.

- 1) The site area is more than sufficient for constructing the school, also it has an area of about 29,000 m² where the dormitories can be built.

- 2) The site is away from residential district and is in a quiet environment with a good scenery which is most suitable for an educational environment.
- 3) The headquarter of the nursing school, dormitory and dining hall is presently located here. Therefore it is a familiar site.
- 4) The medical school is located about 500 m away which makes it convenient for lecturers to come and go.
- 5) The site is in the neighborhood of one of the training schools, the Tamavua Hospital (special hospital for tuberculosis and mental disease).



PROPOSED SITE-II

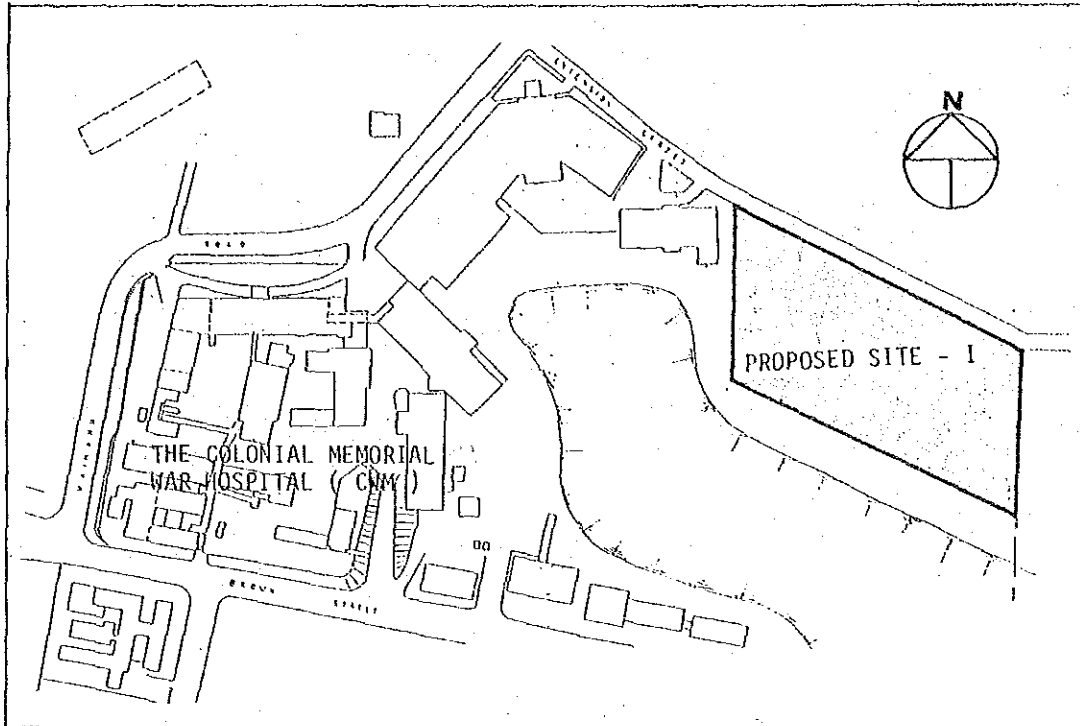


Fig. 4-1 PROPOSED SITE - I
SCALE 1 : 2,000

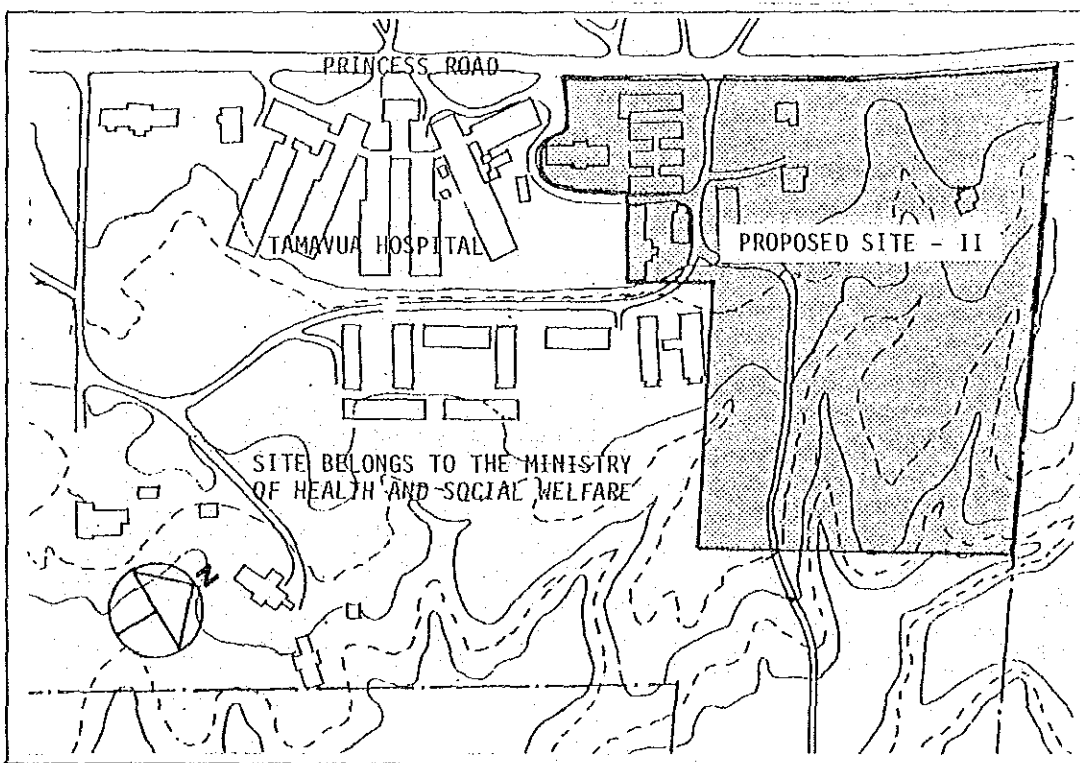


Fig. 4-2 PROPOSED SITE - II
SCALE 1 : 2,500

4-1-2 Topographical and Geological Conditions

(1) The topography and geology of Fiji

The area of the country of Fiji is 709,600 km², but 97% of this area is ocean. There are about 300 islands with an area of over 2.9 km², but the number of islands with inhabitants is less than 100.

The land area of Fiji is 18,376 km² and the 2 islands of Viti Levu and Vanua Levu occupy 86.6% of this area.

Table 4-1 FIJI ISLANDS

Island's Name	Area	Percentage
Viti Levu	10,388 km ²	56.5%
Vanua Levu	5,538 km ²	30.1%
Taveuni	435 km ²	2.4%
Kadavu	409 km ²	2.2%
Others	1,606 km ²	8.8%
Fiji's total land area	18,376 km ²	100%

The islands of Fiji can be classified into the following 3 types.

- 1) Coral reef
- 2) Limestone island
- 3) Volcanic island

