5－3－2　ビルマ国側分担工事範囲

(1)　医療機材据付場所の整備

(2)　仮設電力，給排水の確保

(3)　搬入据付実施に必要な諸情報の提供

(4)　機材仮置場の確保と降雨に対する防御

(5)　主幹工事

－1　給水（所定位置までの市水引込配管）

－2　排水（所定位置までの市水引込配管）

－3　電力の引込み（施設外及び施設内より所定位置までの引き込み）

－4　施設改造に係る材工一式

(6)　医療機材等の関税及び通関

(7)　日本人の本整備計画関係者に対するビルマ国で課せられる関税，国内税，その他の課徴金の免除。

(8)　本整備計画に関する日本人技術者の出入国に対する，ビルマ国政府からの便宜供与。

5－4　医療機材調達の方法

ビルマ国の医療機材整備計画の要請内容及び医療事情から判断して，業務実施に当り，機材の大部分を日本から輸入する必要がある。要請をうけた機材の性能，仕様，その他の条件から若干のものについては第三国からの調達の可能性が考えられる。

第三国から調達する場合の条件

(1)　要請にある機材が日本で生産されていないもの。

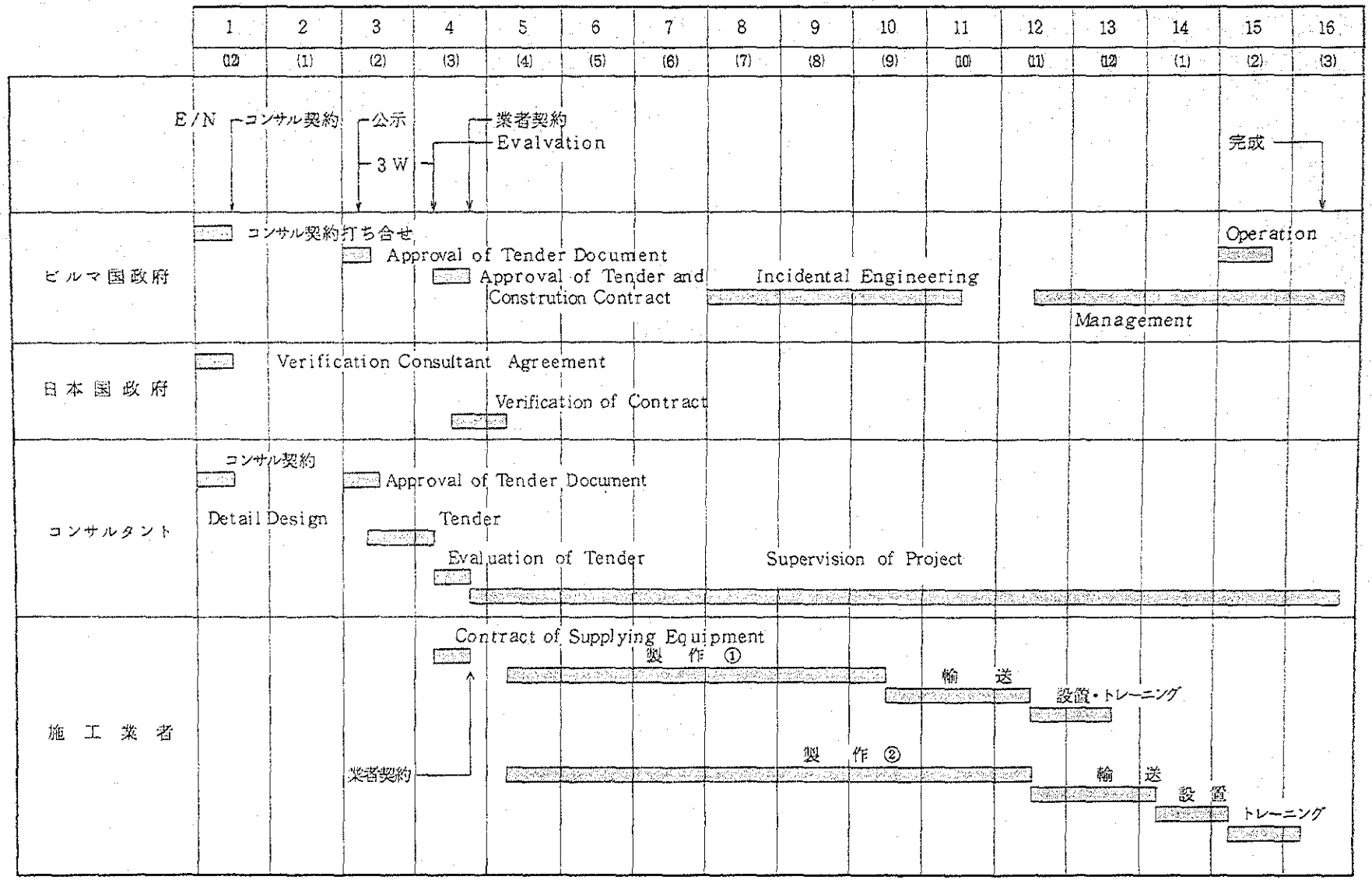
(2)　明らかに日本製品より廉価で性能が十分満足できるものであり，維持管理上問題のないもの。

5－5　実施スケジュール

無償資金協力に関する日本国政府並びにビルマ国政府との間に交換公文が締結された後に，業務実施のスケジュールが，始まる。

業務実施のスケジュールは大別すると，スペックの作成，入札，施工の3段階で行われる。

業務実施は業務契約に対する日本政府からの承認が得られた後に着手される。契約から納入までの期間は次のとおりである。


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
(12) (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (1) (2) (3)
E/N
コンサル契約
公示
3 W
業者契約
Evalvation
完成
ビルマ国政府
コンサル契約打ち合せ
Approval of Tender Document
Approval of Tender and Constrution Contract
Incidental Engineering
Management
Operation
日本国政府
Verification Consultant Agreement
Verification of Contract
コンサルタント
コンサル契約
Detail Design
Approval of Tender Document
Tender
Evaluation of Tender
Supervision of Project
施工業者
Contract of Supplying Equipment
製作 ①
輸送
設置・トレーニング
業者契約
製作 ②
輸送
設置
トレーニング

実施工程予定表

第６章　維持管理計画

第6章　維持管理計画

6－1　維持管理体制

維持管理の体制は，機材の配分を受けた施設の組織下に組み込まれているが，ビルマ国保健省として，医療機器のメンテナンス要員の育成に対して，既に着手しており，既存の生物医学研究所に於いては，その結果が如実に現われ，医療機器のメンテナンスは非常によくゆきとどいている。

6－2　維持管理計画

6－2－1　維持管理の方針

ビルマ国政府保健省は，医療機器のメンテナンス要員の育成の為，適確なるプログラムを組み，近代医学の分野に十分対処できるよう，内容の濃い教育指導と経験を積み重ね，各医療施設に人員を配備する方針を打ち出している。

6－2－2　維持管理要員計画

設置された医療機器の維持管理要員は，エンジニアとテクニシャンの2段階のレベルをもって，維持管理計画に参画している。

(1)　エンジニアのグレード

⊙グレードⅠ……グレードⅡ＋5年以上の経験

⊙グレードⅡ……グレードⅢ＋5年以上の経験

⊙グレードⅢ……大学の修士，学士課程修了者（専功科目…テクロノジー／特にエレクトロニクスとメカニカニックス等を対象とする）

現在保健省にはグレードⅠ～Ⅲが20名いる。20名中16名は，アメリカ，イギリス，カナダで，4名は日本で（JICAの技術協力による）各々トレーニングを受けている。専門分野は電子，電機，機械，建築である。保健省としては，今後毎年20人程度は採用して，医療機器の維持管理要員として育成してゆく計画である。

(2)　テクニシャンのグレード

⊙グレードⅠ……ラングーン総合大学工学部の学士課程修了者

⊙グレードⅡ……工科大学のディプロマ修了者

⊙グレードⅢ……ノンキャリア

テクニシャンⅠは経験をつむとOfficerとなり，エンジニアⅢと同等のグレードとなる。保健省では毎年，保健局に50名，医学研究局に30名，医学教育局に6名の採用計画をもって，医療機器等の維持管理の実施に当っている。

本整備計画に於いて，ビルマ国側より要請された医療機材内容は大別して

①生体生理機能検査機器

－1　循環生理機能検査機器

－2　呼吸機能検査機器

－3　超音波診断装置

－4　内視鏡

②検体検査機器

－1　臨床化学検査機器

－2　血液学検査機器

－3　微生物学検査機器

－4　免疫血清検査機器

－5　病理検査機器

③患者監視装置

④治療用機器

－1　手術室用機器

－2　放射線治療機器

－3　治療用ＭＥ機器

⑤診療各科に特有の機器

－1　産婦人科，新生児室用機器

－2　泌尿器科に特有の機器

－3　眼科に特有の機器（診療車）

－4　脳外科に特有の機器

－5　歯科に特有の機器（診療車等）

以上のように仕分けができ，ビルマ国の現況では

①生体生理機能検査機器は要請のあった各医療施設において，類似した機器が正常に作動しており，各医療施設の医師と電気技術者によって管理されている。

②検体検査機器に関しては，特に保健省医学研究局において，JICAの技術協力によって研修をうけた優秀な技術者が，この分野の機器のメンテナンスに当っており，総べての機器が支障なく作動している。また，これら検体検査機器も基本的には電気技術の応用性があり，生体生理機能検査機器と，ほぼ同程度のメンテナンス能力があれば対処できよう。

③患者監視装置，④治療用機器に関しても，調査によると，各医療施設には専門の技術者がメンテナンスルームに配備されている。また，最近のこれらＭＥ（Medical Electronics）機器は，メンテナンスがより容易となるよう，プリント配線が主流をしめ，修復不可能な故障に関してはプリント基盤の交換のみで対処できるようになっているため，スペ

アパーツとしてそれらの部品を供給することで，維持管理は可能であろう。また放射線治療の分野に於ける，放射線・電子線治療器である直線加速器の取り扱い等に関しては，イギリスで二年に渡って，研修をうけた医師が待機している。

