

MINUTES OF DISCUSSIONS
ON
THE BASIC DESIGN STUDY ON THE PROJECT FOR
EXPANSION OF THE INSTITUTE OF NURSING
IN THE UNION OF MYANMAR

Based on the results of the Preliminary Study, the Japan International Cooperation Agency (JICA) has decided to conduct a Basic Design Study (hereinafter referred to as "the Study") on the Project for Expansion of the Institute of Nursing in the Union of Myanmar (hereinafter referred to as "the Project").

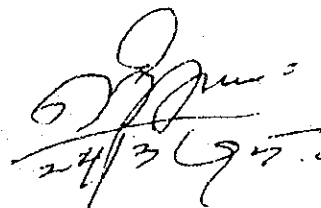
JICA has sent the Basic Design Study Team headed by Mr. Seiji KAIHO, Senior Grant Aid Assistant, Grant Aid Division, Economic Cooperation Bureau, Ministry of Foreign Affairs, from March 19 to April 9, 1995.

The Team had a series of discussions with the officials of Myanmar and conducted a field survey at the study area. As a result of discussions and field survey, both sides have confirmed the concept of the Project described in the attached sheets.

Yangon, March 24, 1995



Mr. Seiji KAIHO
Leader
Basic Design Study Team
JICA



Professor KO LAY
Director General
Department of Health Manpower
Ministry of Health

ATTACHMENT

1. Objective of the Project

The objective of the Project is to increase the supply of skilled nurses and upgrading of nursing education at the Institute of Nursing by expanding the present facilities and providing necessary equipment for nursing education.

2. Project site.

The Project site is the Institute of Nursing which is located at Bogyoke Aung San Road, Yangon, Myanmar. Total area of the Institute is approximately 58,000 m² consisting of 23,000 m² presently used and 35,000 m² to be added thereto. The additional area will be used mainly for Bachelor of Nursing Courses (generic and bridge), and the present is used mainly for Diploma Course. A map for the Project site is given in ANNEX-1.

(Note : The additional area for the Project was originally 17,800 m², however for the purpose of improving the access from the existing building, the area was extended approximately 35,000 m² toward the east, to totaling 58,000 m².)

3. Items requested by the Government of Myanmar.

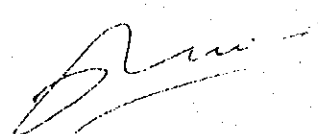
After discussions with the Basic Design Study team, the following items were finally requested by the Government of Myanmar.

1) Expansion of facilities by constructing buildings.

(See ANNEX-2.)

2) Provision of equipment related to nursing education at the Institute. (See ANNEX-3.)

However, the final items of the Project will be decided after further studies.



4. Responsible Ministry and Executing Agency

Responsible Ministry: Ministry of Health
Executing Agency : Institute of Nursing

5. Japan's Grant Aid system

- 1) The Myanmar side has understood the outline of the system of Japan's Grant Aid on Annex-4 as explained by the team.
- 2) The Myanmar side has understood necessary measures, as described in Annex 5 for the smooth implementation of the Project on the condition that the Grant Aid by the Government of Japan is extended.

6. Schedule of the Study.

- 1) The consultants will proceed to further studies until April 9, 1995 in Yangon.
- 2) JICA will prepare a draft report and dispatch a mission in order to explain its contents around June 1995.
- 3) In case that the contents of the report are accepted in principle, JICA will complete the final report and send it to the Government of Myanmar around July 1995.

7. Monitoring and Reporting of the Institute of Nursing.

The Institute of Nursing has responsibility for monitoring the progress of all phases of the Project such as allocation of funds, training and education of the students under the new curriculum, employment and services to be extended of the graduates, maintenance and operation of the Institute, manpower development, etc.

(The details of indicators will be discussed further between Japanese and Myanmar side.)

3. Other Relevant Issues.

1) Preparation of the Project Site.

The Project site is used for temporary open markets.

The Government of Myanmar will close and transfer the markets within six weeks on condition that the Grant is extended to the Project.

The new markets place will be decided by Myanmar side.

2) Cooperation with the residents.

The Government of Myanmar will inform soon the outline of the Project and acquire a good cooperation with the related residents, regarding the transfer of the present markets.

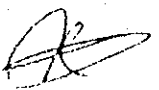
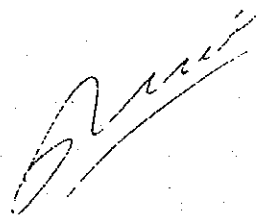
3) Withdrawal of the request for the Renovation of water system in the existing facilities.

The renovation works such as piping problems at the shower room, toilets, laboratories and sand separation for the water supply system have been examined and judged that these works can be maintained and repaired by the Myanmar side.

The Myanmar side will repair them by herself.

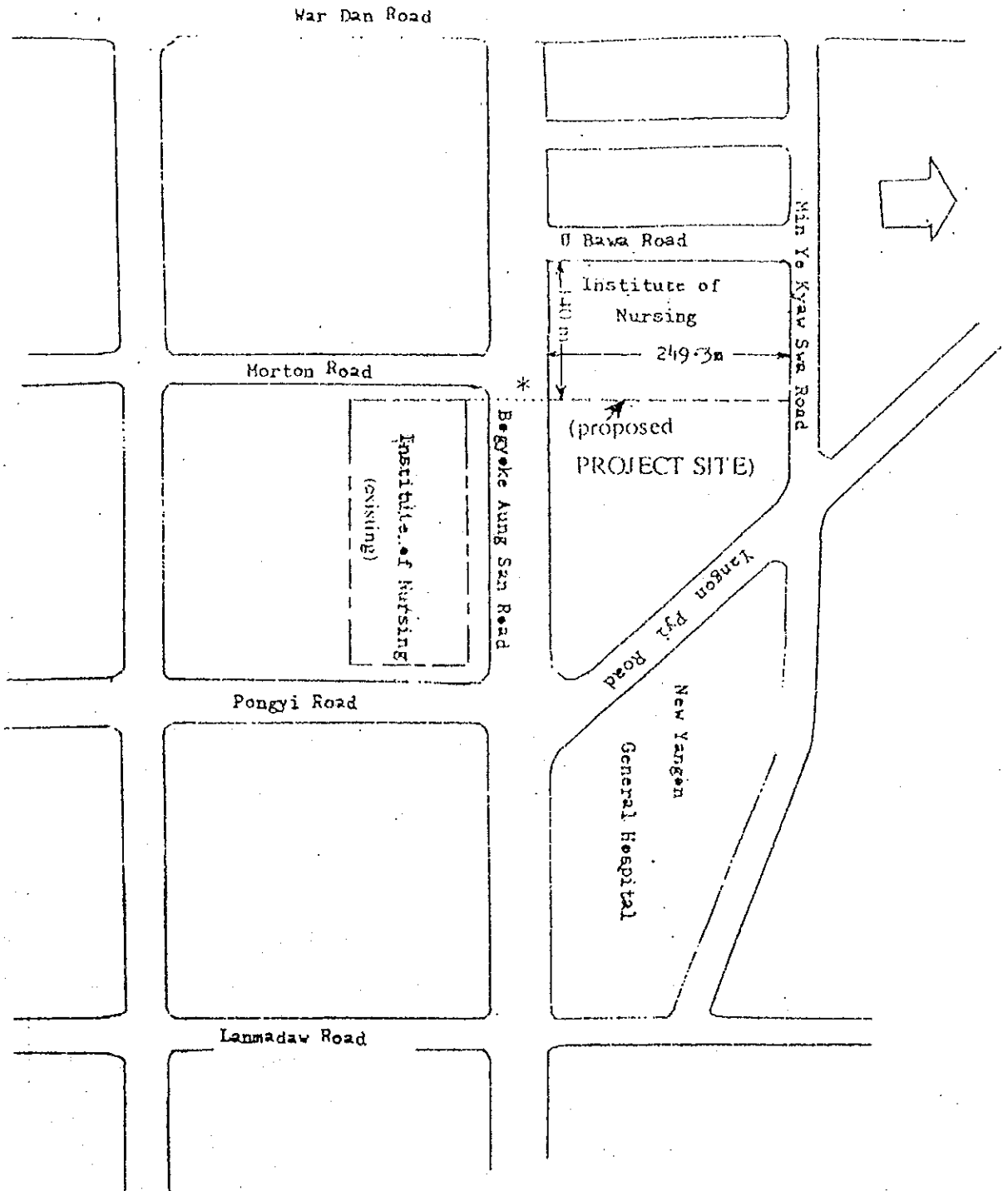
4) Withdrawal of the request for books.

The Myanmar side are now increasing the number of books with the donation of NGO, etc., and will prepare budget for books.



ANNEX I.

MAP OF THE PROJECT SITE



Note : * The east end of the proposed Project site should be corresponded with the west end of the existing site of the Institute of Nursing.

ANNEX 2.

REQUESTED FACILITIES FOR EXPANSION

The contents of the request finally submitted by the Myanmar side are as follows, in the order of priority regarding the facilities:

1. Dormitories

Consisting of

- | | |
|--------------------|---------------------|
| 1. Dormitory rooms | 100 |
| 2. Kitchen | 1 |
| 3. Dining Room | 1 (for 200 persons) |

2. Administrative & Training Building

Consisting of

- | | |
|---|---------------------|
| 1. Class rooms for 50 persons | 8 |
| 2. Classrooms for 100 persons | 2 |
| 3. Library (including book storage) | 1 (for 100 persons) |
| 4. Demonstration room | 1 |
| 5. Common Laboratory | 1 |
| 6. Conference room | 1 |
| 7. Teaching Staff Rooms | 5 |
| 8. Seminar rooms | 3 |
| 9. Meeting room | 1 |
| 10. Office (including Rector's room
and Reception room) | 1 |
| 11. A/V Equipment room | 1 |

Note:

1. Both sides confirm that each item mentioned above includes the necessary common spaces such as corridors, storage, toilets and machine room, the necessary utilities such as electricity, water supply, sewage, etc. The details of such common spaces and utilities will be discussed further between the Japanese and the Myanmar side.
2. The size and capacity of rooms will be determined after further studies.

ANNEX 3

EQUIPMENT LIST

No.	Equipment	Pri.	Qty
1	TRAINING DOLL	A	10
2	COMBINATION TORSO	B	1
3	MALE FIGURE	A	1
4	FEMALE FIGURE	A	1
5	HUMAN SKELTON, MALE	A	1
6	HUMAN SKELTON, FEMALE	A	1
7	ARTERIAL OF THE BRAIN	A	1
8	FORM MODEL OF EACH SEGMENT OF SPINAL CORD	A	1
9	TRACT AND DEFLECTION OF SPINAL NERVE	A	1
10	SPINAL CORD AND SPINAL CANAL.	A	1
11	HEART	A	1
12	DYNAMIC HEART, HAND WORKED	B	1
13	RESPIRATORY ORGANS	A	1
14	BRONCUS, PULMONARY ARTERY AND VEIN	A	1
15	ENLARGED OF THE ALVEOLI	A	1
16	DIGESTIVE SYSTEM	A	1
17	URINARY ORGANS	A	1
18	KIDNEY, NEPHRON AND GLOMERULUS	A	1
19	LIVER AND GALLBLADDER	A	1
20	EAR	A	1
21	EYEBALL, LARGEST SIZE	A	1
22	SKIN MICROSCOPICAL STRUCTURE	A	1
23	MALE GENITAL ORGANS	A	1
24	FEMALE GENITAL ORGANS	A	1
25	TRANSPARENT FEMALE PELVIS	A	1
26	TWIN PREGNANCY	B	1
27	NORMAL PREGNANCY	B	1
28	FETAL CIRCULATORY SYSTEM	B	1
29	BIRTH-FIRST STAGE	A	1
30	BIRTH-SECOND STAGE	A	1
31	BIRTH-THIRD STAGE	A	1
32	RECORDING RESUSCITATION BABY	A	10
33	CONCEPTION THEORY MODEL	A	1
34	CAT . TERIZATION AND RECTAL SIMULATOR	A	10
35	BREAST CANCER PALPATION SIMULATOR	A	2
36	HUMAN WALL CHARTS WITH A CASE	C	1
37	LOCHIA MODEL, 10 KINDS PER SET	A	1
38	HUMAN PARASITE SPECIMENS	A	1
39	INTESTINE OF CHOLERA MODEL	A	1
40	INTESTINE OF DYSENTERY MODEL	A	1
41	LEGAL INJECTION DISEASE MODEL	B	1
42	CONJUNCTIVITIES AND TRACHOMA MODEL	A	1
43	DEVELOPMENTAL STAGES OF BEDSORE MODEL	A	1
44	TUBERCULIN REACTION	A	1
45	VENEREAL DISEASE MODEL, MALE, 20 KINDS	A	1

No.	Equipment	Pri.	Qty
46	VENEREAL DISEASE MODEL, FEMALE, 20 KINDS	A	1
47	INTUBATION SIMULATOR WITH LARYNX, CHILD	A	10
48	INTUBATION SIMULATOR WITH LARYNX, ADULT	A	10
49	CHILD BIRTH PHANTOM	A	10
50	SIMULATOR (FIRST AID)	A	1
51	FEMALE PELVIS	A	10
52	DEVELOPMENT OF FOETUS	A	1
53	BLOOD TEST SET FOR Hb	A	20
54	TABLE-TOP CENTRIFUGE	A	1
55	WINTROBE TUBES	A	50
56	CLINICAL SPECTROPHOTOMETER	A	1
57	SPECIFIC BLOOD-GRAVITY TEST SET	A	2
58	CLINICAL REFRACTOMETER	A	1
59	WATER BATH, CONSTANT TEMPERATURE	A	1
60	MIXER, FOR SMALL CONTAINERS	A	1
61	HEMATOCRIT CENTRIFUGE	A	1
62	HEMATOCRIT CAPILLARY TUBE	A	100
63	MAGNETIC STIRRER, WITH HOT PLATE	A	1
64	PIPE WASH AND DRY	A	1
65	pH-METER	A	1
66	BALANCE	A	1
67	INCUBATOR	B	1
68	WATER, STILL	B	1
69	ASPIRATOR, METAL	A	10
70	BEAKER, TALL FORM, 100mL	A	10
71	BEAKER, TALL FORM, 200mL	A	10
72	BEAKER, 500mL	A	10
73	BOTTLE, REAGENT, CLEAR 1000mL	A	10
74	BOTTLE, REAGENT, CLEAR 100mL	A	20
75	BOTTLE, REAGENT, CLEAR 2000mL	A	10
76	BOTTLE, REAGENT, CLEAR 250mL	A	20
77	DIPPING BOTTLE CLEAR, 50mL	A	10
78	BURET, AUTOMATIC, 50mL, W/TEFLON COCK	A	10
79	BURET, STRAIGHT BORE, STOPCOCK, 25mL	A	10
80	BURET, STRAIGHT BORE, STOPCOCK, 50mL	A	10
81	CLAMP, STEEL, LARGE SIZE FOR FLASK	A	10
82	CLAMP, STEEL, MEDIUM SIZE FOR FLASK	A	10
83	CORK BORER	A	10
84	CUP, POLYETHYLENE, 100mL	B	20
85	CYLINDER, GRADUATED 1000mL	A	10
86	CYLINDER, GRADUATED 500mL	A	10
87	CYLINDER, GRADUATED 100mL	A	20
88	CYLINDER, GRADUATED 50mL	A	20
89	DESCICCATOR, 300W x 345D x 535H mm	A	10
90	DIGITAL STOP WATCH	A	10
91	ERLENMEYER FLASK, 300mL	A	10
92	FILTERING BOTTLE, 1L	A	10
93	FILTERING BOTTLE, PORCELAIN, 11cm Φ	A	10
94	FILTERING PAPER, 9cm	A	10