The coral reef islands are all of low elevation extending only several meters above sea level. The main limestone islands are the Lau group of islands. They are results of volcanic action and they rose from the seafloor. Igneous rocks are therefore distributed throughout these islands. Limestone weathers

easily and the bottom parts along the seashore are eroded forming caves and rough seashore.

Viti Levu and Vanua Levu are volcanic islands, but sedimentary rocks of limestone from tertiary formation exist in both islands. The mountain range of Viti Levu runs in north/south direction and there are 29 peaks exceeding 915 m above sea level in this range. The highest peak is the Victoria mountain, 1,323 m high, located in the northern part of the range.

The 2 rivers of Rewa and Singatoka have their source near the Victoria mountain and they form a basin in the east and west tableland of the island. The flat lands in the island are the low land formed by the 3 rivers, Rewa, Singatoka and Navua, and the flat slope land in the northwest part of the island.

There is a mountain range which extends from behind Suva City to Rewa commonly known as the Suva/Rewa range, but this is not a high range. The site for this project is located on the southeast slope of this range.

(2) Project site

The site for construction is located at Tamavua about 7 km north-northeast from the center of Suva and it is a rectangular area sloping toward the southeast along the ridge of the mountain.

The site area including the Tamavua Hospital is about 12 hectares, and the area for construction is about 2.9 hectares. The maximum difference of height within the site is about 36 m.