⑤診療科に特有の機器は先に記述した生体生理機能検査機器，検体検査機器，患者監視装置に属する機器に比して，構造上，管理上の難易さにおいて問題はない。

以上のようなビルマ国側の現況を鑑みて機器の納入，据付時に使用者側に適切な操作法と維持管理法の指導をほどこすことと，スペアパーツの供給をもって，本整備計画を推進することが望ましい。

6－2－3　保守管理要員計画

本整備計画の要請の中には，先に説明したように，リニアアクセレレーター，自動化学分析装置など，他機器に比して，比較的精密，かつ維持管理上においても技術的に高度な機器が要請されているため，当該医療施設納入据付後，1年以内に1回，メーカーの技術者による定期点検を実施し，供与された機器が常に正常な状態で作動し，正確な診断と適切な治療がほどこされ，ビルマ国民の健康維持と向上，保健衛生の向上に寄与できるよう，努力することが望ましい。

なお定期点検を実施した場合に要するビルマ側の負担は概算で以下のとおりである。

リニアアクセレレーターと自動化学分析装置を最低限の対象として2名の日本人技術者を各々一週間派遣した場合，約55,600 kyats（約160万円）の費用負担と考えられる。

6－2－4　本計画に対するビルマ国側の対応状況

外国援助の動向でもみたように，医療機材のみの援助としては，今回の計画はビルマ国において比較的規模の大きなものと予想される。したがって調査期間中，保健局，各病院において，今後必要となる予算措置，要員計画について質問し，次のような回答を得た。

(1)　保健局長

⊙予算については，十分対処可能である。これまでの日本からの援助案件に対するビルマ側の実績を見てほしい。

⊙要員については，機材が各診療科に分散されるため，各医療施設で十分対応可能と考えている。

⊙ラングーン港から各医療施設への輸送については責任をもって行う。しかし実施に当っては雨期は絶対に避けてほしい。

(2)　各医療施設

⊙小工事ならば病院の予算内で可能であるが，大きな工事については，保健省から別に予算をつけてもらうことになると考えている。

⊙要員については，スタッフは十分におり問題はないと考えている。

6－2－5　維持管理費

本整備計画に関し，ビルマ国政府において負担する予算内容は，直接，機材を運転操作するためのものであり，大部分が直接に診療にあたる医師，看護婦，助産婦及び看護助手等に対する人件費と，機器に付随するスペアパーツ，消耗品の供給である。人件費については，本整備計画の実施によって新たなスタッフの採用ということは考えられない。

スペアパーツは機器の使用頻度，患者の稼動の変化，症例数により数量の増減はあるが当分の間，機器が維持管理できるよう，機器本体に組み入れている。

機器に付随する消耗品については，自動分析装置の試薬，患者監視装置の記録紙が主なものであり，使用頻度に依るがビルマ国側の負担で十分まかなえる範囲である。本計画の実施に当り維持管理の面で予算内容が新たに巨額なものを必要とするとは考えられない。本整備計画に関する予算措置は10月以降に始まる新年度予算に組みこまれる予定であり，業務の実施時点で予算は執行される。

なお維持管理に要する費用は次のようである。

(1)　機材の運転に付随する消耗品（年間）

　　機材総額の約2％で401,400 kyats（約1,200万円）

(2)　機材の運転に必要な電力消費量

　　約8,700 kyats／月 × 12 ＝ 104,400 kyat （約300万円）

合計 505,800 kyat （約1,500万円）

第7章　事業評価

第7章　事業計画

人民保健計画の実現を願いとして，疾病や傷害によって，国民の損失や減少を防止するため，根本的な病院医療事業の質的向上を目的とする，本整備計画は，次のように評価することができる。

計画されている医療機材の整備によって，より精度の高い診療及び治療体制がとれ，機材の不足状態からの解消，医療サービスの充実に十分寄与することが期待できる。

現在のビルマ国の医療の中心的存在である，ラングーン総合病院，中央婦人科病院，ラングーン小児科病院，マンダレー総合病院においては，これまで，老朽化した少数の医療機材の枠内に於ける医療という制約を受けて，診療内容は必ずしも充実したものとは言えず，医療サービス，診断治療効果も期待できないものであった。

本整備計画の実施によって，これらの制約が，かなり解除されることは確かで，より良い医療技術と人材の養成とからめて，機材内容の質的な向上が可能となる。またラングーン，マンダレーの2都市は言うに及ばず，地方の保健医療サービスの充実に直接寄与することができる意義は大きい。

運営及び維持管理に要する費用は，年間約505,800 kyats（約1,500万円）程度と見積られるが，これは保健省の予算によって賄われる予定である。電力エネルギーを比較的多く使用する機器もあるが，無駄のない運転と管理によって費用の削減も不可能ではないため，費用の面よりの問題はないと考える。

本整備計画の技術的な維持管理については，6－2「維持管理計画」に記されている通り，その計画の緻密さからみても，今後の技術的な維持管理面では支障はないと判断する。

これまで述べた如く，本整備計画の実施により，保健医療事情の改善向上に直接貢献することのほか，各施設が，ビルマ国の医療の中枢機関として，将来ともに機能し続けることの意味も確信されるため，本計画の意義は大きいと評価される。

第8章　結論と提言

第8章　結論と提言

8－1　結　　論

これまで述べてきたように，本整備計画は，ビルマ国政府にとって重要な国家目的のひとつになっているものである。本整備計画が実施された場合の社会的有効性及び効果は多大なものがあり，ビルマ国が保健医療事情の改善に貢献させようとする本整備計画を，実施後の効果と持続性について評価した結果，非常に有意義なプロジェクトであるという結論を得た。

また，本整備計画が我が国の無償資金協力によって実現されることは大変意義深いものであり，ビルマ国政府がもつ人民保健計画の早期達成に大きく貢献し得るものである。

8－2　提　　言

ビルマ国の発展の基礎は，国民の健康の維持増進に負うところが多大である。従って無償資金協力による本整備計画の効果は，ビルマ国政府並びに保健省を始め医療従事者らによって期待される所が大である。しかし本計画の実現は，ビルマ国政府及び各医療施設の自助努力に負うところが大きい。

(1)　ビルマ国政府への提言

⊙各病院及び関連機関に本整備計画の意義を十分に熟知させて，供与機材により，より適切な診療が患者に対して行われるよう，努力が払われること，機材の維持管理を物心両面より行い，日本国よりの技術協力をうけた医師，技術者をはじめとするビルマ国側スタッフにより常に機材が正常な作動状態を維持でき，診断治療効果が存続できるように努力が払われること（主要な機器の定期点検，維持管理要員の定着と技術向上への努力，機材運転に係る消耗品の持続的供給）など，本整備計画の効果が持続増大するように処置がなされなくてはならない。

⊙本整備計画を実施するにあたって，ビルマ国側負担工事の範囲内にある施設内の主幹工事（電気，給水，排水等）等については，機材の搬入以前に完了されている必要がある。

(2)　日本国政府への要望

⊙新ラングーン総合病院を対象とした機材整備計画の実施について，今回の整備計画の範囲から除外したが，要請のある機材を基本に，建屋込みのプロジェクトとして実施することは，消化器病のセンターとしての意義は大きく，早い時期に実施することが望まれる。

資　料　編

目　　次

1. 調査に関する資料 …… A－ 1
1－1. 基本設計調査日程表 …… A－ 1
1－2. 調査団員名簿 …… A－ 2
1－3. 主要面談者名簿 …… A－ 2
1－4. ミニッツ全文 …… A－ 3

2. 計画の背景に関する資料（図表） …… A－35
図2－1 年平均降雨量分布図 1） …… A－35
2－2 ラングーン，マンダレー気候図 6） …… A－35
2－3 州（State／Division）の構成 5） …… A－36
2－4 保健省及び保健局組織図 5） …… A－37
2－5 医学教育局組織図 5） …… A－38

表2－1 国別GNP・GDP（1981年） 3） …… A－39
2－2 セクター別就業者数（1983／84年度） 4） …… A－39
2－3 貿易収支の推移 4） …… A－40
2－4 主要品目別輸入実績 4） …… A－40
2－5 国別保健指標 3） …… A－41
2－6 死因統計（1978，81年） 2），5） …… A－41
2－7 年齢別死者数（1978年） 2） …… A－42
2－8 疾病統計（1981年） 5） …… A－42
2－9 保健サービス機関（1982／83年度） 4） …… A－43
2－10 病院総括表（1980年） 5） …… A－43
2－11 州別・規模別病院数（1980年） 5） …… A－44
2－12 州別総合病院リスト 5） …… A－44
2－13 州別専門病院リスト 5） …… A－45
2－14 国別ベッド数比較 2） …… A－45
2－15 医療従事者数の推移 4） …… A－46
2－16 国別医師数比較 2） …… A－46
2－17 州別・分野別医療従事者数（1981年） 5） …… A－47
2－18 医療従事者養成機関(1) 5） …… A－48
2－19 〃 (2) 5） …… A－49

図２－20　第４次計画セクター別公共投資実績　４）…… A－50

資料出典；　１）　JICA基本設計調査報告書

２）　WHO統計（1983）

３）　世界銀行統計（1983）

４）　ビルマ国年次報告書（1984／85）

５）　保健省資料

６）　理科年表（1984）

3.　対象医療施設に関する資料 …… A－51
3－1.　ラングーン総合病院 …… A－51
3－1－1.　放射線治療科 …… A－54
3－1－2.　心臓病ユニット …… A－56
3－1－3.　神経外科 …… A－58
3－1－4.　口腔形成外科 …… A－60
3－1－5.　泌尿器科 …… A－62
3－1－6.　手術部 …… A－64
3－1－7.　臨床検査科 …… A－66
3－2.　中央婦人科病院 …… A－69
3－3.　ラングーン小児科病院 …… A－73
3－4.　マングレー総合病院 …… A－76
4.　収集資料リスト …… A－82