No.	Equipment	Pri.	Qty
95	FLASK, VOLUMETRIC, WITH STOPPER, 1000mL	A	10
96	FLASK, VOLUMETRIC, WITH STOPPER, 500mL	A	10
97	HOSE BAND, FOR VACUUM RUBBER TUBING	A	10
98	LID FOR SCREW TUBE 20cc	A	20
99	PINCH COCK, MOHR TYPE	A	20
100	PINCH COCK, HOFFMAN TYPE	A	20
101	PIPET, MEASURING, 1mL	A	50
102	PIPET, MEASURING, 2mL	A	20
103	PIPET, MEASURING, 5mL	A	10
104	PIPET, VOLUMETRIC, 10mL	A	10
105	PC POLYETHYLENE BOTTLE, 100cc	A	10
106	POLYETHYLENE BOTTLE, 300cc	A	10
107	RACK FOR BURET, PVC	A	20
108	ROD, GLASS, 6mm Φ x 1.5M	A	10
109	RUBBER TUBING FOR VACUUM, 6mm Φ x 18mm Φ	A	10
110	SCREW TUBE, WITH LID, 20cc	A	10
111	SILICON TUBING, 6mm Φ x 10mm Φ x 50M	A	10
112	SPIN BAR, TEFLON COATED, 20mm	A	20
113	SPOON, FOR KOMAGOME TYPE, 10mL	A	10
114	STOPPER, CORK	A	10
115	TEST TUBE RACK, STAINLESS STEEL F/16.5	A	10
116	TEST TUBE, WITH RIM, 21 Φ 200 mL	A	10
117	TEST TUBE, 16.5mm Φ 165mm	A	20
118	TEST TUBE, 18mm O.D. Φ 165mm	A	10
119	THERMOMETER 0 - 200 $^{\circ}$ C, ALCOHOL	A	20
120	WASHING BOTTLE, POLYETHYLENE, 500mL	A	20
121	TEST TUBE HOLDER	A	20
122	ALCOHOL LAMP	A	20
123	WIRE GAUGE (12cm x 12cm)	A	10
124	PIPET BULB	A	20
125	FUNNEL SEMDIA	A	10
126	TV MONITOR WITH VIDEO PLAYER	A	1
127	SLIDE PROJECTOR	A	3
128	OVERHEAD PROJECTOR	A	5
129	PHOTOCOPY MACHINE	A	4
130	VIDEO CAMERA	B	1
131	PERSONAL COMPUTER	B	1
132	PRINTER	B	1
133	OFF-SET PRINTING SYSTEM	A	1
134	SPEAKER SYSTEM	A	2
135	CONFERENCE ROOM SPEAKER SYSTEM	C	1
136	PORTABLE SCREENS	B	5
137	FLIP CHART STAND	B	10
138	BLACK BOARD 4x 6'	B	20
139	BLACK BOARD, MOVABLE	B	5
140	AUDIO CASSETTE RECORDER WITH HEADPHONE	B	10
141	DESKTOP LABELLING AND LETTERING SYSTEM	B	1
142	CAMERA WITH ACCESSORIES	B	1
143	ENGLISH TYPEWRITER PICA, MANUAL	B	6

No.	Equipment	Pri.	Qty
144	ENGLISH TYPEWRITER PICA, MANUAL	B	6
145	MANUAL PUNCH/BIND MACHINE	B	2
146	PAPER CUTTERS	B	3
147	HEAVY DUTY STAPLES	B	3
148	HEAVY DUTY PUNCHES	B	4
149	GESTETHNER MACHINE	B	1
150	CALCULATOR	C	5
151	GUN TACKER	B	1
152	DRESSING CARTS	A	4
153	STERILIZING DRUMS	A	5
154	NASOGASTRIC TUBES	C	10
155	BED PANS	B	5
156	SCALE FOR INFANTS	A	5
157	HEIGHT AND WEIGHT SCALE FOR ADULTS	A	5
158	OVEN	A	3
159	REFRIGERATOR	A	3
160	INSTRUMENT SET	A	1
161	MICRO BUS (DIESEL.)	A	2
162	LIGHT TRUCK (DIESEL.)	A	1

Note)

Priority A : Regarded as most important and effective to Nursing education.

B : Regarded as effective to Nursing education and office work.

C : Regarded as convenient for Nursing education and office work.

ANNEX 4.

OUTLINE OF JAPAN'S GRANT AID SYSTEM

1. Grant Aid Procedures

- 1) Japan's Grant Aid Programme is executed through the following procedures.

Application	(Request made by a recipient country)
Study	(Basic Design Study conducted by JICA)
Appraisal & Approval	(Appraisal by the Government of Japan and Approval by Cabinet)
Determination of Implementation	(The Notes exchanged between the Governments of Japan and the recipient country)

- 2) Firstly, the application or request for a Grant Aid project submitted by a recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for Grant Aid. If the request is deemed appropriate, the government of Japan assigns JICA (Japan International Cooperation Agency) to conduct a study on the request.

Secondly, JICA conducts the study (Basic Design Study), using (a) Japanese consulting firm(s).

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Programme, based on the Basic Design Study report prepared by JICA, and the results are then submitted to the Cabinet for approval.

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes signed by the Government of Japan and the recipient country.

Finally, for the implementation of the project, JICA assists the recipient country in such matters as preparing tenders, contracts and so on.

2. Basic Design Study

1) Contents of the Study

The aim of the Basic Design Study (hereinafter referred to as "the Study"), conducted by JICA on a requested project (hereinafter referred to as "the Project") is to provide a basic document necessary for the appraisal of the Project by the Japanese Government. The contents of the Study are as follows:

- Confirmation of the background, objectives, and benefits of the requested project and also institutional capacity of agencies concerned of the recipient country necessary for the Project's implementation.
- Evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from a technical, social and economic point of view.

- c) Confirmation of items agreed on by both parties concerning the basic concept of the Project.
- d) Preparation of a basic design of the Project.
- e) Estimation of costs of the Project.

The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the Project is confirmed considering the guidelines of Japan's Grant Aid Scheme.

The Government of Japan requests the Government of the recipient country to take whatever measures are necessary to ensure its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the organization in the recipient country actually implementing the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

2) Selection of Consultants

For smooth implementation of the Study, JICA uses (a) registered consultant firm(s). JICA selects (a) firms(s) based on proposals submitted by interested firms. The firm(s) selected carry(ies) out a Basic Design Study and write(s) a report, based upon terms of reference set by JICA.

The consulting firm(s) used for the Study is (are) recommended by JICA to the recipient country to also work on the Project's implementation after the Exchange of Notes, in order to maintain technical consistency and also to avoid any undue delay in implementation should the selection process be repeated.

3. Japan's Grant Aid Scheme

1) What is Grant Aid?

The Grant Aid Programme provides a recipient country with non-reimbursable funds to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with the relevant laws and regulations of Japan. Grant Aid is not supplied through the donation of materials as such.

2) Exchange of Notes (E/N)

Japan's Grant Aid is extended in accordance with the Notes exchanged by the two Governments concerned, in which the objectives of the Project, period of execution, conditions and amount of the Grant Aid, etc., are confirmed.

- 3) "The period of the Grant Aid" means the one fiscal year which the Cabinet approves the Project for. Within the fiscal year, all procedures such as exchanging of the Notes, concluding contracts with (a) consultant firm(s) and (a) contractor(s) and final payment to them must be completed.

However in case of delays in delivery, installation or construction due to unforeseen factors such as weather, the period of the Grant Aid can be further extended for a maximum of one fiscal year at most by mutual agreement between the two Governments.

- 4) Under the Grant Aid, in principle, Japanese products and services including transport or those of the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country.

However, the prime contractors, namely consulting, constructing and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

- 5) Necessity of "Verification"

The Government of recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. This "Verification" is deemed necessary to secure accountability to Japanese taxpayers.

- 6) Undertakings required of the Government of the Recipient country

In the implementation of the Grant Aid project, the recipient country is required to undertake such necessary measures as the following:

- (1) To secure land necessary for the sites of the Project and to clear, level and reclaim the land prior to commencement of the construction.
- (2) To provide facilities for the distribution of electricity, water supply and drainage and other incidental facilities in and around the sites.
- (3) To secure buildings prior to the procurement in case the installation of the equipment.
- (4) To ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid.
- (5) To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the Verified Contracts.
- (6) To accord Japanese nationals whose services may be required in connection with the supply of the products and services under the Verified Contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.

- (7) "Proper Use"

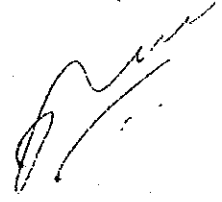
The recipient country is required to maintain and use the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign staff necessary for this operation and maintenance as well as to bear all the expenses other than those covered by the Grant Aid.

- (8) "Re-Export"

The products purchased under the Grant Aid should not be re-exported from the recipient country.

(9) Banking Arrangements (B/A)

- a) The Government of the recipient country or its designated authority should open an account in the name of the Government of the recipient country in an authorized foreign exchange bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the Verified Contracts.
- g) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an authorization to pay issued by the Government of the recipient country or its designated authority.

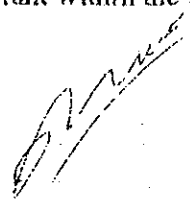


ANNEX 5.

NECESSARY MEASURES TO BE TAKEN BY THE MYANMAR SIDE

Following necessary measures shall be taken by the Government of Myanmar on condition that the grant is extended to the Project:

1. To provide data and information necessary for the project;
2. To secure, clear, level and reclaim the site for the Project prior to the Project Implementation, including the removal of the existing piles in the ground
3. To provide a proper access road to the Project site;
4. To undertake incidental outdoor works, such as gardening, fencing, exterior lighting, and other incidental facilities in and around the Project site, if necessary;
5. To construct and/or installation of road, drainage and utilities such as electricity, water supply, telephone system to the Project site;
6. To bear two kinds of commissions to the Japanese Foreign Exchange Bank for its banking services based upon the Banking Arrangement namely.
 - the advising commission of the "Authorization to Pay" and
 - the payment commission;
7. To ensure prompt unloading, tax exemption, and customs clearance at the port of disembarkation in Myanmar and prompt internal transportation therein of the materials and equipment for the Project purchased under the Grant;
8. To exempt Japanese or a staff from a third country engaged in the project from customs duties, internal taxes and fiscal levies which may be imposed with respect to the supply of the products and services under the verified contract;
9. To accord Japanese or a staff from third country whose services may be required in connection with the supply of products and services under the verified contract such facilities as may be necessary for their entry into Myanmar and stay therein for the performance of their work;
10. To provide necessary permissions, licenses, and other authorization for implementing the Project, if necessary.
11. To assign an appropriate budget and teaching and administrative staff for proper and effective operation and maintenance of the facilities and equipment provided under the Grant; and
12. To bear all the expenses other than those to be borne by the Grant within the scope of the Project.



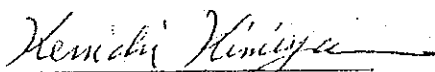
MINUTES OF DISCUSSIONS
ON
THE BASIC DESIGN STUDY ON THE PROJECT FOR
EXPANSION OF THE INSTITUTE OF NURSING
(CONSULTATION ON DRAFT REPORT)

In March 1995, the Japan International Cooperation Agency (JICA) dispatched a Basic Design Study Team on the Project for Expansion of the Institute of Nursing in the Union of Myanmar (hereinafter referred to as "the Project"), and through discussions, field survey, and technical examination of the results in Japan, has prepared the Draft Report of the study.

In order to explain and consult the Myanmar side on components of the draft report, JICA send to Myanmar a study team, headed by Mr. Kenichi KIMIYA, Economic Cooperation Bureau, the Ministry of Foreign Affairs, from 28 August to 4 September 1995.

As a result of discussions, both parties confirmed the main items described on the attached sheets.

Yangon, 30 August 1995



Mr. Kenichi KIMIYA

Leader

Draft Report Explanation Team,

JICA



Professor KO LAY

Director General

Department of Health Manpower,

Ministry of Health

ATTACHMENT

1. Components of draft report.

The Government of Myanmar has agreed and accepted in principal that the components of the draft report proposed by the Team, and main items discussed by both sides are described in ANNEX-1.

2. Japan's Grant Aid Program

(1) The Government of Myanmar has understood the system of Japanese Grant Aid as explained by the team.

(See ANNEX-2)

(2) The Government of Myanmar will take necessary measures described in ANNEX-3, for smooth implementation of the Project on condition that the Grant Aid assistance by the Japanese Government is extended to the Project.

3. Schedule of the study

JICA will complete the final report and send it to the Government of Myanmar by October 1995.

4. Monitoring

The Institute of Nursing has the responsibility in monitoring progress of all phases of the Project such as allocation of funds and utilization of equipment purchase, distribution, quality control, maintenance and utilization of equipment, manpower development, training based upon the indicators given in ANNEX-4 and reporting it to the Embassy of Japan annually through the Department of Health Manpower, the Ministry of Health.

5. Other relevant issues.

(1) The Government of Myanmar will close and transfer the temporary open markets within six weeks immediately after the Exchange of Notes (E/N) will be signed by the two Governments concerned. The new market place will be decided by the Myanmar side.

(2) The Government of Myanmar will inform soon the outline of the Project and acquire a good cooperation with the related residents, regarding the transfer of the present markets.

(3) If the above issues are not solved within the agreed period mentioned in the Paragraph (1), the alternative project site will be prepared by the Myanmar Side prior to the construction.

*Note: The alternative project site should have same dimensions and orientation facing to Bogyoke Aung San Road as the proposed site.