The site is mostly covered with a layer of volcanic ash (red texture). The boring data of the site is shown on the next page.



BOREHOLE LOG

LOCATION: SCHOOL OF NURSING, TAMAVUA, SUVA, FIJI.

CARRIED OUT FOR PERMANENT SECRETARY FOR HEALTH & SOCIAL WELFARE

BOREHOLE No. 4 DIAMETER: 4 inches SHEET 1 of 1

GROUND LEVEL: 465.7 DATE: 24-02-84

DESCRIPTION	REDUCED LEVEL	LOGGED SAMPLE ID	DEPTH (m)	WATER SAMPLE	WATER DEPTH (m)	WATER LEVEL (m)	V.C.C. (m)	LL	PL	PL
TOP ORGANIC SOIL										
LOAM BROWN CLAY	465.2		0.5							
BROWN CLAY	465.7		1.0							
REDDISH YELLOW CLAY	464.2		1.5							
YELLOWISH BROWN CLAY	463.7		2.0							
YELLOWISH RED VERY STIFF CLAY	463.7		2.5							
BLACKISH BROWN STIFF CLAY	462.7		3.0							
REDDISH BROWN MEDIUM STIFF CLAY	462.2		3.5							
LIGHT YELLOWISH BROWN CLAY	461.7		4.0							
BROWNISH GREY SANDSTONE	461.2		4.5							
	459.7									

SCALE: 1 in. = 10 ft. DRAWN: COR. NO.: SAMPLE NO.: WAVE SAMPLE



BOREHOLE LOG

LOCATION: SCHOOL OF NURSING, TAMAVUA, SUVA, FIJI.

CARRIED OUT FOR PERMANENT SECRETARY FOR HEALTH & SOCIAL WELFARE

BOREHOLE No. 1 DIAMETER: 4 inches SHEET 1 of 1

GROUND LEVEL: 463.5 DATE: 23-2-84

DESCRIPTION	REDUCED LEVEL	LOGGED SAMPLE ID	DEPTH (m)	WATER SAMPLE	WATER DEPTH (m)	WATER LEVEL (m)	V.C.C. (m)	LL	PL	PL
TOP ORGANIC SOIL										
REDDISH BROWN CLAY	463.0		0.5							
FIRM YELLOWISH RED CLAY	462.5		1.0							
WATER BEARING										
YELLOWISH RED CLAY FIRM	462.0		1.5							
YELLOWISH BROWN CLAY FIRM	461.5		2.0							
YELLOWISH BROWN CLAY FIRM	461.0		2.5							
YELLOWISH BROWN CLAY FIRM	460.5		3.0							
YELLOWISH BROWN CLAY FIRM	460.0		3.5							
DARK GREEN SANDSTONE	460.0		3.5							

SCALE: 1 in. = 10 ft. DRAWN: COR. NO.: SAMPLE NO.: WAVE SAMPLE

Fig. 4-3 BORING DATA

4-1-3 Climatic Condition

Fiji is situated within the tropical climatic zone. An east or southeast tradewinds prevail throughout the year, but the wind force is a breeze or medium force winds and strong winds rarely blow with the exception of cyclones.

At Viti Levu, the mountain range forms a barrier against the tradewinds, therefore the climate in the western and northern part of the island (Nadi, Lautoka, Ba, Rakiraki, Labasa) lying at the leeward side of the wind differs greatly with the climate in the southern part of the island (Nausori, Suva, Pacific Harbor) lying at the windward side of the wind. The climate in Viti Levu can be divided into the dry season lasting from May through October and the wet season lasting from November through April.

The temperature in the low land is normally constant throughout the year with the average temperature differing only 3 - 4°C throughout the year. The temperature in the western and northern part of the island which is protected from the wind becomes 1 - 2°C higher in daytime but the humidity is lower. The humidity is high from December through March when the temperature is high making this an uncomfortable season.

The rainfall between the western and northern part of the island on the leeward side of the tradewind differs greatly with the southern part of the island on the windward side of the tradewind during the dry season. The rainfall in the western and northern part during this season is 300 - 500 mm while the rainfall in the southern part is 1,000 - 2,000 mm. During the wet season, rain falls 7 - 8 days out of every 10 days in the southern part of the island and the rainfall reaches 1,800 - 2,600 mm during this season. From November to April tropical cyclones approach the island causing much damage.