1　調査に関する資料

1－1. 基本設計調査日程表

月　日	曜　日	調　　査　　内　　容
7／29	日	東京発バンコク着（ＴＧ741），バンコック泊
30	月	バンコク発ラングーン着（ＴＧ305） 空港にてビルマ政府保健省との事前打合せ後インヤ・レイクホテルへ。
31	火	日本大使館表敬訪問 計画財務省表敬訪問・打合せ 保健省保健局長主催昼食会 保健局（Ｄ．Ｏ．Ｈ）にて第１回打合せ 医学研究局（Ｄ．Ｏ．Ｍ．Ｒ）見学
8／1	水	新ラングーン総合病院視察 保健省副大臣表敬訪問 医学教育局（Ｄ．Ｏ．Ｍ．Ｅ）訪問
2	木	ラングーン総合病院視察 保健局にて調査内容・日程の打合せ ラングーン総合病院視察
3	金	中央婦人科病院視察 ラングーン小児科病院視察 保健局にて今後の日程の打合せ ラングーン総合病院視察
4	土	ラングーン発マンダレー着（国内線） マンダレー総合病院視察 マンダレー発ラングーン着（国内線）
5	日	団内打合せ・資料整理 塚本大使招待夕食会
6	月	保健局にてミニッツの内容について打合せ 保健局にて要請プロジェクトの内容について打合せ 団長主催夕食会（インヤ・レイクホテルにて）
7	火	保健局にて要請プロジェクトの内容について打合せ ミニッツ署名交換 保健省副大臣主催夕食会

8	水	中央婦人科病院にて要請内容の打合せ ラングーン小児科病院にて要請内容の打合せ 鳥塚団長，松尾団員両名帰国
9	木	ラングーン総合病院にて要請内容の打合せ 午後団内資料整理
10	金	新ラングーン総合病院にて要請内容の打合せ 午後団内資料整理
11	土	団内打合せ・資料整理
12	日	ラングーン郊外（ペグー）見学
13	月	医学研究局にて打合せ 国立衛生研究所（N. H. L）視察 カウンター・パートとの打合せ
14	火	保健局長，日本国大使館，ＪＩＣＡ事務所へ調査結果報告・帰国挨拶 佐藤，石川，秋田３名ラングーン発バンコック着（ＵＢ 221），バンコック泊
15	水	バンコック発東京着（ＴＧ 740）

１－２. 調査団員名簿

団　長	鳥　塚　莞　爾	総　括	京都大学医学部教授
団　員	松　尾　弘　子	無償資金協力	外務省無償資金協力課
団　員	佐　藤　　彰	病院システム	アイテック株式会社
団　員	石　川　洋　次	医療資機材	アイテック株式会社
団　員	秋　田　一　実	建物・設備	アイテック株式会社

１－３. 主要面談者名簿

1. 在ラングーン日本国大使館
   塚本大使
   神谷一等書記官
   羽根田医務官
2. ＪＩＣＡラングーン事務所
   篠浦所長
   高嶋所員

3. ビルマ国側関係者

Dr. Tun Hla Pru	Deputy Minister（保健省副大臣）
Dr. Pe Thein	Director General. D. O. H（保健局長）
Dr. Aung Myint	Dy. Director. D. O. H（カウンターパート）
U Khin Maung	Advisor, FERD（計画財務省）
Dr. Aung Than Batu	Director General, D. O. M. R（医学研究局長）
Prof. Tin U	Director General, D. O. M. E（医学教育局長）
U Htin Kyaw	Dy. Medical Superintendent, R. G. H（副院長）
Dr. Khin Khin Nee	Medical Superintendent, C. W. H（院長）
Dr. Khin Than Nu	Medical Superintendent, R. C. H（院長）
Dr. Khin Mg Than	Medical Superintendent, M. G. H（院長）

1－4. ミニッツ全文

MINUTES OF DISCUSSIONS

ON

THE IMPROVEMENT PROJECT OF MEDICAL EQUIPMENT

IN

THE SOCIALIST REPUBLIC OF THE UNION OF BURMA

August 7th, 1984.

MINUTES OF DISCUSSIONS

ON

THE IMPROVEMENT PROJECT OF MEDICAL EQUIPMENT

IN

THE SOCIALIST REPUBLIC OF THE UNION OF BURMA

In response to the request made by the Government of Socialist Republic of the Union of Burma for the Improvement Project of Medical Equipment (hereinafter referred to as "the Project"), the Government of Japan has sent, through the Japan International Cooperation Agency (hereinafter referred to as "JICA") which is an official agency implementing the technical cooperation of the Government of Japan, the team headed by Dr. Kanji Torizuka, professor of Kyoto University, Department of Radiology and Nuclear Medicine, to conduct the survey for 16 days from July 30th to August 14th, 1984.

The team carried out a field survey, held a series of discussions and exchanged views with the authorities concerned of the Government of the Socialist Republic of the Union of Burma.

Both parties have agreed to recommend to their respective Governments and the authorities concerned to examine the result of the survey attached herewith toward the realization of the Project.

K, Torizuka

KANJI TORIZUKA
Head, Japanese Survey Team

DR PE THEIN
Director General
Department of Health

ATTACHEMENT

1. The objective of the Project is to contribute to the upgrading of the medical standard of Burma by improving the present condition of medical equipment in facilities concerned with medical affairs.

2. The Japanese Survey Team will convey to the Government of Japan the desire of the Government of the Socialist Republic of the Union of Burma that the former takes necessary measures to cooperate in implementing the project and bear the cost of the items requested by the latter shown in Annex. I, within the scope of Japanese economic cooperation programme in grant form.

3. The Government of Socialist Republic of the Union of Burma will take necessary measures listed in Annex II under the condition that the grant aid assistance by the Government of Japan is extended to the Project.

4. Both parties confirmed that the Survey Team explained Japan's grant aid programme and the Burma side has understood it.

ANNEX I.

The following items are requested in priority order by the Government of the Socialist Republic of the Union of Burma as grant aid assistance.

Priority

I. Medical Equipment list (detailed in Annex III)

II. Other items are as below: (detailed in Annex IV)

1. Development of ICU and CCU Units in strategically located General Hospital

2. Development of Dental and X-ray Mobile Services - Prosthetic/Orthotic Services

3. Community Programme for Disability Prevention and Rehabilitation

4. Development of Kidney Units in Rangoon General Hospital

5. Ophthalmic Mobile Surgical Units

ANNEX. II

Following arrangements are requested to be taken by the Government of Socialist Republic of the Union of Burma.

1. To secure space or facilities to accomodate the equipment necessary for the Project when needed before the start of the works.

2. To provide facilities for distribution line of electricity, water supply and drainage and other incidental facilities to the sites (facilities to accomodate the equipment).

3. To provide data and information to a Japanese Consultant and a contractor necessary for the detailed engineering services and construction.

4. To ensure prompt unloading, customs clearance, and prompt internal transportation therein of the products purchase under the grant.

5. To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in Socialist Republic of the Union of Burma with respect to the supply of the products and services under the verified contracts.

6. To provide and use properly and effectively the facilities purchased, installed and constructed / rehabilitated under the grant, and to arrange the budget for maintenance and operation.

7. To provide and accord necessary permission, licenses and other authorisation required for the execution of the Project.

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

ANNEX III

Part I. Equipment for New Rangoon General Hospital

Based on the successive discussions between the two teams, the Burmese side

- requested that

(1) Whole Body C.T. Scanner

(2) Remote controlled cassetteless X-ray diagnostic T.V. system

(3) Film Drive System

(4) Gamma Camera System

(5) Auto Multi Gamma Counter

(6) Autoanalyzer

(7) Blood Gas Analyzer

be included and considered as priority equipment for the new Rangoon General Hospital,

- and further requested that consideration for such be made from additional funds.

Part II. Among the Medical Equipment List submitted to the H.E. Japanese Parliamentary Vice Minister for Health and Welfare, the following is the list of equipment considered according to the priority during the discussions between the two teams.

Priority I Equipment for Rangoon General Hospital

Among Equipment for Rangoon General Hospital

1st Priority - Linear Accelerator

2nd Priority - Equipment for Rangoon General Hospital Clinical Laboratory as follows.

Rangoon General Hospital Clinical Laboratory for Automation of tests and improvement (In order of priority)

1.	Platelet counter FUJISAWA Model Ultra-Flo 100 and accessories	- 2 Nos.
2.	a) W.B.C. counter ERMA Model ACH-200 and accessories	- 2 "
	b) Automatic dilutor ERMA Model AD-70	- 2 "
3.	Auto-technicon C-800 ion analyzer (Stat ion II) and accessories for Na, K, Cl and CO_2	- 2 "
4.	Blood Gas Analyzer ABL-2 and accessories	- 2
5.	Auto-technicon double channel auto-analyzer A A II with recorder and accessories	- 2 "
6.	Auto-technicon R.A. 1000 and accessories	- 1 No.
7.	Prothrombinometer and accessories	- 2 Nos.
8.	Fluorescent microscope with camera attachment NIKON Model	- 1 No.
9.	Immuno-electrophoresis apparatus & accessories	- 1 "

Equivalent Model will be accepted.

3rd Priority - Pan Angiography will be chosen as top priority among Cardiac equipment. Cardiac Equipment requested will be as follows.