ANNEX-1 CONTENTS OF THE REQUEST FOR JAPAN'S GRANT AID

The main components of the draft report proposed by the Team agreed and accepted by the Myanmar side are as follows:

1. Dormitories
Consisting of
 1. Dormitory Rooms 100
 2. Kitchen 1
 3. Dining Room 1
2. Administrative & Training Building
Consisting of
 1. Classrooms (for 50 students) 8
 2. Classrooms (for 100 students) 2
 3. Library (including book storage) 1
 4. Demonstration Room 1
 5. Common Laboratory 1
 6. Conference Room 1
 7. Teaching Staff Room 3
 8. Registrar's Room 1
 9. Meeting Room 1
 10. Office (including Rector's Room and Reception Room) 1
 11. A/V Equipment Room 1
 12. Common Space
3. Related Equipment for Nursing Education

Note:

1. Both sides confirm that each item mentioned above includes the necessary common spaces such as corridors, toilets and machine room, the necessary utilities such as electricity, water cisterns as well as equipment.
2. The Myanmar side understand that the construction and/or installation of road, street lighting and fencing, within the Institution, will be borne by the Myanmar side in principle.

ANNEX-2. OUTLINE OF JAPAN'S GRANT AID SYSTEM

1. Grant Aid Procedures

- 1) Japan's Grant Aid Programme is executed through the following procedures.

Application	(Request made by a recipient country)
Study	(Basic Design Study conducted by JICA)
Appraisal & Approval	(Appraisal by the Government of Japan and Approval by Cabinet)
Determination of Implementation	(The Notes exchanged between the Governments of Japan and the recipient country)

- 2) Firstly, the application or request for a Grant Aid project submitted by a recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for Grant Aid. If the request is deemed appropriate, the government of Japan assigns JICA (Japan International Cooperation Agency) to conduct a study on the request.

Secondly, JICA conducts the study (Basic Design Study), using (a) Japanese consulting firm(s).

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Programme, based on the Basic Design Study report prepared by JICA, and the results are then submitted to the Cabinet for approval.

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes signed by the Government of Japan and the recipient country.

Finally, for the implementation of the project, JICA assists the recipient country in such matters as preparing tenders, contracts and so on.

2. Basic Design Study

1) Contents of the Study

The aim of the Basic Design Study (hereinafter referred to as "the Study"), conducted by JICA on a requested project (hereinafter referred to as "the Project") is to provide a basic document necessary for the appraisal of the Project by the Japanese Government. The contents of the Study are as follows:

- Confirmation of the background, objectives, and benefits of the requested project and also institutional capacity of agencies concerned of the recipient country necessary for the Project's implementation.
- Evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from a technical, social and economic point of view.
- Confirmation of items agreed on by both parties concerning the basic concept of the Project.
- Preparation of a basic design of the Project.
- Estimation of costs of the Project.

The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the Project is confirmed considering the guidelines of Japan's Grant Aid Scheme.

The Government of Japan requests the Government of the recipient country to take whatever measures are necessary to ensure its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the organization in the recipient country actually implementing the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

2) Selection of Consultants

For smooth implementation of the Study, JICA uses (a) registered consultant firm(s). JICA selects (a) firms(s) based on proposals submitted by interested firms. The firm(s) selected carry(ies) out a Basic Design Study and write(s) a report, based upon terms of reference set by JICA.

The consulting firm(s) used for the Study is (are) recommended by JICA to the recipient country to also work on the Project's implementation after the Exchange of Notes, in order to maintain technical consistency and also to avoid any undue delay in implementation should the selection process be repeated.

3. Japan's Grant Aid Scheme

1) What is Grant Aid?

The Grant Aid Programme provides a recipient country with non-reimbursable funds to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with the relevant laws and regulations of Japan. Grant Aid is not supplied through the donation of materials as such.

2) Exchange of Notes (E/N)

Japan's Grant Aid is extended in accordance with the Notes exchanged by the two Governments concerned, in which the objectives of the Project, period of execution, conditions and amount of the Grant Aid, etc., are confirmed.

3) "The period of the Grant Aid" means the one fiscal year which the Cabinet approves the Project for. Within the fiscal year, all procedures such as exchanging of the Notes, concluding contracts with (a) consultant firm(s) and (a) contractor(s) and final payment to them must be completed.

However in case of delays in delivery, installation or construction due to unforeseen factors such as weather, the period of the Grant Aid can be further extended for a maximum of one fiscal year at most by mutual agreement between the two Governments.

4) Under the Grant Aid, in principle, Japanese products and services including transport or those of the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country.

However, the prime contractors, namely consulting, constructing and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

5) Necessity of "Verification"

The Government of recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. This "Verification" is deemed necessary to secure accountability to Japanese taxpayers.

6) Undertakings required of the Government of the Recipient country

In the implementation of the Grant Aid project, the recipient country is required to undertake such necessary measures as the following:

- (1) To secure land necessary for the sites of the Project and to clear, level and reclaim the land prior to commencement of the construction.
- (2) To provide facilities for the distribution of electricity, water supply and drainage and other incidental facilities in and around the sites.
- (3) To secure buildings prior to the procurement in case the installation of the equipment.
- (4) To ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid.
- (5) To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the Verified Contracts.
- (6) To accord Japanese nationals whose services may be required in connection with the supply of the products and services under the Verified Contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.
- (7) "Proper Use"

The recipient country is required to maintain and use the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign staff necessary for this operation and maintenance as well as to bear all the expenses other than those covered by the Grant Aid.

(8) "Re-Export"

The products purchased under the Grant Aid should not be re-exported from the recipient country.

(9) Banking Arrangements (B/A)

- a) The Government of the recipient country or its designated authority should open an account in the name of the Government of the recipient country in an authorized foreign exchange bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the Verified Contracts.
- g) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an authorization to pay issued by the Government of the recipient country or its designated authority.

ANNEX-3 NECESSARY MEASURES TO BE TAKEN BY THE MYANMAR SIDE

Following necessary measures shall be taken by the Government of Myanmar on condition that the grant is extended to the Project:

1. To provide data and information necessary for the project;
2. To secure, clear, level and reclaim the site for the Project prior to the Project Implementation, including the removal of the existing piles and utility pipes in the ground
3. To provide a proper access road, temporally electrical and water supply to the Project site;
4. To undertake incidental outdoor works, such as gardening, fencing, exterior lighting, and other incidental facilities in and around the Project site, if necessary;
5. To bear two kinds of commissions to the Japanese Foreign Exchange Bank for its banking services based upon the Banking Arrangement namely.
 - the advising commission of the "Authorization to Pay" and
 - the payment commission;
6. To ensure prompt unloading, tax exemption, and customs clearance at the port of disembarkation in Myanmar and prompt internal transportation therein of the materials and equipment for the Project purchased under the Grant;
7. To exempt Japanese or a staff from a third country engaged in the project from customs duties, internal taxes and fiscal levies which may be imposed with respect to the supply of the products and services under the verified contract;
8. To accord Japanese or a staff from third country whose services may be required in connection with the supply of products and services under the verified contract such facilities as may be necessary for their entry into Myanmar and stay therein for the performance of their work;
9. To provide necessary permissions, licenses, and other authorization for implementing the Project, if necessary.
10. To assign an appropriate budget and teaching and administrative staff for proper and effective operation and maintenance of the facilities and equipment provided under the Grant; and
11. To bear all the expenses other than those to be borne by the Grant within the scope of the Project.

ANNEX-4 MONITORING AND REPORTING OF THE INSTITUTE OF NURSING

The Institute of Nursing has responsibility for monitoring the progress of all phases of the Project, The following indicators should be reported to the Japanese Government.

1. Students and Staff
 - 1) Number of students (by origin and gender)
 - 2) Ratio of successful applicants vs. candidate
 - 3) Ratio of successful applicants for the national certificate
 - 4) Drop-out ratio
 - 5) Number of teachers and staff and their future allocation plan

2. Administration, Operation and Maintenance
 - 1) Manpower development for teachers and staff
 - 2) Contents of the new curriculum
 - 3) Employment and services to be extended to the graduates
 - 4) Payment and working conditions of these graduates
 - 5) Maintenance and operational situation of the Institute

3. Financial Record and Projections
 - 1) Revenues:
 - School fees
 - Dormitory fees
 - Text books
 - Meals
 - Transportation

 - 2) Expenditures:
 - Salary
 - Utilities charge (electricity, fuel, gas, etc.)
 - Stipend, etc.

資料 7. 看護大学予算

Current Budget for Institute of Nursing

Budget Title	1990 - 91	1991 - 92	1992 - 93	1993 - 94	1994 - 95	1995 - 96
1. Salary and Allowances						
01 Salary	986,270	1,338,732	1,763,048	2,285,559	2,105,680	3,273,680
02 Temporary Allowance	22,217	29,920	36,175	37,280	32,820	72,530
2. Travelling Allowance						
01 Travelling Allowance (in country)	4,041	10,895	26,779	8,338	13,000	18,600
3. Labour and other charges						
01 Labour charges	2,936	5,761	6,615	15,651	24,000	71,000
02 Taxes	76,103	76,223	77,230	81,524	84,960	98,420
04 Transportation	600	1,888	5,999	2,977	5,000	7,800
05 Office equipment	9,993	46,490	57,193	44,426	100,000	63,000
06 Gasoline	24,348	26,570	28,980	30,840	59,410	132,180
07 Telephone bills	18,189	27,620	33,570	35,966	31,620	61,600
08 Electricity	80,480	101,683	141,957	135,558	136,000	192,000
09 Books, journal and News papers	2,586	5,780	6,800	4,999	10,000	11,320
12 Outfit allowance	10,500	21,659	39,689	15,960	16,000	46,800
13 Equipment for the job	2,968	37,725	38,440	21,319	80,000	78,000
14 Ration	-	-	-	-	-	36,000
20 Publication	6,724	32,505	9,197	9,200	10,000	50,000
21 Adversement	-	-	-	1,750	-	7,000
25 Exhibitions, Convocations	-	480	500	15,983	7,900	7,000
4. Maintenance						
01 Instruments and equipment	7,320	10,727	10,695	10,703	10,000	32,850
02 Buildings	35,916	96,060	158,873	228,360	342,000	1,730,000
03 Roads	-	-	-	-	-	7,200
04 Motorcars	20,713	27,959	46,030	47,850	100,100	112,000
09 Other maintenance	480	2,437	11,000	11,000	15,000	16,000
5. Stipend						
01 Stipend	466,703	898,459	1,156,560	1,754,547	1,860,230	1,530,000
6. Entertainment allowance						
02 Entertainment allowance	-	-	1,070	1,000	1,000	1,000
Total	1,779,087	2,799,573	3,656,400	4,800,790	5,044,720	7,655,980

Source: Institute of Nursing

Capital Budget for Institute of Nursing

Budget Title	1991 - 92	1992 - 93	1993 - 94	1994 - 95	1995 - 96
<u>Capital Investment</u>					
1. Present construction				400,000	-
2. Additional construction			650,000	1,300,000	600,000
3. New construction			9,650,000		9,000,000
<u>Increased Investment</u>					
1) Equipment to be bought with Revolving Fund			84,790	119,160	
2) Electrical equipment					66,670
<u>Office equipment, Office furniture, Office cars</u>					
1) Office equipment					60,000
2) Office furniture	50,850	451,225			
3) Office cars					240,000
Total	50,850	451,225	10,384,790	1,819,160	9,966,670

Source: Institute of Nursing

Yealy Budget allocation of Departmet of Health Manpower

(During 1988-89 to 1994-95)

Year	(Unit: Million kyat)									
	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96		
1. Current Revenue	28.227	8.108	5.819	11.396	7.554	7.477	9.045	9.000		
2. Current Expenditure	29.520	54.017	192.173	258.039	445.151	314.833	299.582	573.341		
(2) Current Expenditure	15.564	29.524	40.475	47.576	52.132	68.772	70.000	80.000		
(3) Capital Expenditure	13.956	24.493	151.698	210.463	393.019	246.061	229.582	493.341		

(Source: Department of Health Manpower)

Revenues of Department of Health Manpower

Budget Title	(Unit : Million Kyat)									
	1988 - 89	1989 - 90	1990 - 91	1991 - 92	1992 - 93	1993 - 94	1994 - 95	1995 - 96		
1. Department of Health Manpower	27.671	7.285	4.519	9.529	5.954	4.928	4.535			
2. Institute of Medicine (1)	0.312	0.490	0.405	0.544	0.631	1.057	1.807			
3. Institute of Medicine (2)	0.107	0.146	0.129	0.244	0.321	0.528	1.100			
4. Institute of Medicine Mandalay	0.103	0.155	0.600	0.912	0.354	0.615	1.051			
5. Institute of Dental Medicine	0.034	0.032	0.049	0.087	0.157	0.211	0.231			
6. Institute of Paramedical Sciences	-	-	0.047	0.009	0.028	0.042	0.112			
7. Institute of Pharmacy	-	-	-	-	0.016	0.014	0.071			
8. Institute of Nursing	-	-	-	0.032	0.071	0.053	0.119			
9. Nursing & Midwifery School	-	-	0.038	0.008	0.003	-	-			
10. School of Health Science for Basic Health Workers	-	-	0.032	0.031	0.019	0.029	0.019			
Total	28.227	8.108	5.819	11.396	7.554	7.477	9.045			

(Source : Department of Health Manpower)

Current Expenditure of Department of Health Manpower

(Unit : Million Kyat)

	Name of Department	1988 - 89	1989 - 90	1990 - 91	1991 - 92	1992 - 93	1993 - 94	1994 - 95	1995 - 96
1.	Department of Health Manpower	2.803	5.171	9.550	9.844	5.427	11.925	15.288	16.869
2.	Institute of Medicine (i)	5.349	9.881	7.045	7.631	8.655	10.192	9.978	10.286
3.	Institute of Medicine (ii)	2.883	5.510	5.115	5.636	6.250	7.762	7.387	7.883
4.	Institute of Medicine, Mandalay	2.960	5.344	5.440	5.746	6.743	7.669	7.628	8.359
5.	Institute of Dental Medicine	1.569	3.618	2.627	2.682	2.995	3.584	3.616	3.698
6.	Institute of Paramedical Sciences	-	-	0.642	0.984	0.559	0.815	0.988	1.026
7.	Institute of Pharmacy, Yangon	-	-	-	-	0.443	0.643	0.802	0.853
8.	Institute of Nursing	-	-	-	-	3.655	4.800	4.808	4.710
9.	Nursing Related Training Schools	-	-	5.925	10.308	12.344	14.484	13.436	19.849
10.	School of Health Science for Basic Health Workers	-	-	2.551	2.677	2.990	4.000	3.334	3.690
11.	Basic Training for Doctors	-	-	1.580	2.068	2.071	2.898	2.733	2.777
	Total	15.564	29.524	40.475	47.576	52.132	68.772	70.000	80.000