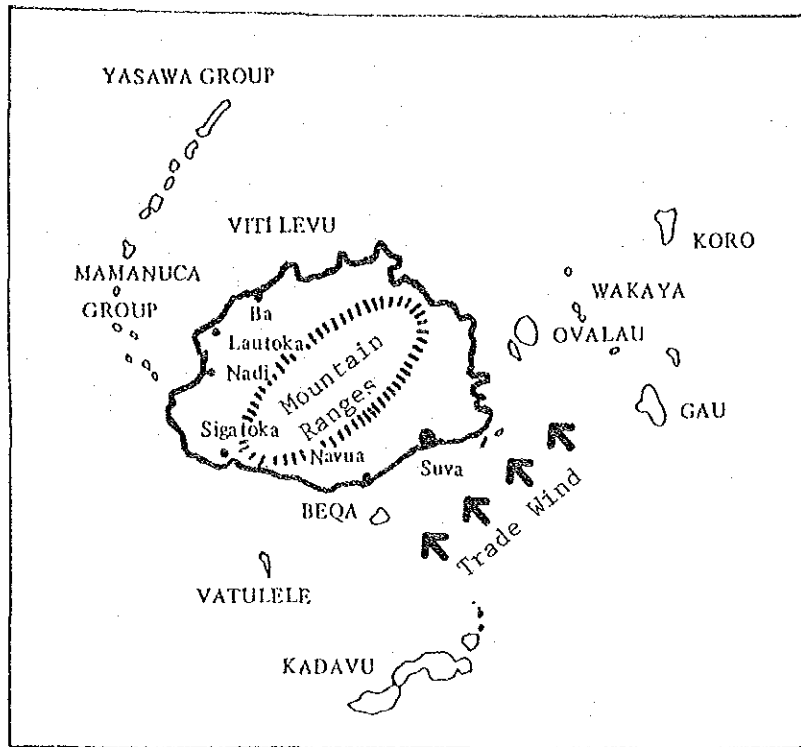


Fig. 4-4 TRADEWIND

Table 4-2 WEATHER DATA OF SUVA

(1979 statistics)

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total Average
Maximum daily average temperature (°C)	30	30	30	29	28	27	26	27	27	27	28	28	28.2
Minimum daily average temperature (°C)	24	24	23	23	22	21	20	20	21	22	22	23	22.1
Daily average sunlight hours (hour)	5.8	5.6	5.2	5.1	4.9	4.5	4.3	5.0	4.4	5.0	5.7	6.1	5.1
Monthly average rainfall (mm)	310	310	380	370	250	170	160	130	200	220	270	290	3,060
Monthly average rainy days	22	21	23	22	18	17	17	16	17	18	18	20	1.91
Monthly prevailing wind (4 - 16 knots)	SE	E	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	-

4-1-4 Natural Disaster

(1) Earthquake, tidal waves

Fiji is situated within the Pacific Earthquake Belt, and over 60 earthquakes have been recorded during this past 40 years. 14 of these earthquakes recorded over magnitude 6.

In 1953, an earthquake of magnitude 7 occurred near Suva causing much damage. A tidal wave of 2 m hit the seashore causing damages to bridges, breakwaters, water supply facilities and 5 deaths by drowning. Destruction of masonry buildings and deaths from landslides also occurred.

A diagram of earthquake records in Fiji is shown below.