1) Echo Cardiogram
2) Thread-Mill Monitoring ECG
3) Analyzer of Holter Monitoring System including Holter

4th Priority - Equipment for Neuro-Surgery, Oral-Maxillo-Facial & Plastic Surgery, Uro-Surgery and Chest Surgery

Neuro-Surgical Equipment (In order of priority)

Equipment	Q'ty	Remarks
1. Neuro-micro-surgical instruments		
Operating microscope OPMI 6 or 7 (for neuro-surgery). Complete set with following accessories:-	1	Preferable 1) Zies OPMI 6 or 2) Olympus 3) Topcon (with reference to FUKUSHIMA of T
1) Additional light source	1	
2) Electronic flash	1	

Equipment	Q'ty	Remarks
3) Motorised rollable stand	1	University and MITSUI Memorial Hospital)
4) Audiovisual equipments to be attached with microscope.		
i. Hitachi DK-81, colour TV camera, head only for attachment by 'C' mount adaptor to microscope	1	
ii. Hitachi AF-4 A.C. adaptor for above	1	N.B. The audiovisual equipment should match with the chosen operating microscope
iii. Sony VO 5630 U-Matic Video recorder	1	
iv. Sony CVM 2000 PSB 20" colour monitor	1	
2. Microsurgical instruments		
1) Bipolar coagulator complete set	1	with reference to DOWNS surgical instruments
2) Bipolar forceps fine ends 0.5mm titanium, 8 5/8" 219mm	2	
3) Diamond knife bayonet with 60° spear shaped blade on 7.5cm shaft, 8¼" (210mm)	1	
4) Diamond knife bayonet with 60° spear shaped blade on 9.5cm shaft, 9¼" (229mm)	1	
5) Fine probe with right angle plain end	2	
6) Fine probe with hook end	2	
7) Fine probe with straight plain end	2	
8) Needle holder straight no catch	2	
9) Fine needle holder with curved jaws	2	
10) HEIFETZ clip straight 5 x 1.5 (short)	12	
11) Sugita Clip set	1	
12) Vessel approximator bar 12.4mm	1	
13) Vessel approximator bar 19mm	1	
14) Temporary clip low pressure 5mm	1	
15) Medium pressure 5mm temporary clip		

Equipment	Q'ty	Remarks
16) Low pressure 8mm temporary clip	1	
17) Medium pressure 8mm temporary clip	2	
18) Bleasal suction/irrigation tube 10" (254mm)	2	
3. Micro instruments for vessel surgery		
1) Vessel knife, Sickle shaped blade, malleable shaft	2	
2) Vessel probe, single prong with ball tip	2	
3) Suture passer and knot tier	2	
4) Endarterectomy spatula, Semi-shape, straight blade 1x10mm	1	
5) Endarterectomy spatula, Semi-shape, angled blade 1x10mm	1	
4. Instruments for transphenoidal hypophysectomy		
1) Hardy speculum new model open-ended, blackened blades small 2 3/4" (70)mm	1	
2) Hardy speculum standard 3¼" (80mm)	1	
3) Expanding device 6¼" (159mm)	1	
4) Hardy Enucleator 8½" (216mm)	1	
5) Hardy (Bronson Ray) Curette 8½" (216mm)	1	
6) Hardy 'Sickle' 8½" (216mm)	1	
7) Derome Handle 4 3/4" (121 mm)	1	
5. Stryker Craniotome Instruments		
1) Stryker craniotome Handpiece electric	2	
2) Single Fluted Router	4	
3) Triple Fluted Router	4	
6. Laser Surgery Equipment	1	
For laser microsurgery the micro manipulator used as adaptor should be attachable to the microscope chosen in No. 1		

Equipment	Q'ty	Remarks
7. Patient Monitoring System for I.C.U		
1) Toshiba PMS-4 AA	1	
2) Intracramial Pressure Monitoring System, a complete set, any type	1	
3) D.C. Defibrillator	1	
4) Wright's Respirometer	1	
5) Portable Electric Suction	2	
6) DYNACLAVE sterilizer Model CCR-2	2	
7) Electronic blood gas analyser	1	
8) Air conditioner	4	

Priority equipment list for Department of Oro-Maxillo Facial and Plastic Surgery, Rangoon General Hospital

1. For Oral, Maxillo-Facial & Plastic Surgery operating theatres

1) Operating Table	
Mizuho Operating Table, MOS 11CON	2 nos.
2) Operating Light	
Skylux Vamada Shadow Lamp CO. 3-L	2 "
3) Operating Light (Portable)	
Sonne Shadowless Lamp	2 "

1)-3) absolutely essential as present tables and lights are not adjustable any more.

4) Strong Suction Apparatus for Operating Theatre use	2 "
5) Diathermy Sets (Portable)	2 "

2. For In-patients Wards (Ward 15 & 16)

1) Steam sterilisers for ward use	2 "
2) Suction Apparatus for ward use and out-patient department	4 "
3) Dressing Trolleys	2 "
4) Air conditioner for dressing room	2 "

3. For Out-patient Dental Department

1) Complete Dental Unit (with chair; light; air rotor with built-in compressor (or separate compressor); Hand pieces and assorted burs)	3 Units

2) Complete set of portable dental X-ray unit 1 No.

3) Complete set of portable developing unit 1 No.

4) Complete range of dental X-ray films

5) Sterilizer 1 No.

Equipment for Uro-surgical Department of Rangoon General Hospital in order of priority.

1) Nephroscope and accessories for biopsy

2) Lecture Scope Model - LS - R

3) Floor-type Boiling sterilizer

Surgical Instruments required for Chest Surgical Unit of Rangoon General Hospital in order of priority.

1) Fiber-bronchoscope FBS 6TL11 1 No.

2) Fiber-esphagoscope 1 "

3) Endoscope locker MT6 1 "

4) Fiber teaching attachment FS-TA11 1 "

5) Endoscope illuminator RX-500J 1 "

6) Low pressure suction unit MSF 210 6 Nos.

7) Suction apparatus 2 "

8) Nakayama gastric clamps (+4000 clips) 2 "

9) Pneumonectomy set 1 No.

10) Endoscopic Electrohydraulic table DR-700 M 1 "

5th Priority - Acoma Ventilators for Operation Theatre 5 Nos.

Priority II. Equipment for Central Women's Hospital in order of priority.

1. Delivery tables 12 Nos.

2. Neonatal resuscitation unit with suction & O_2 attached 5 "

3. Electrical Bowl Sterilizer 10 "

4.	Electric suction apparatus (Adults)	8 Nos.
5.	Electric suction apparatus (Neonates)	6 "
6.	Automatic tissue processor	1 No.
7.	Blood Bank Refrigirator	1 "
8.	Fowler's beds	12 Nos.
9.	Oxytocin drip regulator - electronic with tocodynamometer	3 "
10.	Ultra Violet Spectrophotometer	
11.	Colorimeter	
12.	CVP monitor with PCO_2 analyser - adults	2 "
13.	Incubators for babies	6 "
14.	Conduction analgesia set continuous epidual set (disposable)	3 boxes
15.	Electric Cautery	4 Nos.
16.	Cryosuggical set	2 "
17.	Microsurgical tuboplasty instruments complete set with operating microscope	1 No.
18.	Electric vacuum extractor with suction curette	3 Nos.
19.	Ultrasound	2 "
20.	Sonocaids (Doppler)	4 "
21.	Dilatation and Curette instruments	6 sets
22.	Hysterectomy set (instruments)	4 "
23.	Caesarean section set (instruments)	6 "
24.	Ambu resuscitator for adults and neonates	6 Nos.
25.	Close circuit T.V. with 2 way communication for teaching purposes at operation theatre.	1 No.

26.	Microscope Trinocular	1 No.
27.	Microscope Binocular	6 Nos.
28.	Microscope with Microphotography (MNAOM)	1 No.
29.	E.C.G. Machine	2 Nos.
30.	Freezing microtome	1 No.

Lotity III. <u>Equipment for Children's Hospital, Rangoon (in order of priority)</u>

1st Priority - For Intensive Care Unit

1)	Minimonitor Cardioscope Model - KE 201A	8 Nos.
2)	Cardiac Monitoring System Fukuda - ECU - 10 (page 37)	8 "
3)	Cardiac Resuscitation System FC - 500 - page 58	1 No.
4)	Skin Blood Gas Analyser	2 Nos.
5)	Thermister Electrical Thermometer	8 "
6)	Suction Machine : Low type	4 "
	High type	4 "
7)	Respirators and Mechnical Air Compressors	
	7.1 - For Neonate & Infants	4 "
	7.2 - For Older Children	4 "
8)	Incubators	4 "
9)	Computor Monitor Infusion Pump	4 "
10)	Oxygen Analyzer (for incubators)	2 "
11)	Autoanalyzer for electrolytes	1 No.
12)	37°C water bath (for blood warming)	2 Nos.
13)	X-ray view box (Triple) with trolley	1 No.
14)	E.C.G. (Cardiofax)	1 "

2nd Priority - For use in Children's Hospital

1)	Aloka Echo Vision (Ultrasonic Diagnostic equipment)	1 No.
2)	Bronchoscope (non-rigid) with accessories	
	- Neonate	1 "
	- Childrens	1 "
3)	Cystourethroscope with accessories (including resectoscope) two sizes	1 each

4)	Portable X-ray Unit	1 No.
5)	Fibreoptic colonoscope	1 "
6)	Blood gas analyser	1 "
7)	Echocardiogram	1 "
8)	Suction Machines : Low type	3 Nos.
	High type	3 "
9)	X-ray view box (Triple) with trolley	6 "
10)	Ultrasonic nebuliser (for Adm. of Medicine)	4 "
11)	E.C.G. Machine	3 "

3rd Priority - For use in Neonatal Unit, Rangoon Children's Hospital

1)	Incubators	6 Nos.
2)	Apnoea Monitor	4 "
3)	Oximeter (Direct reading)	4 "
4)	Reflectance meter for Blood Glucose Estimation	2 "
5)	Phototherapy Unit	4 "
6)	Bilirubinometer	2 "
7)	Infusion pump	2 "
8)	Oxygen piping system	1 No.
9)	Oxygen synthesizer plant	1 "
10)	Plasma Exchanger & Haemodialysis Machine	1 "

Priority IV - <u>Equipment for Mandalay General Hospital. in order priority.</u>

1) Uro-surgical Unit

a. Fibre Optic Iglesias's Resectoscope.

b. Fibre Optic Rotating Resectoscope.

c. Electro-surgical unit, solid state type. Combined with fibre optic light source unit.

d. Randall's kidney stone Forceps, stainless steel, 4 kinds of curve.

2) <u>Thoracic Surgical Unit.</u>

a.	Olympus Bronchofibre Scope for biopsy, Model BF type	1 set
b.	Acoma suction unit Model SS 10 with standard accessories and spare bottles (4), 220V,50Hz	2 "

3) General Surgical Unit.

a. Pan view fibroscope

b. Colonoscope

c. Peritoneoscope

d. Endoscope locker

4) Medicine Unit.

a.	Echocardiograms	1 No.
b.	Electric Suction Unit	3 Nos.
c.	Monitor Difibrillator	3 Units.

5) Clinical Pathology

a.	W.B.C. counter ERMA Model ACM-200 and accessories	1 No.
b.	Platelet counter FUJISAWA Model Ultra-Flo 100 & accessories	1 "
c.	Auto-technicon C-800 ion analyser (Stat ion II) & accessories for Na, K, Cl and CO_2	2 Nos.
d.	Prothrombinometer & accessories	1 No.
e.	Auto-technicon double channel auto-analyser A A II with recorder and accessories	1 No.
f.	Auto-technicon R.A. 1000 & accessories	1 No.
g.	Blood Gas Analyzer ABL-2 & accessories	2 Nos.