(Source : Department of Health Manpower)

Capital Budget for Department of Health Manpower

(Unit : Million Kyat)

	Name of Department	1990 - 91	1991 - 92	1992 - 93	1993 - 94	1994 - 95	1995 - 96
1.	Department of Health Manpower (Head Office)	112.387	101.536	58.130	26.411	0.822	1.157
2.	Institute of Medicine (i) Yangon	2.279	3.950	1.151	5.631	23.473	36.264
3.	Institute of Medicine (ii) Yangon	5.281	2.110	11.268	27.074	35.767	128.095
4.	Institute of Medicine, Mandalay	30.792	77.833	152.982	50.370	2.566	7.968
5.	Institute of Dental Medicine	0.780	1.130	4.650	1.125	20.367	37.579
6.	Institute of Paramedical Sciences	-	3.903	4.172	0.037	0.011	14.376
7.	Institute of Pharmacy	-	-	-	0.163	0.051	38.683
8.	Institute of Nursing	-	-	0.451	10.385	1.667	0.727
9.	Nursing Related Training Schools	0.179	17.089	138.592	113.927	134.195	214.930
10.	School of Health Sciences for Basic Health Workers	-	2.912	21.623	10.938	10.663	13.562
	Total	151.698	210.463	393.019	246.061	229.582	493.341

資料 9. 収集資料リスト

<国家計画>

- | | | |
|----|----------------------------------|--------------------|
| 1. | NATIONAL HEALTH PLAN (1993~1996) | Ministry of Health |
|----|----------------------------------|--------------------|

<看護大学およびDOHM、MOH関係資料>

- | | | |
|-----|--|---|
| 1. | Proposal for Establishment of an Institution as a WHO Collaborating Centre | Institute of Nursing |
| 2. | Yearly Budget allocation during 1988~1989 to 1994~1995 | DOHM |
| 3. | Current and Capital Budget of Institute of Nursing 1980/91 to 1995/96 | } 1 file |
| 4. | Current Budget of Institute of Nursing | |
| 5. | Capital Budget for Institute of Nursing | |
| 6. | DEPARTMENT OF MEDICAL RESEARCH | DOMR |
| 7. | MINISTRY OF HEALTH, DEPARTMENT OF HEALTH MANPOWER INSTITUTE OF NURSING YANGON Nov. 1994 | MOH |
| 8. | Institute of Nursing | DOHM |
| 9. | Organization chart of ION | ION |
| 10. | Short Information on WV Project in Dawpon Township | Dawpon Township Health Centre |
| 11. | Dawpon Township Health Department (1995) | Dawpa Township Health Centre |
| 12. | Hlegu Township Health Profile (1995) | Hlegu Township Hospital |
| 13. | "Community Health" - A Guide for house surgeons in intensive training in field practice areas. | Dr. C. Khai Ming
Dr. Than Myint
(Feb. 1994) |
| 14. | Questionnaire sheets for community health Nursing | ION |

〈技術・専門資料〉

1.	REPORT ON SUBSURFACE INVESTIGATION 600 BEDDED GENERAL HOSPITAL, LANMARAW TOWNSHIP YANGON (IONの北側Siteのボーリングデータ、OCT. 1992)	MINISTRY OF CONSTRUCTION PUBLIC WORKS
2.	気象関係各種データ (温度、湿度、風向、 <u>地震</u>)	Department of Meteorology and Hydrology
3.	Y C D C Engineering Departement of Buildings Building Code and Standards	Y C D C
4.	THE STAFF LAW AND ORDER RESTORATION	Y C D C
5.	Education Laws and Acts	Ministry of Education

〈国際機関による情報〉

1.	Strengthening of Nursing Services, Myanmar, Project Findings and Recommendations	UNDP、WHO、 SEARO
2.	UNDP Assistance to Myanmar 1993~1994	UNDP
3.	UNICEF Myanmar 1993 Annual Report	UNICEF
4.	KNOWLEDGE, ATTITUDES, PERCEPTIONS AND PRACTICES(KAPP). Related to Birth Traditions (B T s) : PILOT STUDY	UNDPのアンケート、 サンプル

〈ミャンマー事情一般〉

1.	ミャンマー事情 平成6年4月	在ミャンマー大使館
2.	STATUS OF WOMEN IN MYANMAR YANGON, MYANMAR 1995	DR. WIN MAY
3.	INVESTING IN MYANMAR 1994	THE UNION OF MYANMAR FOREIGN INVESTMENT COMMISSION
4.	CERTIFIED AVERAGE RATE(s)	MYANMAR FOREIGN TRADE BANK
5.	STATISTICAL YEARBOOK 1993	CENTRAL STATISTICAL ORGANIZATION YANGON, MYANMAR 1994

6.	TODAY THE MAGAGINE ON TOURISM AND BUISINES IN MYANMAR	
7.	Insight Guides, Myanmar	Wilhelm Klein
8.	現地新聞切り抜き	
9.	Review of the Financial, Economic and Social Conditions, 1993/1994	Ministry of National Planning and Economic Development
10.	Investment Opportunities in Myanmar, 1993	"
11.	Myanmar Business & Economic Review Jan./Feb., Mar./Apr. 1995	Ministry of Trade
12.	Myanmar Forestry Vol. 2, No. 4	Ministry of Forestry
13.	The Yangon Directory (Yellow Pages) 94 - 95	Y C D C
14.	Yangon Institute of Technology	Y I T

資料10. Future Nursing Manpower Development Plan

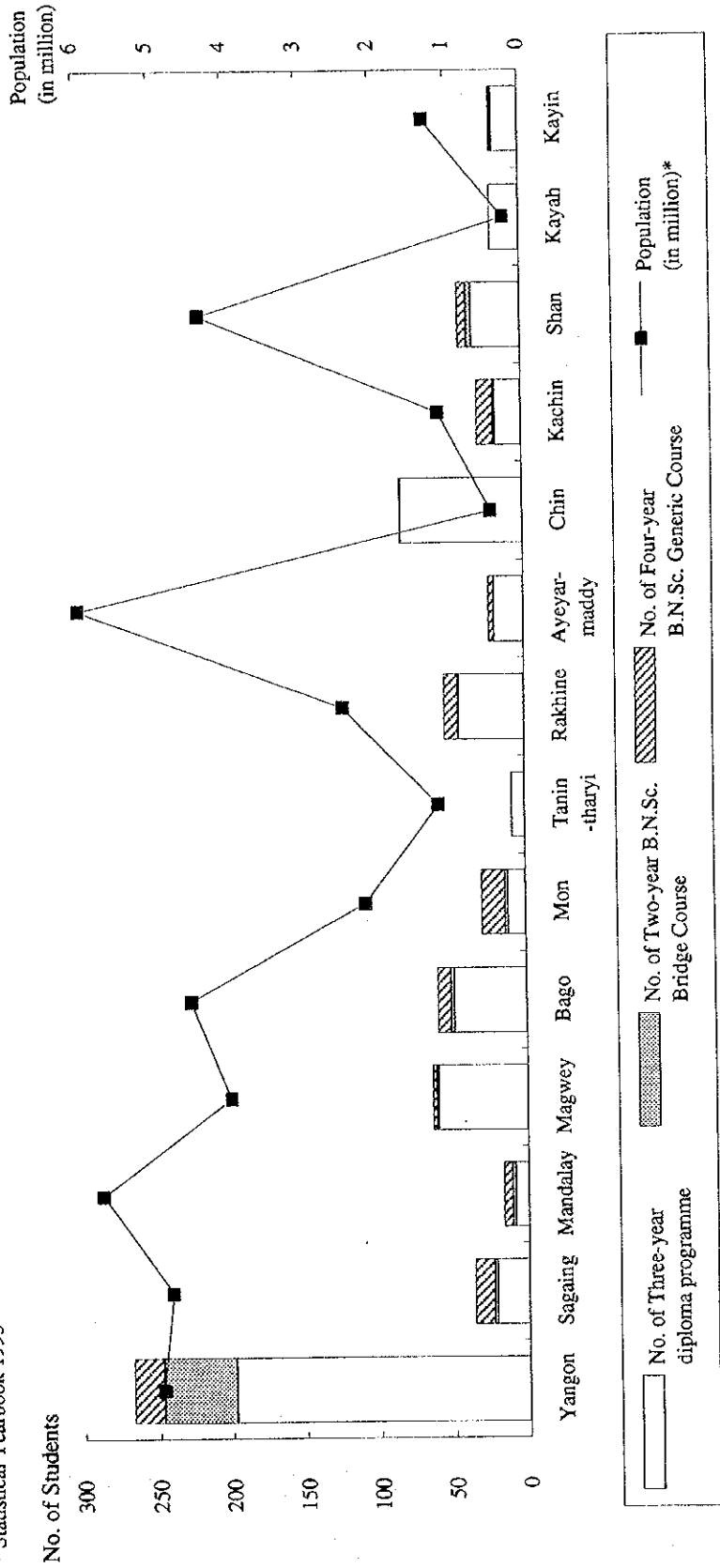
Future Nursing Manpower Development Plan

INSTITUTE/SCHOOL	95-96	96-97	97-98	98-99	1999-2000	2000-2001
Institute of Nursing	350	350	350	380	380	380
Nursing School (Y.G.H)	250	250	250	300	300	300
Nursing School (East YGH)	40	40	40	40	40	40
Nursing School (North Okkalapa)	60	60	60	60	60	60
Nursing School (Mandalay)	250	250	250	300	300	300
Nursing School (Pa-Thein)	100	100	100	150	150	150
Nursing School (Taungyi)	80	80	80	100	100	100
Nursing School (Lashio)	70	70	70	70	70	70
Nursing School (Mawlamyine)	150	150	150	150	150	150
Nursing School (Phalum)	50	50	50	50	50	50
Nursing School (Loikaw)	50	50	50	50	50	50
Nursing School (Pa-an)	50	50	50	50	50	50
Nursing School (Myitkyena)	50	50	50	50	50	50
Nursing School (Dawei)	50	50	50	50	50	50
Nursing School (Sittwe)	50	50	50	50	50	50
Nursing School (Pyay)	50	50	50	50	50	50
Nursing School (Monywa)	50	50	50	50	50	50
Nursing School (Magwa)	50	50	50	50	50	50
Nursing School (Kyaing-Ton)	50	50	50	50	50	50
TOTAL	1,850	1,850	1,850	2,050	2,050	2,050

看護大学出身地別学生数 (1994/95)

States and Division	Yangon	Sagaing	Mandalay	Magwey	Bago	Mon	Tanin-tharyi	Rakhine	Ayeyar-maddy	Chin	Kachin	Shan	Kayah	Kayin
Population (in million)*	4.94	4.8	5.72	3.99	4.53	2.14	1.16	2.44	5.99	0.43	1.12	4.34	0.22	1.29
No. of Three-year diploma programme	198	22	9	60	49	12	9	44	20	82	18	33	20	18
No. of Two-year B.N.Sc. Bridge Course	49	2	2	1	2	2	0	1	0	1	1	3	0	1
No. of Four-year B.N.Sc. Generic Course	20	13	6	3	9	16	0	9	4	0	11	6	0	1

* Statistical Yearbook 1993



看護大学学生数 (コース別、出身地別) : 1994/95年

CASE - I (Before Depreciation)

Table-1 Revenues

			Unit: Kyat
	Capacity	Tuition/Month	Yearly Total
A. Tuition			
(Generic Course)	400	50 ←	240,000
(Bridge Course)	70	50 ←	42,000
(Diploma Course)	600	50 ←	360,000
		Total	642,000
B. Dormitory Fees	Capacity	Fees/Month	Yearly Total
	920	100 ←	1,104,000
C. Meal Charge	Capacity	Charge/Month	Yearly Total
	1,070	200 ←	2,568,000
D. Government Subsidy			Yearly Total → 5,900,000
Annual Revenues			10,214,000

Table 1-2 Utilities Expense

			Unit: Kyat
	Electrical Power	Unit Rate	Yearly Total
A. Electricity	27,362 KWH	0.56 Kyat/KWH	183,873
B. Gas	Quantity of Gas	Unit Rate	Hours
	3.75 Kg/H	2.30 Kyat/Kg	1 day x 2 hr. x 3 times x 2
			37,260
C. O/M Cost for Equipment			Yearly Total
	Printing Machine (Repair, Consumptions, Spare Parts)		422,000
	School Bus (Repair, Consumptions, Spare Parts)		322,000
	Truck (Repair, Consumptions, Spare Parts)		321,400
	Sub-total		1,065,400
Total (A+B+C)			1,286,533
D. Depreciation	Year		Annual Rate
(Flat Rate)	Vehicles	5 years	643,400
	Printing Machine	6 years	1,007,000
	Nursing Education	10 years	2,800,000
	Building	25 years	56,000,000
	Furnitures, others	5 years	5,517,680
Total			65,968,080

Table 2-1 Payroll & Related Expenses (Existing)

Type of Works	Teaching Staff	General Staff	Monthly Payment Ks	Allowance Ks	Monthly Total Ks
Rector	1		2,375		2,375
Head of Department	0				
Lecturer	5		1,750	50	9,000
Ass. Lecturer	6		1,575	25	9,600
Tutor	27		1,250	25	34,425
Instructor	15		1,100	25	16,875
Chief Administrator		1	1,750	50	1,800
Register		1	1,575	25	1,600
Sectional Head		1	1,425	25	1,450
Account Section		1	1,250	25	1,275
Financial Section		3	1,025	25	3,150
Budget Section		2	1,000	25	2,050
Cashier		1	950	25	975
Store Section		2	1,025	23	2,095
Nursing Officer		0			
Sectional Head		1	1,425	25	1,450
Student Affairs Section		1	1,250	25	
Examination Section		2	1,025	25	2,100
Advising Section		3	1,025	25	3,150
Administrative Section		16	850	25	14,000
Personnel Section		6	750	25	4,650
Library Staff		9	850	25	7,875
Dormitory Staff		43	650	25	29,025
Chief of Maintenance Section		0			
Technicians		5	1,100	25	5,625
Drivers		0			
Security Staff		3	800	25	2,475
Kitchen Staff, others		32	650	25	21,600
Total	54	133			178,620
					(A)
Annual Personnel Expense					
(A) x 12 = 2,143,441					Teaching Staff 54
					General Staff 133
					Total 187

Note:

1. Related expenses include fringe benefit and social security contributions.
2. It is assumed that the minimum level of salaries among local staff members is 650kyats per month.