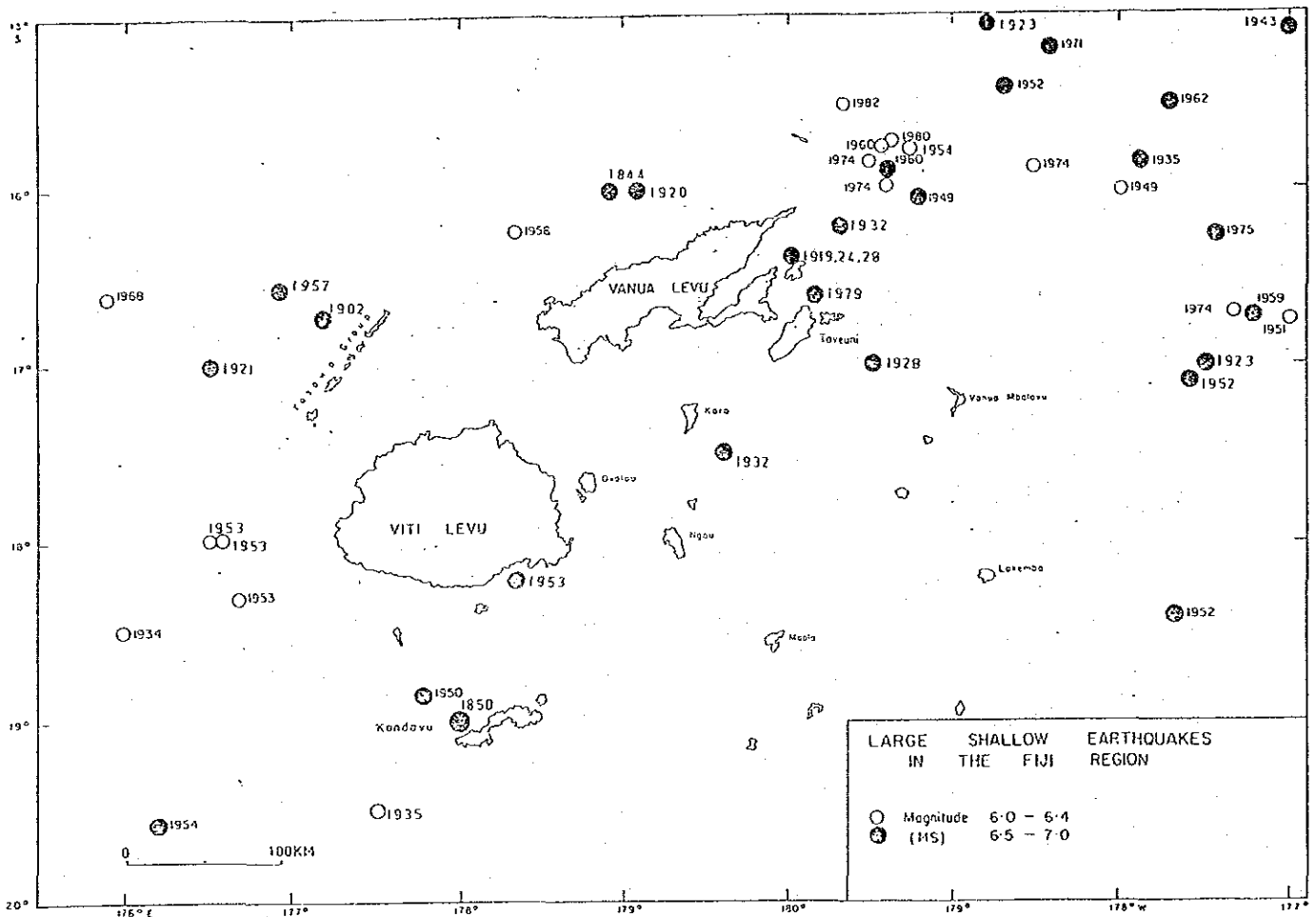


Fig. 4-5 EARTHQUAKES RECORDS

(2) Cyclone

Fiji is situated in the path of tropical cyclone. The cyclones approach the islands during the period from October to April and mostly in January and February. During the past 10 years, 10 - 12 cyclones hit some part of Fiji causing damage, and 2 - 3 cyclones caused severe damage.

The damages from cyclone are those caused by wind, high wave, flood, landslide and a combination of these causes.

The damages caused by winds are not only from the direct force of the cyclone, but also from blast of wind and tornado created by the topography of the land. The damages are from the plants of grain, fruit, coconut and agricultural products being blown down, also damage on houses such as blowoff of roofs and walls.

High waves cause damage along the seashore. In March 1979, the cyclone Mary created high waves of 2 - 3 m which caused the loss of 11 ships and 52 lives.