6) Obstetrics and Gynaecology Unit

a. Vacuum Extractor

b. Super suction curettes

c. Aspirator, supplied with abortion cannula set and tube and standard accessories

d. Polaroid type 611

Videoimage recording

Black and White Land Film. 100 Packs.

e. Resuscitator (for neonates)

f. Miller's Laryngoscope set for neonatal and paediatric care-use.

g. Disposible endotracheal tubes

h. Y adapters (disposible)

i. Endoscopic examining chair

j. Kobak's needle (for paracervical and pudendal nerve blocking)

k. Physician's office scale

ANNEX IV

1. DEVELOPMENT OF INTENSIVE CARE & CORONARY CARE UNITS AT THE STRATEGICALLY LOCATED GENERAL HOSPITALS.

1.1 Outline of proposal:-

1. Management of patients needing intensive medical care.
2. To provide optimal services for the coronary and other acute heart failure cases.

1.2 Needs and effects:-

Patients needing intensive care for both the medical and surgical emergencies are over increasing. Provision of facilities and equipment for the proposed units will facilititate effective treatment and thus reduce preventable mortality.

1.3 Implementation Programme:-

To be implemented in (5) General Hospitals listed below in order of priority.

1. Taunggyi
2. Bassein
3. Moulmein
4. Sittwe
5. Magwe

1.4 Requirements:-

1. Essential equipment for intensive care of 1 Bed x 5 Hospitals.
2. Full implement for coronary care of 1 Bed x 5 Hospitals.

2. DEVELOPMENT OF DENTAL AND X-RAY MOBILE SERVICES

2.1 Outline of proposal:-

To promote diagnostic and dental mobile services in out reach areas.

2.2 Needs and effects:-

There is a need to augment and intensify peripheral curative services with accessable diagnostic and dental facilities.

2.3 Requirements:-

1. Mobile dental unit x 5
2. Mobile X-ray unit x 5

III. Prosthetic/Orthotic Services - Community Programme for Disability Prevention and Rehabilitation Project

Present Situation :-

The prosthetic/orthotic services was first introduced in Burma with the establishment of the Hospital for the Disabled at Thamaing in Rangoon on 18th. December 1959. Initially, the Hospital accommodated 25 in-patients. By January 1965, without expanding the physical capacity, the Hospital was designated to serve 50 in-patients and 50 out-patients.

The Hospital consists of two in-patient wards (60' x 20' each), two occupational therapy departments (48' x 20' each), one hydro and electrptherapy department (40' x 20'), one therapeutic gymnasium (60' x 30'), one record and two doctors' room (30' x 20'), senior medical officer's room (16' x 8'), nursing sister's room (16' x 8'), dressing room (16' x 16'), administrative office (16' x 16'), prosthetic/orthotic workshop of 7 rooms (32' x 14', 32' x 14', 26' x 20', 40' x 26', 26' x 20', 26' x 20' and 26' x 20') and prosthetic/orthotic extension (100' x 40'). Apart from the prosthetic/orthotic workshop extension, which completed building in January 1983, the quality of all the other buildings are rather poor with their walls and floorings cracking in many places.

The present staff strength of the Hospital for the Disabled is indicated in annex I. The type of diseases and disabled admitted both as in and out patients from 1974 to 1983 is indicated in annex II. The number of prosthetic/orthotic appliances made and repaired from 1974 to 1983 is indicated in annex III. The present situation of equipment and their conditions is mentioned in annex IV.

In addition to providing services for the disabled persons, the Hospital is also involved in the training of 4th. and 5th. years medical students from both the Institutes of Medicine I and II, orthopaedic nurses, sick nurses and physiotherapists. Since August 1982, with the implementation of the community-based disability prevention and rehabilitation project, assisted by UNDP, the Hospital has been engaged in training of community health workers and basic health personnel of Hlegu, Hmawbi and Taikkyi Townships, of the Rangoon Division, in the utilisation of the WHO Manual - Training the Disabled in the Community. In addition, research is being undertaken

to develop and produce prosthetic/orthotic components and other rehabilitation aids that will meet the local social and cultural requirements, utilising appropriate technology.

Problems

The Hospital is the only institution of its kind in Burma providing rehabilitation services for the orthopaedically disabled persons. As it is located in the south of the country it primarily serves the population within a radius of 200 miles. The physical capacity being very limited there is a long waiting list for admission, which defeats the purpose of rehabilitation, and due to insufficient trained prosthetic/orthotic technicians the fabrication period of the appliances are very much delayed. Furthermore, as the maintenance services for the appliances are not readily available, efforts for successful rehabilitation of the disabled persons are seriously jeopardised.

The prosthetic/orthotic repair workshop, established in June 1976, at the Mandalay General Hospital, with 3 technicians is also not effective as it has no in-patient facilities for the disabled persons coming from outside of Mandalay.

Proposal

The following proposal for Japanese Government's assistance is put forward to improve the quality and coverage of rehabilitation services for the disabled persons, particularly prosthetic and orthotic services, for both the urban and rural communities in Burma.

1) Construction of a new 120 to 160 bedded National Institute for Rehabilitation Medicine, in the grounds (15 acres) of the Hospital for the Disabled, to undertake service, training and research - complete with operation theatre, x-ray, laboratory, physiotherapy, swimming pool, indoor gymnasium, occupational therapy, prosthetic-orthotic workshop, auditorium, lecture theatres, library, administration, laundry, cafeteria, kitchen, dining rooms, mortuary etc. (Note - the existing buildings, after some renovations, are to be used as out-patient facilities).
2) Equipment and supplies for the above facilities.

3) Construction of houses for doctors, nurses and workers in the grounds of the Hospital for the Disabled in Rangoon.

4) Construction of 50 bedded Rehabilitation Hospital in Mandalay - complete with x-ray, laboratory, physiotherapy, swimming pool, indoor gymnasium, occupational therapy, prosthetic-orthotic workshop, auditorium, lecture theatre, library, administration, laundry, cafeteria, kitchen, dining room, mortuary etc.

5) Equipment and supplies for item 4 facilities.

6) Construction of houses for doctors, nurses and workers for the Mandalay Rehabilitation Hospital.

7) Construction of eight 16-bedded Rehabilitation Hospitals - complete with x-ray, laboratory, physiotherapy, prosthetic-orthotic workshop, library, administration, cafeteria, kitchen, dining room, mortuary etc., each in Myitkyina, Monywa, Lashio, Taunggyi, Meiktila, Pegu, Prome and Moulmein (see annex V).

8) Equipment and supplies for item 7 facilities.

9) Long-term consultants to train 8 prosthetist/orthotists and 40 prosthetic/orthotic technicians.

10) Short-term consultants to train 16 physiotherapists and nurses in pre and post prosthetic management of upper and lower extremity amputees.

11) Fellowships for 4 medical officers to study amputee rehabilitation.

12) Four fellowships to undergo academic training leading to Diploma in Occupational Therapy.

13) Fellowships for 8 nurses to study general rehabilitation nursing.

14) Fellowships for 4 locally trained prosthetist/orthotists.

15) Fellowships for 8 locally trained prosthetic/orthotic technicians.

16) Fellowships for 4 physiotherapists to study amputee management.

17) One 2 feet roller Rubber Mill.

18) One hydraulic hot platten press to vulcanise prosthetic rubber feet, electrically operated.

19) One ambulance each for Rangoon, Mandalay and other eight 16-bedded Rehabilitation Hospitals.

7 5 74

([illegible])

Senior Medical Officer

Hospital for the Disabled. ANNEX I

Present staff strength

1. Senior Medical Officer cum Consultant in Rehabilitation Medicine	1
2. Consultant in Rehabilitation Medicine	1
3. Assistant medical officers	3
4. Nursing sister	1
5. Staff nurse	4
6. Trained nurse	3
7. Nurse Aides	14
8. Physiotherapist	8
9. Remedial gymnast	1
10. Occupational therapist	2
11. Prosthetist / Orthotist (Workshop Manager)	1
12. Occupational therapy assistant	2
13. Compounder	1
14. Orthotic technician	6
15. Prosthetic technician	6
16. Leather-work technician	4
17. Lathe machine operator	1
18. Lathe machine worker	3
19. Prosthetic / Orthotic worker	8
20. Store keeper	2
21. Clerical staff	4
22. General worker	22
Total:-	98

HOSPITAL FOR THE DISABLED

TYPE OF DISEASES AND DISABLED ADMITTED

FROM 1974 to 1983

Year	ARTHRITIS	POLIOMYELITIS	CEREBRAL PALSIES	C.V.As.	MUSCULO-SKELETAL DISABILITIES	NEURO-MUSCULAR DISABILITIES	MISCELLANEOUS	TO
1974	236	402	106	23	506	92	27	1392
1975	302	254	88	22	457	79	14	1119
1976	266	279	78	16	373	89	3	110
1977	283	239	94	24	471	97	19	122
1978	302	292	97	22	515	134	19	138
1979	353	496	110	26	601	153	32	175
1980	317	540	84	19	606	126	19	171
1981	345	434	91	17	535	136	29	151
1982	357	479	82	15	443	95	25	13
1983	370	528	108	28	550	100	26	141
TOTAL	3011	3743	934	204	5035	1091	213	142

ANNEX III

HOSPITAL ~~FOR THE DISABLED~~

Prosthetic & Orthotic Appliances made and repaired from 1974 to 1983.