Table 2-2 Payroll & Related Expenses (After Completion)

Type of Works	Teaching Staff	General Staff	Monthly Payment Ks	Allowance Ks	Monthly Total Ks
Rector	1		2,375		2,375
Head of Department	5		2,200	50	11,250
Lecturer	20		1,850	50	38,000
Ass. Lecturer	22		1,675	25	37,400
Demonstrator	10		1,450	25	14,750
Tutor	50		1,350	68	70,900
Instructor	60		1,200	35	74,100
Chief Administrator		1	1,750	50	1,800
Register		1	1,575	25	1,600
Sectional Head		1	1,425	25	1,450
Account Section		1	1,250	25	1,275
Financial Section		4	1,025	25	4,200
Budget Section		2	1,000	25	2,050
Cashier		1	950	25	975
Store Section		4	1,025	23	4,190
Nursing Officer		1	1,500	25	1,525
Sectional Head		1	1,425	25	1,450
Student Affairs Section		3	1,250	25	3,825
Examination Section		3	1,025	25	3,150
Advising Section		5	1,025	25	5,250
Administrative Section		26	850	25	22,750
Personnel Section		6	750	25	4,650
Library Staff		8	850	25	7,000
Dormitory Staff		85	750	25	65,875
Chief of Maintenance Section		1	1,250	25	1,275
Technicians		10	1,100	25	11,250
Drivers		2	850	25	1,750
Security Staff		6	800	25	4,950
Kitchen Staff, others		79	750	25	61,225
Total	168	251			462,240
					(A)
Annual Personnel Expense					
(A) x 12 = 5,546,882					Teaching Staff 168
					General Staff 251
					Total 419

Note:

1. Related expenses include fringe benefit and social security contributions.
2. It is assumed that the minimum level of salaries among local staff members is 750 kyats per month.

Table - 3 Initial Investment Costs for the Myanmar Side

(Unit : kyat)

	Total	1995/1996	1996/1997
A. Fixed Investment Costs			
a. Land			
b. Transfer of Markets and Site Preparation	3,309,000	1,000,000	2,309,000
c. Building & Civil Works			
External Works	2,340,300	0	2,340,300
Utility Connections	1,160,000		1,160,000
Others	0	0	0
Sub-Total	6,809,300	1,000,000	5,809,300
B. Interest on Loan Accrued 10%	0	0	0
Initial Investment Total	6,809,300	1,000,000	5,809,300

Table-4 Projected Cash Flow CASE - I

1995/9/25

		1994/1995	1995/1996	1996/1997	1997/1998	1998/1999	1999/2000	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011
A. Tuition																		
Annual Income		K35,280	K37,044	K38,896	K642,000	K674,100	K707,805	K743,195	K780,355	K819,373	K860,341	K903,358	K948,526	K995,953	K1,045,750	K1,098,038	K1,152,940	K1,210,587
(Increase Rate)	5.00%		37,044	38,896	642,000	674,100	707,805	743,195	780,355	819,373	860,341	903,358	948,526	995,953	1,045,750	1,098,038	1,152,940	1,210,587
B. Dormitory Fees																		
Annual Income		K70,100	K73,605	K77,285	K1,104,000	K1,159,200	K1,217,160	K1,278,018	K1,341,919	K1,409,015	K1,479,466	K1,553,439	K1,631,111	K1,712,666	K1,798,300	K1,888,215	K1,982,625	K2,081,757
(Increase Rate)	5.00%		73,605	77,285	1,104,000	1,159,200	1,217,160	1,278,018	1,341,919	1,409,015	1,479,466	1,553,439	1,631,111	1,712,666	1,798,300	1,888,215	1,982,625	2,081,757
C. Meal Charge																		
Annual Income		K153,400	K161,070	K169,124	K2,568,000	K2,696,400	K2,831,220	K2,972,781	K3,121,420	K3,277,491	K3,441,366	K3,613,434	K3,794,106	K3,983,811	K4,183,001	K4,392,151	K4,611,759	K4,842,347
(Increase Rate)	5.00%		161,070	169,124	2,568,000	2,696,400	2,831,220	2,972,781	3,121,420	3,277,491	3,441,366	3,613,434	3,794,106	3,983,811	4,183,001	4,392,151	4,611,759	4,842,347
D. Government Subsidy																		
Annual Income		K5,044,720	K7,655,980	K8,038,779	K5,900,000	K6,195,000	K6,504,750	K6,829,988	K7,171,487	K7,530,061	K7,906,564	K8,301,892	K8,716,987	K9,152,836	K9,610,478	K10,091,002	K10,595,552	K11,125,330
(Increase Rate)	5.00%		7,655,980	8,038,779	5,900,000	6,195,000	6,504,750	6,829,988	7,171,487	7,530,061	7,906,564	8,301,892	8,716,987	9,152,836	9,610,478	10,091,002	10,595,552	11,125,330
Estimation of Annual Operating Income		5,303,500	7,927,699	8,324,084	10,214,000	10,724,700	11,260,935	11,823,982	12,415,181	13,035,940	13,687,737	14,372,124	15,090,730	15,845,266	16,637,530	17,469,406	18,342,877	19,260,020
A. Maintenance & Administrative Expense																		
a. Payroll & Relating Expenses																		
Increase Rate	5.00%	2,143,441	2,250,613	2,363,144	5,546,882	5,824,227	6,115,438	6,421,210	6,742,270	7,079,384	7,433,353	7,805,021	8,195,272	8,605,035	9,035,287	9,487,051	9,961,404	10,459,474
b. Commutation Expenses																		
Increase Rate	5.00%	13,000	13,600	19,530	20,507	21,532	22,608	23,739	24,926	26,172	27,481	28,855	30,297	31,812	33,403	35,073	36,827	38,668
c. Labor Expense, Others																		
Increase Rate	5.00%	428,890	719,320	755,286	675,943	709,740	745,227	782,488	821,613	862,693	905,828	951,119	998,675	1,048,609	1,101,040	1,156,091	1,213,896	1,274,591
d. Utilities Expenses																		
Increase Rate	5.00%	136,000	142,800	149,940	378,570	397,498	417,373	438,242	460,154	483,161	507,320	532,686	559,320	587,286	616,650	647,483	679,857	713,850
e. Public Space Maintenance Expenses																		
Increase Rate	5.00%	467,100	490,455	514,978	1,898,050	1,992,953	2,092,600	2,197,230	2,307,092	2,422,446	2,543,569	2,670,747	2,804,284	2,944,499	3,091,723	3,246,310	3,408,625	3,579,056
f. Stipend																		
Increase Rate	5.00%	1,860,230	1,530,000	1,606,500	1,686,825	1,771,166	1,859,725	1,952,711	2,050,346	2,152,864	2,260,507	2,373,532	2,492,209	2,616,819	2,747,660	2,885,043	3,029,295	3,180,760
g. Other Expenses																		
Increase Rate	5.00%	1,000	1,000	1,050	1,103	1,158	1,216	1,276	1,340	1,407	1,477	1,551	1,629	1,710	1,796	1,886	1,980	2,079
Estimation of Annual Operating Expenditure		5,049,661	5,152,788	5,410,428	10,207,879	10,718,273	11,254,186	11,816,896	12,407,740	13,028,127	13,679,534	14,363,511	15,081,686	15,835,770	16,627,559	17,458,937	18,331,884	19,248,478
Initial Investment Costs		0	1,000,000	5,809,300														
Estimation of Annual Expenditure (Total)		5,049,661	6,152,788	11,219,728	10,207,879	10,718,273	11,254,186	11,816,896	12,407,740	13,028,127	13,679,534	14,363,511	15,081,686	15,835,770	16,627,559	17,458,937	18,331,884	19,248,478
Net Income (Before Depreciation)		253,839	1,774,911	2,895,644	6,121	6,427	6,749	7,086	7,440	7,812	8,203	8,613	9,044	9,496	9,971	10,469	10,993	11,541

CASE - II (After Depreciation)

1995/9/25

Table-1 Revenues

			Unit: Kyat
A. Tuition	Capacity	Tuition/Month	Yearly Total
(Generic Course)	400	500 ←	2,400,000
(Bridge Course)	70	500 ←	420,000
(Diploma Course)	600	500 ←	3,600,000
		Total	6,420,000
B. Dormitory Fees	Capacity	Fees/Month	Yearly Total
	920	500 ←	5,520,000
C. Meal Charge	Capacity	Charge/Month	Yearly Total
	1,070	500 ←	6,420,000
D. Government Subsidy			Yearly Total
			→ 30,000,000
Annual Revenues			48,360,000

Table 1-2 Utilities Expense

			Unit: Kyat
A. Electricity	Electrical Power	Unit Rate	Yearly Total
	27,362 KWH	0.56 Kyat/KWH	183,873
B. Gas	Quantity of Gas	Unit Rate	Hours
	3.75 Kg/H	2.30 Kyat/Kg	1 day x 2 hr. x 3 times x 2
			37,260
C. O/M Cost for Equipment			Yearly Total
Printing Machine (Repair, Consumptions, Spare Parts)			422,000
School Bus (Repair, Consumptions, Spare Parts)			322,000
Truck (Repair, Consumptions, Spare Parts)			321,400
		Sub-total	1,065,400
		Total (A+B+C)	1,286,533
D. Depreciation	Year	Annual Rate	
(Flat Rate) Vehicles 5 years		643,400	
Printing Machine 6 years		1,007,000	
Nursing Education 10 years		2,800,000	
Building 25 years		56,000,000	
Furnitures, others 5 years		5,517,680	
		Total	65,968,080

Table 2-1 Payroll & Related Expenses (Existing)

Type of Works	Teaching Staff	General Staff	Monthly Payment Ks	Allowance Ks	Monthly Total Ks
Rector	1		2,375		2,375
Head of Department	0				
Lecturer	5		1,750	50	9,000
Ass. Lecturer	6		1,575	25	9,600
Tutor	27		1,250	25	34,425
Instructor	15		1,100	25	16,875
Chief Administrator		1	1,750	50	1,800
Register		1	1,575	25	1,600
Sectional Head		1	1,425	25	1,450
Account Section		1	1,250	25	1,275
Financial Section		3	1,025	25	3,150
Budget Section		2	1,000	25	2,050
Cashier		1	950	25	975
Store Section		2	1,025	23	2,095
Nursing Officer		0			
Sectional Head		1	1,425	25	1,450
Student Affairs Section		1	1,250	25	
Examination Section		2	1,025	25	2,100
Advising Section		3	1,025	25	3,150
Administrative Section		16	850	25	14,000
Personnel Section		6	750	25	4,650
Library Staff		9	850	25	7,875
Dormitory Staff		43	650	25	29,025
Chief of Maintenance Section		0			
Technicians		5	1,100	25	5,625
Drivers		0			
Security Staff		3	800	25	2,475
Kitchen Staff, others		32	650	25	21,600
Total	54	133			178,620
Annual Personnel Expense					(A)
(A) x 12 =					2,143,441
Teaching Staff					54
General Staff					133
Total					187

Note:

1. Related expenses include fringe benefit and social security contributions.
2. It is assumed that the minimum level of salaries among local staff members is 650kyats per month.

Table 2-2 Payroll & Related Expenses (After Completion)

Type of Works	Teaching and Technical Staff	General Staff	Monthly Payment Ks	Allowance Ks	Monthly Total Ks
Rector	1		2,375		2,375
Head of Department	5		2,200	50	11,250
Lecturer	20		1,850	50	38,000
Ass. Lecturer	22		1,675	25	37,400
Demonstrator	10		1,450	25	14,750
Tutor	50		1,350	68	70,900
Instructor	60		1,200	35	74,100
Lab. Technician	27		1,200	35	33,345
Chief Administrator		1	1,750	50	1,800
Register		1	1,575	25	1,600
Sectional Head		1	1,425	25	1,450
Account Section		1	1,250	25	1,275
Financial Section		4	1,025	25	4,200
Budget Section		2	1,000	25	2,050
Cashier		1	950	25	975
Store Section		4	1,025	23	4,190
Nursing Officer		1	1,500	25	1,525
Sectional Head		1	1,425	25	1,450
Student Affairs Section		3	1,250	25	3,825
Examination Section		3	1,025	25	3,150
Advising Section		5	1,025	25	5,250
Administrative Section		26	850	25	22,750
Personnel Section		6	750	25	4,650
Library Staff		8	850	25	7,000
Dormitory Staff		85	750	25	65,875
Chief of Maintenance Section		1	1,250	25	1,275
Technicians		10	1,100	25	11,250
Drivers		2	850	25	1,750
Security Staff		6	800	25	4,950
Kitchen Staff, others		79	750	25	61,225
Total	195	251			495,585
Annual Personnel Expense					(A)
(A) x 12 =					5,947,022
Teaching Staff					195
General Staff					251
Total					446

Note:

1. Related expenses include fringe benefit and social security contributions.
2. It is assumed that the minimum level of salaries among local staff members is 750 kyats per month.