The concentrated rainfall brought by the cyclone causes the short river to immediately overflow and create landslide resulting in damages to agricultural products, houses and human lives. The heaviest damage caused by cyclone is from rainfall. In April 1980, the cyclone Wally caused floods in the Navua river, Rewa river, and rivers along the seashore in Viti Levu caused fatal landslide at several locations resulting in 14 deaths and 2 lost persons. The main road in the island, the Queen road, was split between Korovisilou and Suva. In the Navua district, livestock, pasture and agricultural products were lost by flood.

4-1-5 Environmental Condition

The infrastructure around the construction site is as described in the following paragraphs.

(1) Electricity

Electric supply and distribution is conducted and administered by the Fiji Electricity Authority (FEA) which is under the jurisdiction of the Ministry of Energy and Mineral Resources.

An 11 kV overhead line runs along the road in front of the construction site, and FEA will construct a feeder line of sufficient capacity into the site prior to the construction. Interior wiring is based on the Australian Standard, (SAA). The range of voltage fluctuation is restricted at $\pm 6\%$.

(2) Telephone

Telephone service is operated and administered by the Post and Telecommunications Department (PTD) under the jurisdiction of the Ministry of Works and Communications.

A telephone line exists along the road in front of the site which can be used and can be increased if necessary.

(3) Water supply

Water is supplied and administered by the Public Works Department (PWD) which is under the jurisdiction of the Ministry of Works and Communications.

A 225 mm ductile iron pipe runs under the road in front of the site and is supplied with water at a pressure of about 3.9 kg/cm². The pipeline was laid 25 years ago, but the water meets W.H.O. standard and is of good quality.

(4) Sewage

Sewage is administered by PWD together with water supply. Sewage line is now being constructed in the Tamavua district, but it has not reached the vicinity of the site. At present, the Tamavua Hospital drains sewage after a simple sewage treatment.

(5) Gas

Gas is supplied in cylinders by two private companies. The gas is mainly butane gas with a heat value of 4,000 - 7,000 kcal/m³, and is normally supplied in 10 kg, 30 kg and 50 kg cylinders.

(6) Road

The road in front of the site is called the Princess Road which connects Suva and Nausori. The road width is 10 m with simple pavement and no sidewalk. The traffic is relatively light.



PRINCESS ROAD

4-2 BASIC CONCEPT

The basic design for the New Fiji School of Nursing is prepared according to the following basic concept.

(1) Purpose of the school

The objectives of the school are to upgrade the quality and the quantity of nurse training in Fiji by providing facilities and educational equipment to conduct education under a new curriculum.

(2) Objective of grant aid cooperation

The educational facilities are planned in line with the purpose of the school and within the scope of grant aid cooperation based on the recognition of the request, with its background, of the Fiji Government which was confirmed during the basic design study (field survey).

(3) Educational environment plan

The educational environment is planned to provide an environment which will facilitate the education of the students to form a healthy, rich cultural characteristic by fully utilizing the neighboring environment also incorporating educational and administrative requirements of the school.

(4) Installation plan

The installations are planned to be compatible with the hot temperature, high humidity climate with annual rainfall of 3,000 mm and to incorporate adequate fire prevention and safety measures also to be an easily maintainable and manageable installation giving full consideration to the special conditions of the site.

(5) Structural system

The structural system is based on structural materials easily available in Fiji and a sturdy structural system which will withstand earthquake and cyclone is planned. Since the site is situated on a slope, a foundation structure that will not be affected by landslide, cave-in and flood will be selected after conducting detailed soil investigation and study.

(6) Installation plan

Since the site is situated in a tropical zone with high rainfall, energy saving is fully considered by basically utilizing natural ventilation and natural lighting. Equipment and system easy to operate and maintain are selected with due consideration for safety and sanitation.

(7) Implementation plan

An economical implementation plan with possibility of shortening construction schedule is planned using as much as possible locally available materials and locally practiced construction methods. Needless to say, the entire project is planned to be completed within the time limit of the grant aid cooperation programme.

(8) Consideration made for portion borne by the Fiji Government

Full consideration is given to reduce the Fiji portion as much as possible to avoid influence of undue difficulties on the Fiji Government budget.