	New Appliances				Repairs				Grand Total
	Leg Pros.	Arm Pros.	Braces	Total	Leg Pros.	Arm Pros.	Braces	Total	
1974	156	51	285	492	263	35	372	670	1162
1975	191	40	269	500	268	36	275	579	1079
1976	179	44	369	592	330	33	316	687	1279
1977	220	36	386	642	289	58	303	651	1293
1978	239	54	349	642	330	32	294	714	1356
1979	253	34	378	665	377	25	272	674	1339
1980	291	36	444	771	408	32	289	729	1500
1981	252	22	368	642	404	17	307	728	1370
1982	271	28	335	634	329	29	276	634	1268
1983	300	42	271	613	331	16	297	644	1257
	2352	387	3454	6193	3394	293	3003	6690	12883

HOSPITAL FOR THE DISABLED

LIST OF EQUIPMENT

Sr. No.	Description of Equipment	Number of Serviceable	Number of U Serviceable
1.	PROSTHETIC/ORTHOTIC WORKSHOP		
1.	Electric Arc Welder, single phase, High Amp. 40 - 295, Low Amp. 25 - 195	1	-
2.	Lathe machine (Super 7B) 19" bed, 3½" centre height	1	-
3.	Lathe machine, high speed, 6 ft. bed, 7½" swing, 3 phase, 3 h.p.	1	-
4.	Lathe machine, 6½" centre height	-	1
5.	Milling machine, table 40" x 10", 1" bore, 3 phase, 2.43 h.p.	1	-
6.	Drill machine, floor type, chuck 1" diam. single phase, 1 h.p.	1	-
7.	Drill machine, floor type, chuck ½" diam., 1 phase, ½ and 1 h.p.	2	-
8.	Drill machine, bench type, chuck ½" diam., 1 phase, ½ and ½ h.p.	2	4
9.	Grinding machine, bench type, 1 phase, 1 h.p., 10" diam. wheel	1	-
10.	Grinding machine, bench type, 3 phase, 0.75 KW, 10" diam. wheel	1	-
11.	Grinding machine, bench type, 1 phase, ½ h.p., 6" diam. wheel	3	4
12.	Belt sanding machine, floor type, 3 phase, 0.7 - 0.9 KW, belt width 4½"	1	-
13.	Belt sanding machine, floor type, 3 phase, 2.2 KW, belt width 20"	1	-
14.	Belt & disc sanding machine, 3 phase, 1 h.p., belt 6" x disc 9"	1	-
15.	Belt & disc sanding machine, 1 phase, ½ h.p., belt 6" x disc 10"	1	-

continued next page

Sr. No.	Description of Equipment	Number of Serviceable	Number of Serviceab
16.	Band sawing machine, floor type, 3 phase, 1 h.p., ½" saw	1	-
17.	Band sawing machine, floor type, 1 phase, ¾" h.p., ½" saw	1	-
18.	Wood Framing machine, floor type, 3 phase, 1.5 KW.,	4	-
19.	Trautman Wood Carving machine, floor type, 1 phase,	3	-
20.	Wood-work machine with multiple attachments, Minor & Major, ½ and 1 h.p. motor	2	-
21.	Sewing machine, PFAFF, flat bed, motor driven, 220V, 1 phase	1	-
22.	Sewing machine, PFAFF, post bed, motor driven, 220V, 1 phase	1	-
23.	Sewing machine, SINGER, Industrial type, flat bed, motor driven, 220V, 1 phase	1	-
24.	Leather sewing machine, SINGER, round, long-arm bed, foot and motor drive, 220V, 1 phase	1	-
25.	Shoe finishing machine, 1 phase, 220V	1	-
26.	Laboratory oven, bench type, 220-250V, 1 phase, automatic temperature control	1	-
27.	Universal oven, floor type, 3 phase, automatic temperature control	1	-
28.	Slip roll forming machine, floor type, hand driven, length 51"	1	-
29.	Shearing machine, bench type, manual	5	-
30.	Hot platen press, hydraulic, electrical, plate size 18" x 18", 3 phase	1	-
31.	Rubber mill, 2 foot roller, electric motor operated, 3 phase	1	-
32.	Nickle plating plant -complete set	1	-
33.	Buffer machine, floor type, double-ended spindle, 3 phase	1	-

continued next page

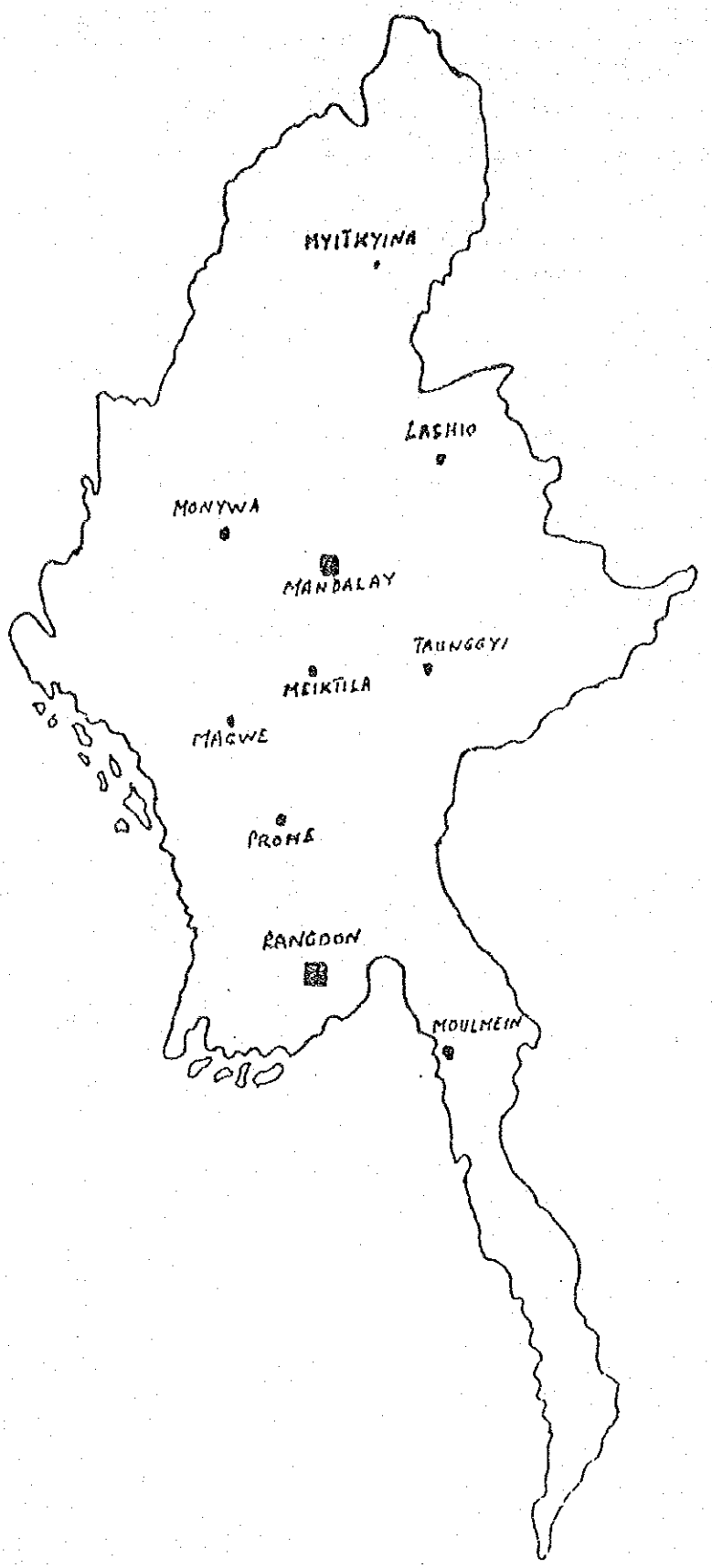
Sr. No.	Description of Equipment	Number of Serviceable	Number of Serviceable
34.	Circular knitting machine, 3.5" cylinder diam., 140 needles, 1 phase	1	-
35.	Circular knitting machine, 3.5" cylinder diam., 160 needles, 1 phase	1	-
36.	Circular knitting machine, 3.5" cylinder diam., 240 needles, 1 phase	1	-
	PHYSIOTHERAPY		
37.	Electric stimulator	2	3
38.	Ultra-violet lamp	1	2
39.	Short-wave diathermy machine	1	2
40.	Ultra-sound machine	2	1
41.	Infra-red lamp	2	-
42.	Whirl-pool bath for leg and arm	1	1
43.	Hydropack heating unit	1	1
44.	Paraffin wax bath	1	-
45.	Cold pack Hydrocollator machine	1	-
46.	Micro-wave irradiator machine	1	-
47.	Acupuncture machine	1	-
48.	Triplex pulley set	2	-
49.	Pelvic traction set	1	-
50.	Hunter-Smith exerciser	1	-
51.	Elgin exerciser	1	-
52.	H.K. Exerciser unit	2	-
53.	Guthrie-Smith suspension set	1	-
54.	Economy restorator	1	-
55.	Bicycle exerciser	2	-
56.	Tilt table	3	-
57.	Hydraulic rowing machine	1	-
58.	Ankle exerciser	-	1
59.	Armour exerciser	1	-
60.	Shoulder wheel	1	-
61.	Stall bar	1	-
62.	Parallel bars, assorted sizes	7	-

continued next page

Sr. No.	Description of Equipment	Number of Serviceable	Number of Serviceabl
62.	OCCUPATIONAL THERAPY		
63.	Oliver Pretzaw machine, foot operated	1	-
64.	Sewing machine, Singer, foot operated	1	-
65.	Hand drill, electric	1	-
66.	Thomo Wire Twisting machine	1	-
67.	Electric poker machine	1	-
68.	Table, adjustable	1	-
69.	Chair for cerebral palsy	1	-
70.	Relaxation chair	1	1
71.	Pretzaw machine, small, foot operated	-	1
72.	Pretzaw machine, small, peddle operated	-	1
73.	Crawler, adjustable height	1	-
74.	Suspension walker	1	-
75.	Walkeratte for child	4	-

MAP OF BURMA

ANNEX - V



4. DEVELOPMENT OF KIDNEY UNIT IN RANGOON GENERAL HOSPITAL

4.1 Outline of proposal of project:-

1. To equip an artificial kidney unit.

4.2 Needs and effects of project:-

1. These equipments are essential for the Academic - Service - Research complex in Rangoon General Hospital to upgrade the medical teaching, the health service, and research in kidney diseases.

2. Effects:-

   (1) It will provide better services towards the care of patients.

   (2) It will keep abreast in the medical education.

   (3) It will provide a better understanding of kidney diseases and it may contribute to the advancement in treating various kidney diseases which at present defy all treatment in the world.