Table - 3 Initial Investment Costs for the Myanmar Side

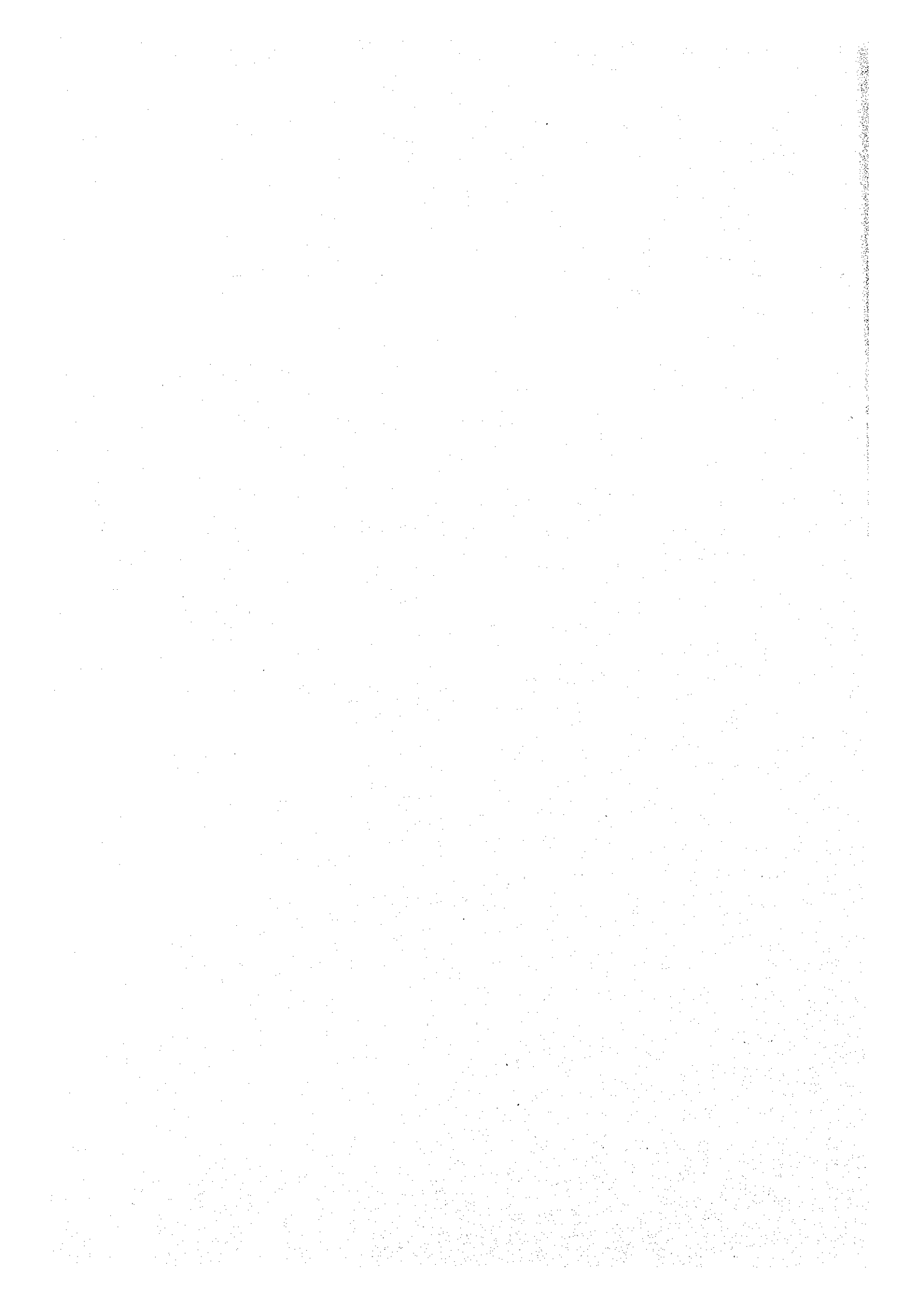
(Unit : kyat)

	Total	1995/1996	1996/1997
A. Fixed Investment Costs			
a. Land			
b. Transfer of Markets and Site Preparation	3,309,000	1,000,000	2,309,000
c. Building & Civil Works			
External Works	2,340,300	0	2,340,300
Utility Connections	1,160,000		1,160,000
Others	0	0	0
Sub-Total	6,809,300	1,000,000	5,809,300
B. Interest on Loan Accrued 10%	0	0	0
Initial Investment Total	6,809,300	1,000,000	5,809,300

Table-4 Projected Cash Flow CASE - II

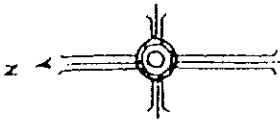
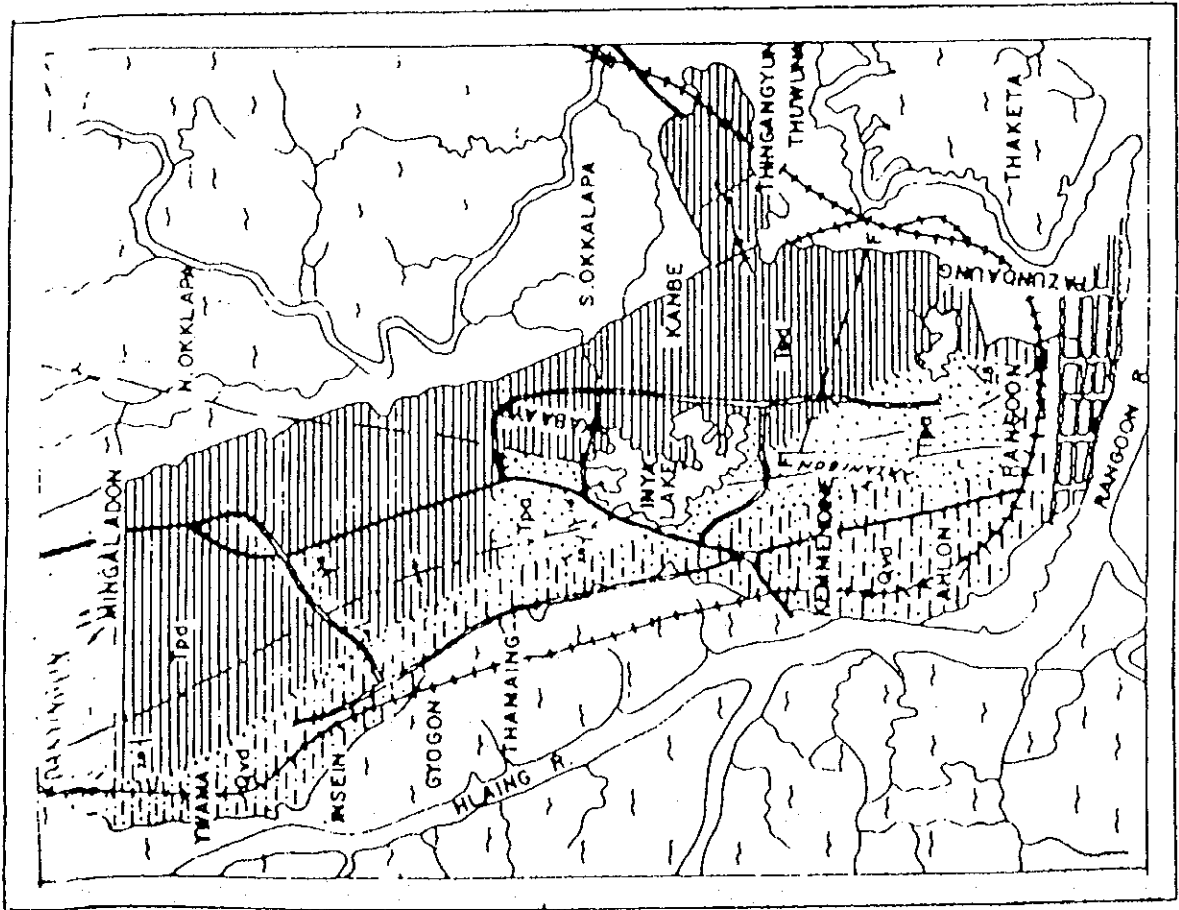
1995/9/25

		1994/1995	1995/1996	1996/1997	1997/1998	1998/1999	1999/2000	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011
A. Tuition																		
Annual Income		K35,280	K37,044	K38,896	K6,420,000	K6,741,000	K7,078,050	K7,431,953	K7,803,550	K8,193,728	K8,603,414	K9,033,585	K9,485,264	K9,959,527	K10,457,504	K10,980,379	K11,529,398	K12,105,867
(Increase Rate)	5.00%		37,044	38,896	6,420,000	6,741,000	7,078,050	7,431,953	7,803,550	8,193,728	8,603,414	9,033,585	9,485,264	9,959,527	10,457,504	10,980,379	11,529,398	12,105,867
B. Dormitory Fees																		
Annual Income		K70,100	K73,605	K77,285	K5,520,000	K5,796,000	K6,085,800	K6,390,090	K6,709,595	K7,045,074	K7,397,328	K7,767,194	K8,155,554	K8,563,332	K8,991,498	K9,441,073	K9,913,127	K10,408,783
(Increase Rate)	5.00%		73,605	77,285	5,520,000	5,796,000	6,085,800	6,390,090	6,709,595	7,045,074	7,397,328	7,767,194	8,155,554	8,563,332	8,991,498	9,441,073	9,913,127	10,408,783
C. Meal Charge																		
Annual Income		K153,400	K161,070	K169,124	K6,420,000	K6,741,000	K7,078,050	K7,431,953	K7,803,550	K8,193,728	K8,603,414	K9,033,585	K9,485,264	K9,959,527	K10,457,504	K10,980,379	K11,529,398	K12,105,867
(Increase Rate)	5.00%		161,070	169,124	6,420,000	6,741,000	7,078,050	7,431,953	7,803,550	8,193,728	8,603,414	9,033,585	9,485,264	9,959,527	10,457,504	10,980,379	11,529,398	12,105,867
D. Government Subsidy																		
Annual Income		K5,044,720	K7,655,980	K8,038,779	K30,000,000	K31,500,000	K33,075,000	K34,728,750	K36,465,188	K38,288,447	K40,202,869	K42,213,013	K44,323,663	K46,539,846	K48,866,839	K51,310,181	K53,875,690	K56,569,474
(Increase Rate)	5.00%		7,655,980	8,038,779	30,000,000	31,500,000	33,075,000	34,728,750	36,465,188	38,288,447	40,202,869	42,213,013	44,323,663	46,539,846	48,866,839	51,310,181	53,875,690	56,569,474
Estimation of Annual Operating Income		5,303,500	7,927,699	8,324,084	48,360,000	50,778,000	53,316,900	55,982,745	58,781,882	61,720,976	64,807,025	68,047,376	71,449,745	75,022,233	78,773,344	82,712,011	86,847,612	91,189,993
A. Maintenance & Administrative Expense																		
a. Payroll & Relating Expenses																		
Increase Rate	5.00%	2,143,441	2,250,613	2,363,144	5,947,022	6,244,374	6,556,592	6,884,422	7,228,643	7,590,075	7,969,579	8,368,058	8,786,461	9,225,784	9,687,073	10,171,426	10,679,998	11,213,998
b. Commutation Expenses																		
Increase Rate	5.00%	13,000	18,600	19,530	20,507	21,532	22,608	23,739	24,926	26,172	27,481	28,855	30,297	31,812	33,403	35,073	36,827	38,668
c. Labor Expense, Others																		
Increase Rate	5.00%	428,890	719,320	755,286	675,943	709,740	745,227	782,488	821,613	862,693	905,828	951,119	998,675	1,048,609	1,101,040	1,156,091	1,213,896	1,274,591
d. Utilities Expenses																		
Increase Rate	5.00%	136,000	142,800	149,940	378,570	397,498	417,373	438,242	460,154	483,161	507,320	532,686	559,320	587,286	616,650	647,483	679,857	713,850
e. Public Space Maintenance Expenses																		
Increase Rate	5.00%	467,100	490,455	514,978	1,898,050	1,992,953	2,092,600	2,197,230	2,307,092	2,422,446	2,543,569	2,670,747	2,804,284	2,944,499	3,091,723	3,246,310	3,408,625	3,579,056
f. Stipend																		
Increase Rate	5.00%	1,860,230	1,530,000	1,606,500	1,686,825	1,771,166	1,859,725	1,952,711	2,050,346	2,152,864	2,260,507	2,373,532	2,492,209	2,616,819	2,747,660	2,885,043	3,029,295	3,180,760
g. Other Expenses																		
Increase Rate	5.00%	1,000	1,000	1,050	1,103	1,158	1,216	1,276	1,340	1,407	1,477	1,551	1,629	1,710	1,796	1,886	1,980	2,079
Estimation of Annual Operating Expenditure		5,049,661	5,152,788	5,410,428	10,608,019	11,138,420	11,695,341	12,280,108	12,894,113	13,538,819	14,215,760	14,926,548	15,672,875	16,456,519	17,279,345	18,143,312	19,050,478	20,003,002
Initial Investment Costs		0	1,000,000	5,809,300														
Estimation of Annual Expenditure (Total)		5,049,661	6,152,788	11,219,728	10,608,019	11,138,420	11,695,341	12,280,108	12,894,113	13,538,819	14,215,760	14,926,548	15,672,875	16,456,519	17,279,345	18,143,312	19,050,478	20,003,002
Net Income (Before Depreciation)		253,839	1,774,911	-2,895,644	37,751,981	39,639,580	41,621,559	43,702,637	45,887,769	48,182,158	50,591,265	53,120,829	55,776,870	58,565,714	61,493,999	64,568,699	67,797,134	71,186,991
Depreciation		0	0	0	65,968,080	65,968,080	65,968,080	65,968,080	65,968,080	59,807,000	58,800,000	58,800,000	58,800,000	58,800,000	58,800,000	58,800,000	58,800,000	58,800,000
Net Cash Flow (After Depreciation)		253,839	1,774,911	-2,895,644	-28,216,099	-26,328,500	-24,346,521	-22,265,443	-20,080,311	-11,624,842	-8,208,735	-5,679,171	-3,023,130	-234,286	2,693,999	5,768,699	8,997,134	12,386,991



Appendix B

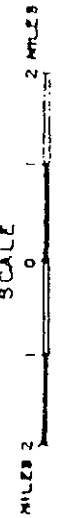
GEOLOGICAL MAP OF RANGOON AREA



DESCRIPTION	AGE
Young alluvium	Recent -
Valley-fill deposits	Pleistocene
Unconformity	
Danyingon clays	Pliocene
Arzanigon sandrocks	Irrowaddy Group

SYMBOLS

- γ α Dip angle, dip direction and strike
- F --- Fault, probable
- x --- x --- Axis of fold
- Boundary, inferred
- Anticline
- Syncline
- Boundary, definite,



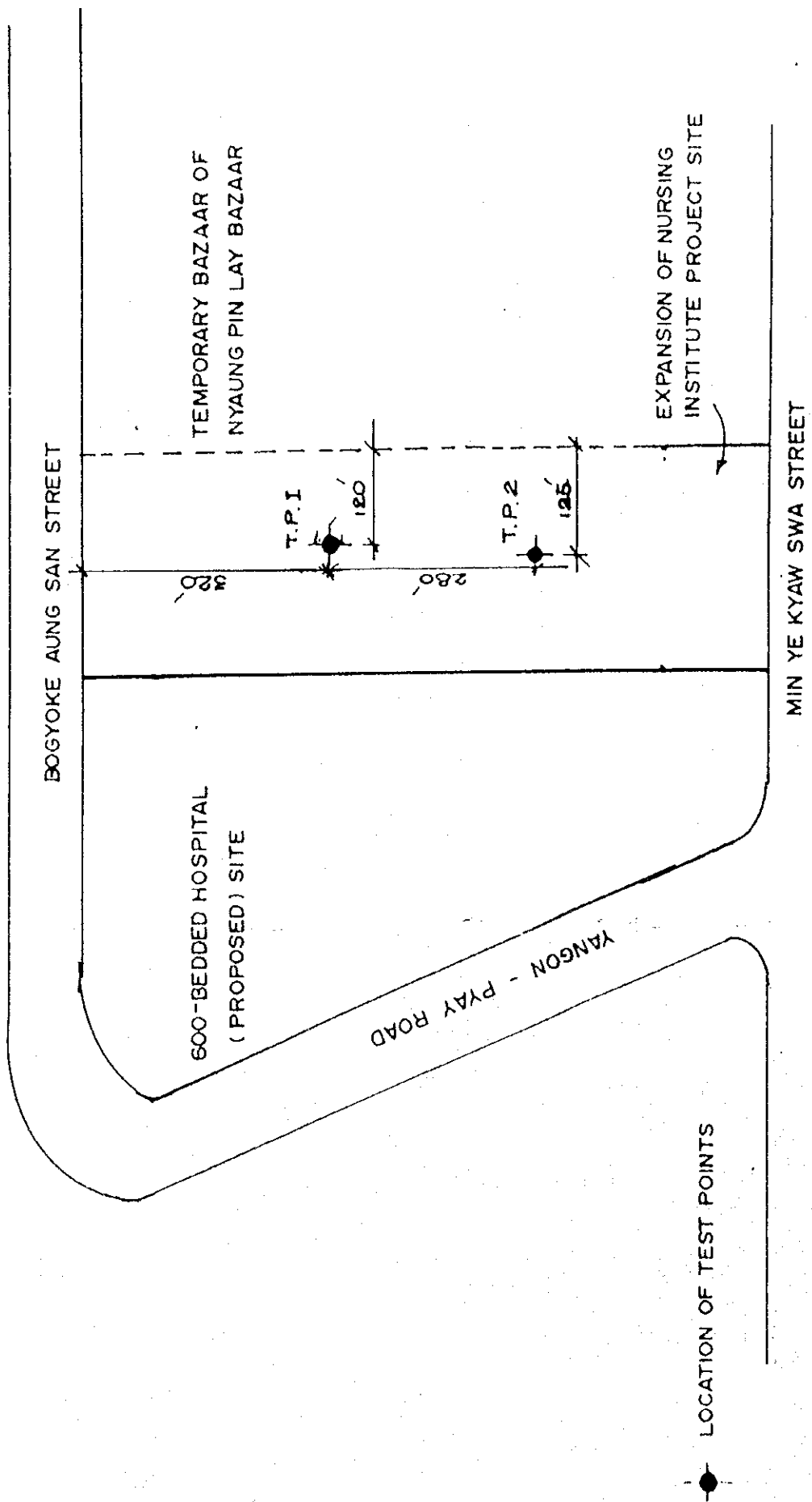
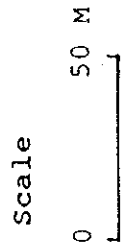
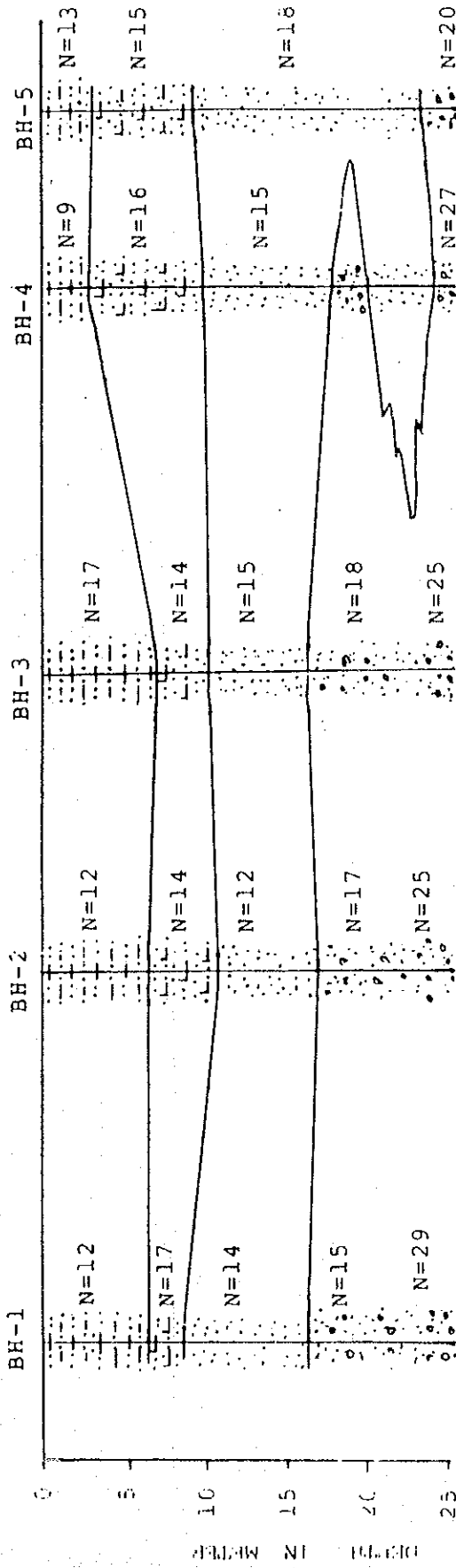






Fig.1 TEST POINT LOCATION PLAN FOR PROJECT FOR EXPANSION OF THE INSTITUTE OF NURSING, BOGOYKE AUNG SAN STREET, LANMADAW TOWNSHIP, YANGON, M Y A N M A R

SUBSURFACE GEOLOGICAL PROFILE OF
NURSING INSTITUTE EXTENSION SITE



I N D E X

-  Silty CLAY
-  Lateritic silty CLAY
-  SAND
-  SAND with fine gravel

BOREHOLE LOG

CALENDON OF NURSING
 Project Institute Project No. Date 28.4.95
 Type of Drilling Rotary..... Drill Hole No. Bh-5.... Elevation Existing Level m
 Water Table (date/hr/level)

Depth in m	Thickness in m	Lithologic Symbol	Description (type/color/relative density or consistency)	Sampling		SPT Blows per			Remarks
				Depth	Sample No. (SP/UD)	15cm 1	15cm 2	15cm 3	
17.0			Medium dense SAND reddish brown fine to medium grain	17.0					
17.45				SPT-15	4	6	9	N=15	
18.0									
18.45				SPT-16	6	7	9	N=16	
19.0									
19.45				SPT-17	6	7	7	N=14	
20.0									
20.45				SPT-18	6	7	8	N=15	
21.0									
21.45				SPT-19	5	8	9	N=17(27.4.95)	
22.0									
22.45		SPT-20	5	9	10	N=19			
23.0									
23.45		SPT-21	5	7	10	N=17			
24.0	2.45		Medium dense SAND, fine to medium grain, reddish brown & some fine gravels	24.0					
24.45				SPT-22	7	7	9	N=16	
25.0				SPT-23	5	8	12	N=20 (28.4.95)	
25.45			Borehole terminated at 25.45m-bgl.						

Driller : U Tin Ngwe

A-59

 Supervisor : 1. U Myint Oo
 2. U Khin Latt

BOREHOLE LOG

Institute Project No. Date
 Project No. Date
 type of Drilling Rotary Drill Hole No. BH-5 Elevation Existing Levelm
 Date Table (date/hr/level) 28.4.95 / 4:30pm / 10.4m

Thickness in m	Lithologic Symbol	Description (type/color/relative density or consistency)	Sampling		SPT Blows per			Remarks
			Depth	Sample No. (SP/UD)	15cm 1	15cm 2	15cm 3	
3.0		Stiff Silty CLAY reddish brown	1.0	SPT-01	5	5	8	N=13
			1.45					
			2.0	UD-1	-	-	-	Core recovery 28
4.0		Very stiff Lateritic silty CLAY red and yellow	2.22					(26.4.95)
			3.0	SPT-02	8	11	13	N=24
			3.45					
			4.0	UD-2	-	-	-	Core recovery 35
			4.29					
			5.0	SPT-03	5	6	8	N=14
			5.45					
2.0		Medium dense Lateritic clayey SAND red, white & yellow	6.0	SPT-04	4	6	7	N=13 (27.4.95)
			6.45					
			7.0	SPT-05	4	6	8	N=14
14.0		Medium dense SAND, reddish brown fine to medium grain	7.45					
			8.0					
			8.45	SPT-06	4	6	9	N=15
			9.0					
			9.45	SPT-07	4	6	8	N=14
			10.0					
			10.45	SPT-08	4	6	7	N=13 (26.4.95)
			11.0					
11.45	SPT-09	4	6	6	N=12			
14.0		Medium dense SAND, reddish brown fine to medium grain	12.0					
			12.45	SPT-10	4	4	6	N=10
			13.0					
			13.45	SPT-11	4	6	7	N=13
			14.0					
			14.45	SPT-12	5	6	7	N=13
14.0		Medium dense SAND, reddish brown fine to medium grain	15.0					
			15.45	SPT-13	5	7	8	N=15
			16.0					
16.0								
16.45	SPT-14	4	6	8	N=14			

Driller : U Tin Ngwe

A-60

 Supervisor : 1. U Myint Oo
 2. U Khin Latt

BOREHOLE LOG

Extension of Nursing
 Project Institute Project No. Date
 Type of Drilling ... Rotary Drill Hole No. ... BH-4 ... Elevation ... Existing Level ... m
 Water Table (date/hr/level)

Depth in m	Thickness in m	Lithologic Symbol	Description (type/color/relative density or consistency)	Sampling		SPT Blows per			Remarks	
				Depth	Sample No. (SP/UD)	15cm 1	15cm 2	15cm 3		
17.0		[Symbol]	Medium dense Fine to medium SAND, reddish brown colour	17.0	SPT-15	4	6	7	N=13	
18.0				17.45						
18.0	2.0	[Symbol]	Medium dense Fine to medium SAND, consisting of very fine gravel, reddish brown colour	18.0	SPT-16	7	7	9	N=16	
19.0				18.45						
19.0					19.0	SPT-17	5	7	8	N=14
20.0				19.45						
20.0			20.0	SPT-18	5	6	7	N=13		
21.0		20.45								
21.0	4.0	[Symbol]	Medium dense Fine to medium SAND reddish brown colour	21.0	SPT-19	6	8	10	N=18(24.4.95)	
22.0				21.45						
22.0					22.0	SPT-20	7	9	12	N=21
23.0				22.45						
23.0					23.0	SPT-21	7	9	11	N=20
24.0				23.45						
24.0			24.0	SPT-22	7	11	12	N=23		
25.0	24.45									
25.0	1.45	[Symbol]	Medium dense Fine to medium SAND, consists of fine gravel, reddish brown	25.0	SPT-23	7	13	14	N=27	
26.0			Borehole terminated at the depth of 25.45m-bgl.	25.45						

Driller : U Tin Ngwe

A-61

Supervisor : 1. U Myint Oo
2. U Khin Latt

BOREHOLE LOG

Extension of Nursing
 Institute
 Project No. Date 21.4.95
 Type of Drilling Rotary Drill Hole No. BH-4 Elevation Existing Levelm
 Water Table (date/hr/level) 25.4.95 / 8:00 / 9.50m

Thickness in m	Lithologic Symbol	Description (type/color/relative density or consistency)	Sampling		SPT			Remarks	
			Depth	Sample No. (SP/UD)	Blows per				
					15cm	15cm	15cm		
					1	2	3		
3.0		Stiff Silty CLAY, brown colour	1.0						
			1.45	SPT-1	3	4	5	N=9 (21.4.95)	
			2.0	UD-1	-	-	-	Core recovery 40%	
			2.45						
4.0		Stiff to very stiff Lateritic CLAY, cohesive red colour	3.0	UD-2	-	-	-	Core recovery 43%	
			3.33						
			4.0						
			4.45	SPT-2	6	6	10	N=16	
			5.0						
			5.45	SPT-3	6	7	9	N=16	
			6.0						
			6.45	SPT-4	5	6	7	N=13	
3.0		Medium dense Lateritic clayey SAND, fine grained, red colour	7.0						
			7.45	SPT-5	4	5	5	N=10	
			8.0						
			8.45	SPT-6	4	6	6	N=12	
3.5		Medium dense Fine to medium SAND, reddish brown colour	9.0						
			9.45	SPT-7	6	6	7	N=13	
			10.0						
			10.45	SPT-8	6	6	8	N=14 (23.4.95)	
4.5		Medium dense Fine to medium SAND, reddish brown colour	11.0						
			11.45	SPT-9	4	7	9	N=16	
			12.0						
			12.45	SPT-10	6	7	8	N=15	
			13.0						
			13.45	SPT-11	5	6	7	N=13	
4.5		Medium dense Fine to medium SAND, reddish brown colour	14.0						
			14.45	SPT-12	5	6	6	N=12	
			15.0						
			15.45	SPT-13	4	6	8	N=14	
16.0									
16.45	SPT-14	4	6	6	N=12				

Driller : U Tin Ngwe

A-62

Supervisor : 1. U Myint Oo
2. U Khin Latt

BOREHOLE LOG,

Extension of Nursing
Institute

Project Project No. Date

Type of Drilling Rotary BH-3 Existing Level

Drill Hole No. Elevationm

Water Table (date/hr/level)

Depth in m	Thickness in m	Lithologic Symbol	Description (type/color/relative density or consistency)	Sampling		SPT			Remarks	
				Depth	Sample No. (SP/UD)	Blows 15cm	Blows 15cm	Blows 15cm		
						1	2	3		
17.0	6.0		Medium dense Fine to medium SAND, consists of very fine gravel, yellowish brown.	17.0						
				17.45	SPT-15	5	6	7	N=13	
18.0										
				18.45	SPT-16	5	7	7	N=14	
19.0										
				19.45	SPT-17	5	7	8	N=15	
20.0										
	20.45	SPT-18	7	7	9	N=16				
21.0										
	21.45	SPT-19	7	8	10	N=18				
22.0	3.45		Medium dense Fine to medium SAND, containing very fine to fine gravel, yellowish brown.	22.0						
				22.45	SPT-20	8	11	12	N=23	
23.0										
				23.45	SPT-21	7	8	13	N=21	
24.0										
	24.45	SPT-22	10	11	14	N=25				
25.0										
	25.45	SPT-23	6	9	13	N=22				
26.0			Borehole terminated at the depth of 25.45m - bgl.							