4.3 Requirements:-

Name of parts	Number Reqd.
For the Artificial Kidney Unit	
1. Artificial kidney machines with all disposable accessories.	10
2. Digital type scale beds	5
3. Digital type scale chair	5
4. Water filter series	1
5. Ion exchange water softener	1
6. Infusion pump	3

5. ESSENTIAL EQUIPMENT AND INSTRUMENTS FOR OPHTHALMIC MOBILE SURGICAL UNIT

1. Basic Surgical Instruments for Entropion - Glaucoma and Cataract operations (2 sets each for one mobile unit);
2. Portable Slit-lamps with Fundus Camera;
3. Slide projector, screen and P.A. systems (one set each for one mobile unit);
4. Portable Steam Sterilizer - one for each mobile unit;
5. Examination Couch is NOT ESSENTIAL;
6. Portable Electric Generator 2 Kilo Watt (Honda Engine) one for each mobile unit.

ESSENTIAL INSTRUMENTS FOR ENTROPION, GLAUCOMA AND CATARACT OPERATION

1.	Corneal Scissors-universal	20 pairs
2.	Corneal needle holder	20 Nos.
3.	Croneal forceps (Colibri)	20 Nos.
4.	Silcock Needle Holder 6 inches	20 Nos.
5.	St. Martin Forceps	20 Nos.
6.	Iris Scissors	20 Nos.
7.	Iris Forceps	20 Nos.
8.	Capsule Forceps	20 Nos.

.../.