S446 Form 08755 Tir: 21201/21238 BM 1190

BOREHOLE LOG

Extension of Nursing
 Institute
 Project Project No. Date 17.4.95
 Type of Drilling Rotary Drill Hole No. BH-3 Existing Level
 Water Table (date/hr/level) Elevationm
 18.4.95 / 8:00 / 2.75m, 19.4.95 / 8:30 / 9.10m
 20.4.95 / 8:00 / 9.40m

Depth in m	Thickness in m	Lithologic Symbol	Description (type/color/relative density or consistency)	Sampling		SPT Blows per			Remarks
				Depth	Sample No. (SP/UD)	15cm 1	15cm 2	15cm 3	
1.0	5.5		Stiff to very stiff Silty CLAY reddish brown	1.0					
1.45				SPT-01	4	5	5	N=10 (17.4.95)	
2.0				UD-1	-	-	-	Core recovery 4	
2.30									
3.0				SPT-02	5	6	8	N=14	
3.45									
4.0				SPT-03	5	7	8	N=15	
4.45									
5.0				SPT-04	6	8	9	N=17(18.4.95)	
5.45									
6.0	1.5		Medium dense Clayey SILT, reddish brown	6.0	SPT-05	4	5	6	N=11
6.45									
7.0	3.0		Medium dense Lateritic clayey SAND, reddish brown	7.0	SPT-06	5	6	8	N=14
7.45									
8.0				UD-2	-	-	-	Core recovery	
8.30									
9.0	4.0		Medium dense Fine to medium SAND yellowish brown	9.0	SPT-07	6	6	8	N=14
9.45									
10.0				SPT-08	6	6	7	N=13	
10.45									
11.0				SPT-09	4	5	7	N=12	
11.45									
12.0	2.0		Medium dense Fine to medium SAND reddish brown	12.0	SPT-10	4	5	6	N=11(19.4.95)
12.45									
13.0				SPT-11	5	5	7	N=12	
13.45									
14.0	2.0		Medium dense Fine to medium SAND reddish brown	14.0	SPT-12	5	5	8	N=13
14.45									
15.0				SPT-13	5	7	8	N=15	
15.45									
16.0	2.0		Medium dense Fine to medium SAND reddish brown	16.0	SPT-14	5	6	8	N=14
16.45									

Driller : U Tin Ngwe

A-64

Supervisor : 1. U Myint Oo
2. U Khin Latt

BOREHOLE LOG

Extension of Nursing
 Project Institute Project No. Date
 Rotary BH-2 Existing Level
 Type of Drilling Drill Hole No. Elevationm
 Water Table (date/hr/level)

Elevation in m	Depth in m	Thickness in m	Lithologic (Symbol)	Description (type/color/relative density or consistency)	Sampling		SPT Blows per			Remarks
					Depth	Sample No. (SP/UD)	15cm	15cm	15cm	
							1	2	3	
	17.0			Loose to medium dense Fine SAND, yellowish brown	17.0					
	18.0			Medium dense Fine to medium grained SAND, having very fine gravel, brown colour	17.45	SPT-15	4	6	8	N=14
	18.0				18.0	SPT-16	5	6	8	N=14
	19.0				19.0	SPT-17	5	6	9	N=15
	20.0				19.45					
	20.0	6.0			20.0	SPT-18	5	6	10	N=16 (15.4.9)
	21.0				20.45					
	21.0				21.0	SPT-19	7	7	10	N=17
	22.0				21.45					
	22.0				22.0	SPT-20	7	10	13	N=23
	23.0				22.45					
	23.0			23.0	SPT-21	9	11	14	N=25	
	24.0			23.45						
	24.0	2.45		24.0	SPT-22	7	10	15	N=25	
	25.0			24.45						
	25.0			25.0	SPT-23	6	10	15	N=25	
	26.0			25.45						
	26.0				Borehole terminated at the depth of 25.45m - bgl					

BOREHOLE LOG

Extension of Nursing
 Project Institute Project No. Date .. 13.4.95
 Rotary BH-2 Existing Level
 Type of Drilling Drill Hole No. Elevationm
 Water Table (date/hr/level) ... 15.4.95 / 8:30 / 5.10m ... 16.4.95 / 8:00 / 4.40m ...

Elevation in m	Depth in m	Thickness in m	Lithologic Symbol	Description (type/color/relative density or consistency)	Sampling		SPT			Remarks		
					Depth	Sample No. (SP/UD)	Blows per					
							15cm 1	15cm 2	15cm 3			
1.0		5.0		Medium stiff Silty CLAY, reddish brown	1.0							
1.45	SPT-01				3	3	4	N=7 (13.4.95)				
2.0												
2.45	SPT-02				2	3	4	N=7				
3.0												
3.45	SPT-03	3	3	4	N=7							
4.0												
4.45	UD-1	-	-	-	Core recover							
5.0		1.5		Medium dense Clayey SILT, reddish brown	5.0							
5.45	SPT-04				5	5	6	N=11 (14.4.95)				
6.0												
6.45	SPT-05	5	5	7	N=12							
7.0												
7.45	UD-2	-	-	-	Core recover							
8.0		4.0		Medium dense Lateritic clayey SAND, yellowish brown	8.0							
8.45	SPT-06				6	6	8	N=14				
9.0												
9.45	SPT-07				5	6	8	N=14				
10.0												
10.45	SPT-08	5	6	7	N=13							
11.0		6.5		Loose to medium dense Fine to medium SAND, yellowish brown	11.0							
11.45	SPT-09				4	5	6	N=11				
12.0												
12.45	SPT-10				4	6	6	N=12				
13.0												
13.45	SPT-11				5	5	7	N=12				
14.0												
14.45	SPT-12	5	6	7	N=13							
15.0												
15.45	SPT-13	6	4	5	N=9							
16.0												
16.45	SPT-14	6	5	5	N=10							


A-66

Driller : U Tin Ngwe

Supervisor : 1. U Myint Oo
2. U Khin Jatt

BOREHOLE LOG

Project Extension of Nursing Institute Project No. Date 9.4.95
 Type of Drilling Rotary Drill Hole No. BH-1 Existing Levelm
 Water Table (date/hr/level) 10.4.95 / 9:00 / 10.45m 11.4.95 / 9:00 / 10.20 m
 12.4.95 / 8:30 a.m / 9.77m

Elevation in m	Depth in m	Thickness in m	Lithologic Symbol	Description (type/color/relative density or consistency)	Sampling		SPT Blows per			Remarks
					Depth	Sample No. (SP/UD)	15cm	15cm	15cm	
							1	2	3	
17.0	17.0			Medium dense, SAND, fine to medium grained with very fine gravel, brown colour	17.0	SPT-16	4	6	7	N=13
18.0	17.45			18.0	SPT-17	4	6	7	N=13	
19.0	18.45			19.0	SPT-18	5	6	9	N=15	
20.0	19.45			20.0	SPT-19	9	10	10	N=20	
21.0	20.45			21.0	SPT-20	9	12	16	N=28 (10.4.95)	
22.0	21.45			22.0	SPT-21	7	11	16	N=27	
23.0	22.45			23.0	SPT-22	6	12	14	N=26	
24.0	23.45			24.0	SPT-23	5	12	16	N=28	
25.0	24.45			25.0	SPT-24	5	12	17	N=29	
	25.45				Borehole terminated at the depth of 25.45 m- bgl.					

BOREHOLE LOG

Project Extension of Nursing Institute Project No. Date 7.4.95
 Type of Drilling Rotary Drill Hole No. BH-1 Elevation Existing Level
 Water Table (date/hr/level) 9.4.95 / 8:30 / 9.50m

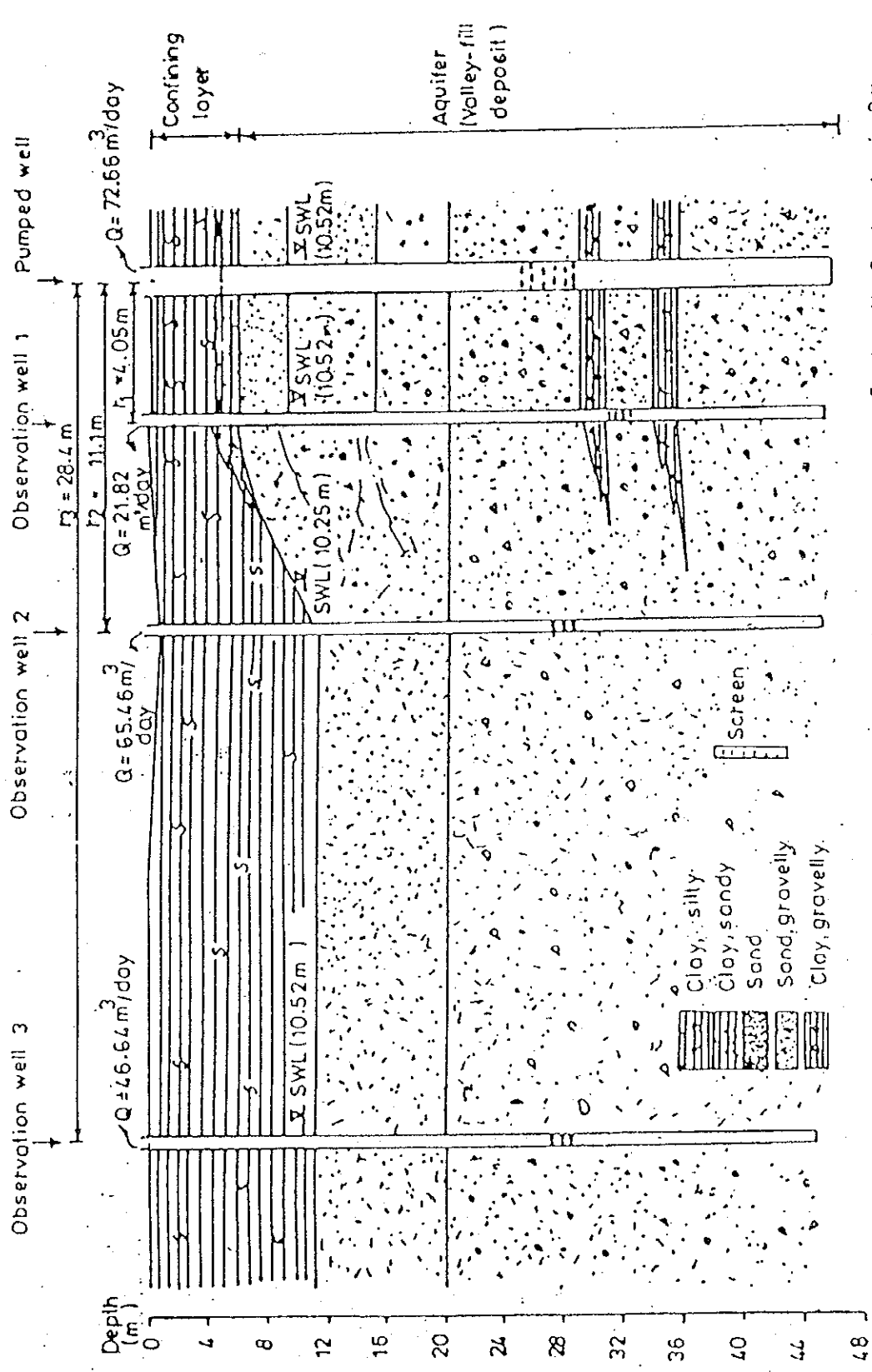
Elevation in m	Depth in m	Thickness in m	Lithologic Symbol	Description (type/color/relative density or consistency)	Sampling		SPT Blows per			Remarks
					Depth	Sample No. (SP/UD)	15cm	15cm	15cm	
							1	2	3	
	1.0			Medium to stiff silty CLAY, brown colour.	1.0					
	1.45				SPT-01	4	3	4	N=7	
	2.0									
	2.45				SPT-02	4	5	4	N=9	
	3.0									
	3.45				UD-1	-	-	-		Core recovered (8)
	4.0	7.0								
	4.45				SPT-03	4	5	5	N=10	
	5.0									
	5.45				SPT-04	4	4	5	N=9	
	6.0									
	6.45			SPT-05	5	6	6	N=12		
	7.0			Medium dense lateritic clayey SAND, reddish brown colour	7.0					
	7.45	1.5			SPT-06	5	5	7	N=12	
	8.0				SPT-07	6	8	9	N=17	
	8.45			Loose to Medium Fine SAND, brown colour						
	9.0	2.0			SPT-08	5	7	7	N=14	
	9.45									
	10.0									
	10.45			SPT-09	4	4	5	N=9		
	11.0			Loose Medium SAND, brown colour	11.0					
	11.45				SPT-10	3	4	5	N=4 (9.4)	
	12.0									
	12.45				SPT-11	3	3	5	N=8	
	13.0									
	13.45				SPT-12	5	5	5	N=10	
	14.0	5.5								
	14.45			SPT-13	3	4	4	N=8		
	15.0									
	15.45			SPT-14	3	4	5	N=9		
	16.0			Medium dense SAND, fine to medium with very fine gravel						
	16.45				SPT-15	5	6	7	N=13	

A-68

Driller : U Tin Ngwe

Supervisor : 1. U Myint Oo
2. U Khin Latt

Lithological Cross-Section of the pumping test site Expansion of Institute of Nursing compound.



Scale : H. Scale 1 cm = 2 m
 V Scale 1 cm = 4 m

The time-drawdowns analysis shows dispersion of the plots and often attain a stable drawdown condition. There are some possible reasons for this, namely,

- (1) The drawdowns in the piezometer were small and therefore liable to errors in measuring.
- (2) The observation holes only partially penetrated the screen aquifer.
- (3) Delayed drainage condition can be expected.

The distance-drawdown analysis indicated that the cone of depression is 74 m after 7 hours pumping out test. It suggested that the distance between the nearest two wells must be greater than 150 m.

5. Water Chemistry

Water sample were collected and sent to Water Resources Utilization Department Lab: and Geochemistry Lab: of Applied Geology Department to analyse. It is described in Appendix (C). The results show that it is chemically potable and summarised below.

	<u>WRUD Lab:</u>	<u>AGD Lab:</u>
<u>General Properties</u>		
Appearance	Clear	-
Smell	Nil.	-
Total Dissolved Solids	80	-
Electrical Conductance (μ mho/cm, 72°F)	150	-
p ^H	7.29	-
Total Hardness	30	-
Total Alkalinity	30	-
<u>Chemical Properties</u>		
<u>Cations</u>		
Sodium (Na ⁺)	-	15.6 PPM
Calcium (Ca ⁺⁺)	-	0.46 PPM
Magnesium (Mg ⁺⁺)	-	2.17 PPM
Potassium (K ⁺)	-	4.17 PPM
Iron (Fe ⁺⁺)	-	0.17 PPM
Lead (Pb)	A-71	ND

Anions

Chloride (Cl ⁻)	29.00	PPM	-
Sulphate (SO ₄ ⁼)	6.72	PPM	-
Bicarbonate (HCO ₃ ⁻)	30.00	PPM	-
Carbonate (CO ₃ ⁼)	ND		-
Remark	Chemically Potable		-

6. Conclusion

1. The aquifer may be semi - unconfined.
2. The acceptable values of the aquifer parameters are described below.

a) Transmissivity (T)	380	- 336 m ² /day
b) Lateral permeability (k)	78	- 70 m/day
c) Specific yield (Sy)	5x10 ⁻⁴	- 1 x 10 ⁻³
3. Distance between nearest tube well must be greater than 150 meters.
4. Water quality is chemically potable.
5. To obtain better quality and quantity of water drilled down to 300' for future investigation.

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