9.	Erisophate	20 Nos.
10.	Corneal Needle 8 mm	12 Dozens
11.	Schiotz Tonometer	12 Nos.

SUITABLE TYPE OF VEHICLE

1. Nissan or Toyota Land Cruiser or similar type of preferably 4 wheel drive, Petrol Engine, Left hand drive;

2. Number of vehicles required 4 units.

2　計画の背景に関する資料

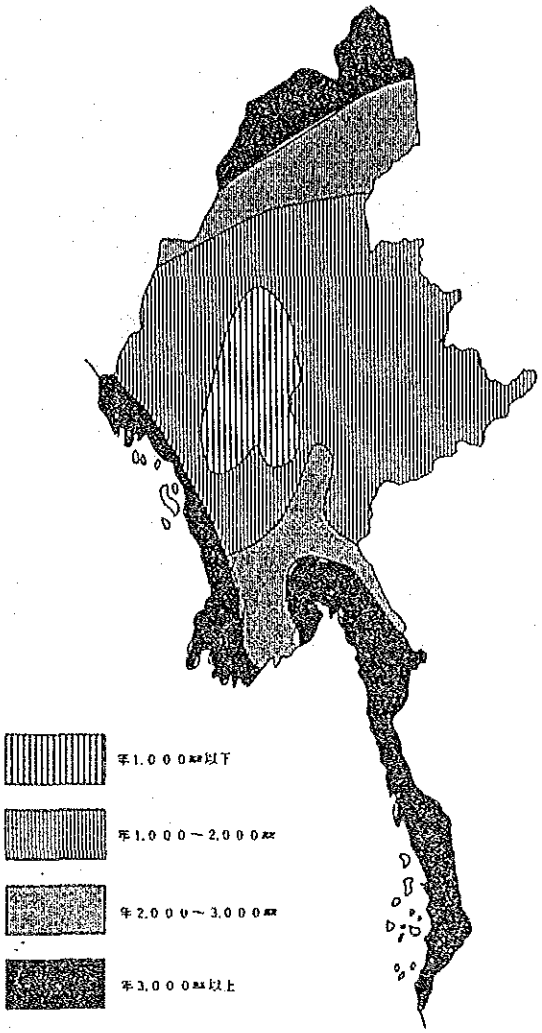


図２－１．　年平均降雨量分布図（1965－74年平均）

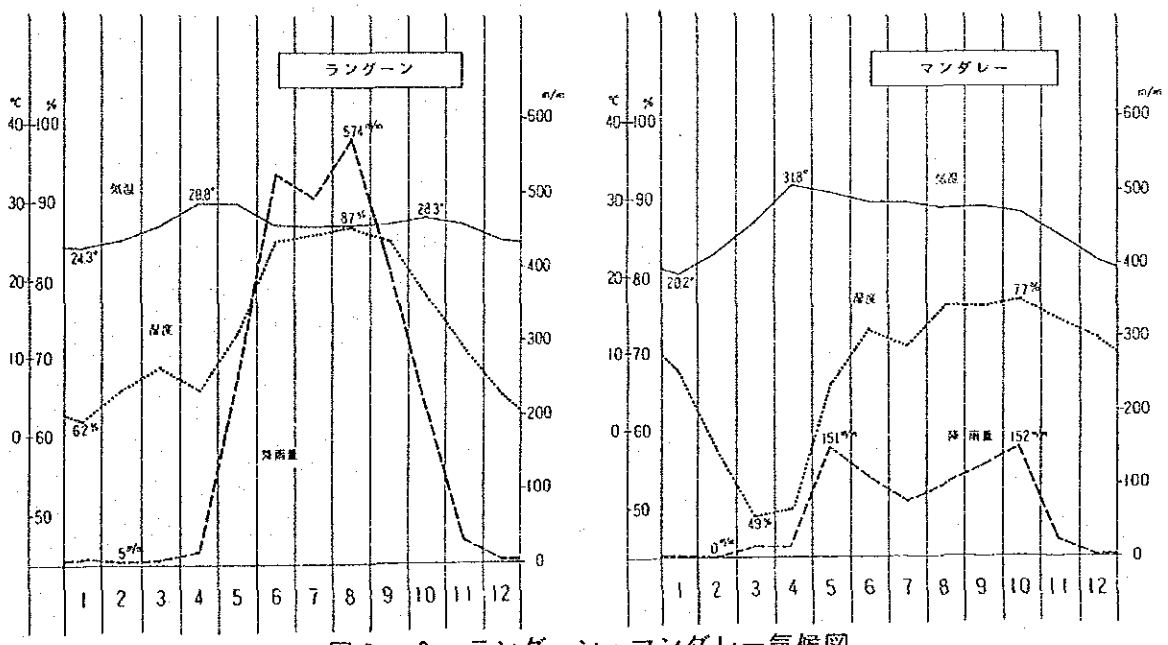


図２－２．　ラングーン・マンダレー気候図

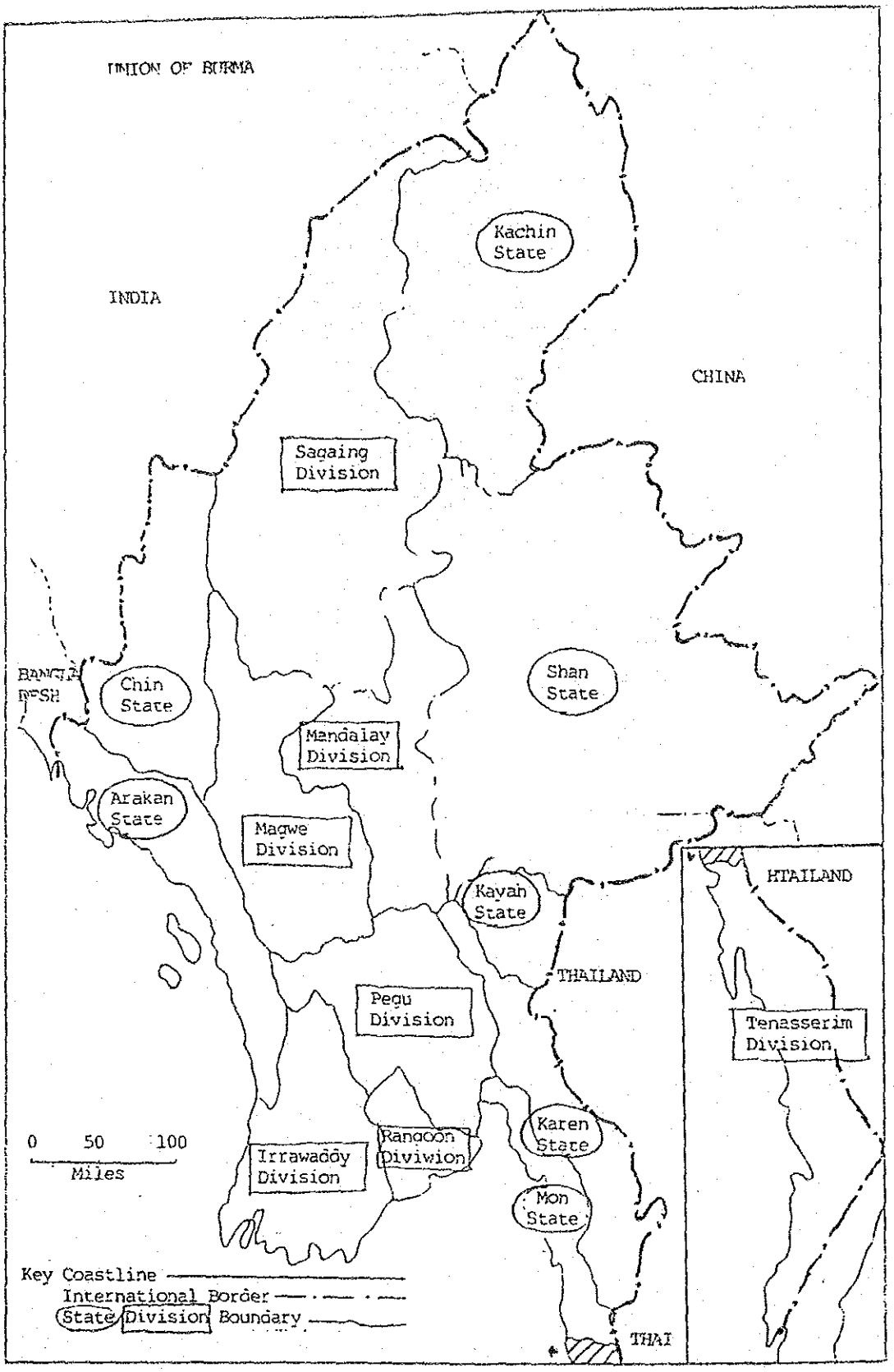


図２－３．州（State／Division）の構成

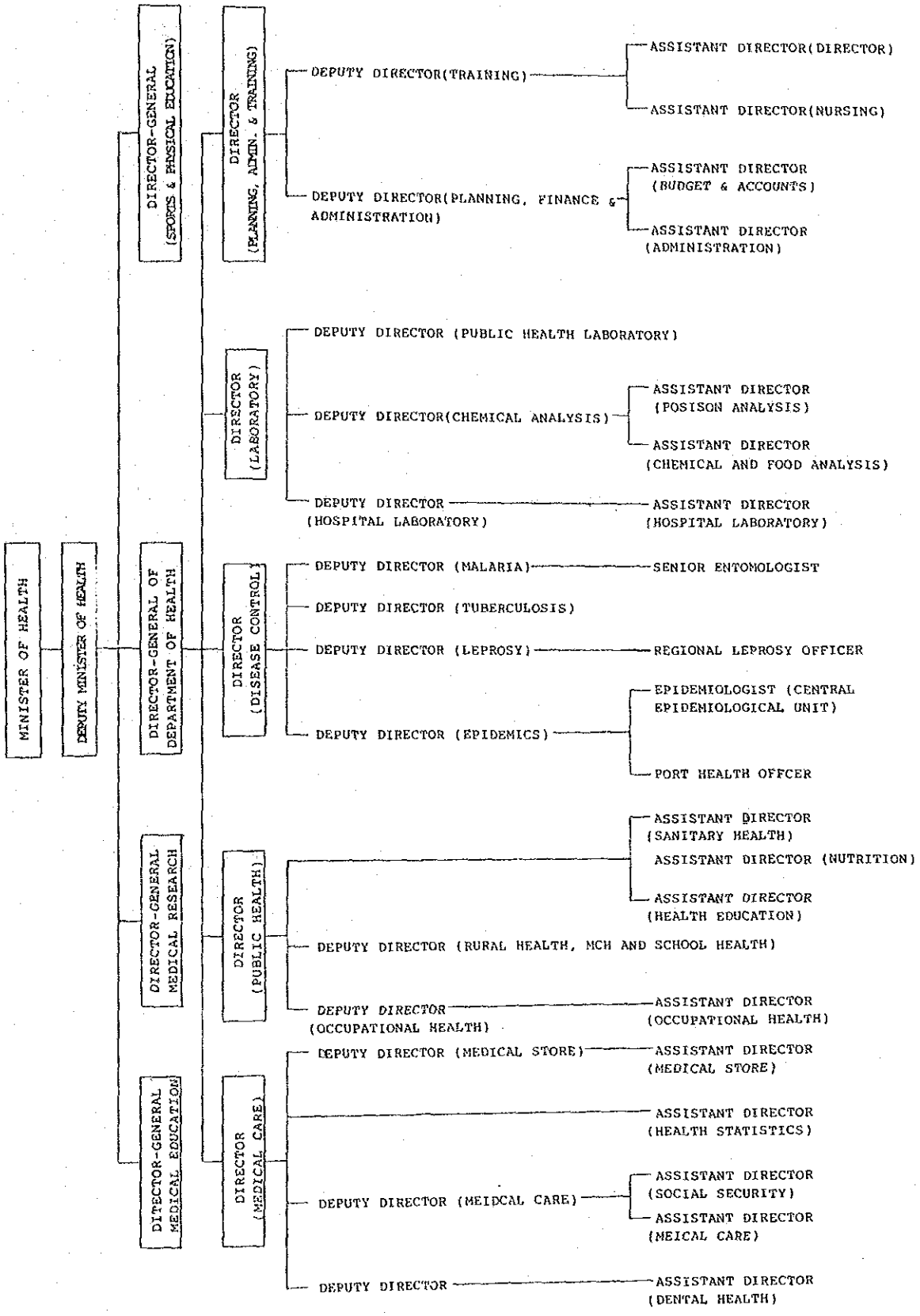


図２－４．保健省及び保健局組織図

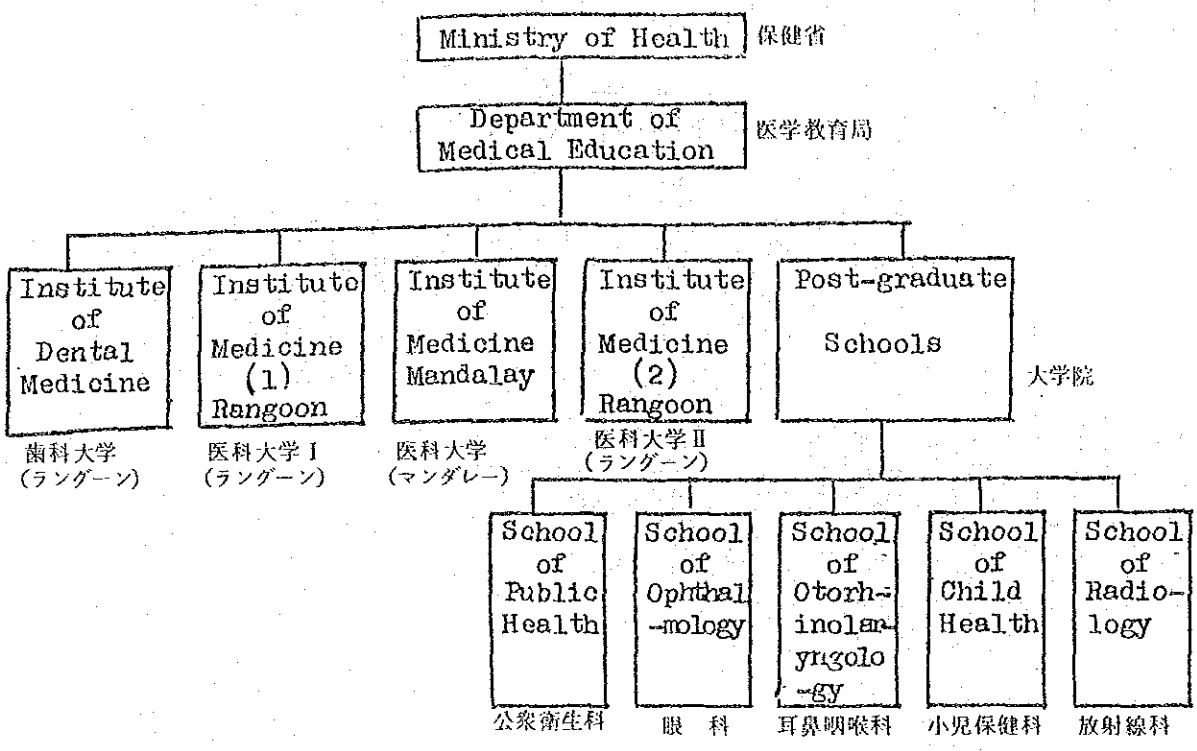


図 2 − 5. 医学教育局組織図

表 2 − 1. 国別GNP・GDP（1981年）

項目 ＼ 国名			ビルマ	タイ	インドネシア	フィリピン	日本
GNP 1981	1人当りGNP(ドル)		190	770	530	790	10,080
	1960 − 81 年平均増加率(%)		1.4	4.6	4.1	2.8	6.3
GDP 1981	総額（億ドル）		57.7	368.1	849.6	389.0	11,295
	1970 − 81 年平均増加率(%)		4.8	7.2	7.8	6.2	4.5
	分配(%)	農業	47	24	24	23	4
		工業	13	28	42	37	43
		サービス業	40	48	34	40	53

表 2 − 2. セクター別就業者数（1983／84年度）

（単位：千人）

No.	Sector	国営	協同組合 民間	合計	%
1	2	3	4	5	
1	農業	79	9,130	9,209	63.5
2	漁業畜産	16	178	194	1.3
3	林業	99	88	187	1.3
4	鉱業	72	13	85	0.6
5	製造業	187	1,011	1,198	8.3
6	電力	16		16	0.1
7	建設	150	75	225	1.6
8	運輸通信	115	365	480	3.3
9	社会サービス	236	83	319	2.2
10	行政	525	28	553	3.8
11	商業	65	1,348	1,413	9.7
12	その他		618	618	4.3
	合計	1,560	12,937	14,497	100.0

表２－３　貿易収支の推移

（単位：百万K.）

	輸　出	輸　入	収　支
1976／77	1,715	1,627	(+)　88
1977／78	1,756	2,086	(−)　330
1978／79	1,852	3,223	(−) 1,371
1979／80	2,696	4,200	(−) 1,505
1980／81	3,225	4,635	(−) 1,410
1981／82	3,452	5,611	(−) 2,158
1982／83	3,036	6,566	(−) 3,530
1983／84（暫定）	3,593	5,730	(−) 2,136

表２－４　主要品目別輸入実績

（単位：10万K.）

	1979／80	1980／81	1981／82	1982／83（暫定実績）
消費財	1,886	2,628	4,314	4,941
消費材	499	953	1,190	1,261
食料	455	541	955	1,380
織物	88	201	447	380
医薬品	540	736	1,332	1,317
その他	304	197	390	603
国内産業用	13,231	18,631	22,094	23,208
原料	8,394	13,272	14,305	12,354
燃料	52		305	934
機器部品	4,785	5,359	7,484	9,920
資本財	26,733	24,963	29,308	37,043
建設資材	4,512	3,939	6,108	5,489
機械	18,479	18,770	18,486	28,256
運輸機材	3,033	1,067	2,741	2,200
その他	709	1,187	1,973	1,098
その他	159	128	397	476
合計	42,009	46,350	56,113	65,668

表2－5. 国別保健指標

項目 ＼ 国名		ビルマ	タイ	インドネシア	フィリピン	日本
普通出生率(対人口千人)	1960	43	44	46	47	17
	1981	37	30	35	34	13
普通死亡率(対人口千人)	1960	21	15	22	15	8
	1981	13	8	13	7	6
比率の変化(%)	普通出生率 1960－81	－13.7	－32.1	－24.4	－27.4	－24.9
	普通死亡率 1960－81	－37.2	－48.8	－41.8	－50.1	－19.7
乳児死亡率(0－1歳)	1960	158	103	150	106	30
	1981	98	53	105	53	7
幼児死亡率(1－4歳)	1960	25	13	23	14	2
	1981	12	4	14	4	—
出生時平均寿命(年)	1960	44	52	41	53	68
	1981	54	63	54	63	77

表2－6 死因統計

死亡原因上位10 (1978) (159市における統計)				死亡病因上位10 (1981) (435郡病院における統計)		
1	肺炎	5,213 人	9.1 %	1	マラリア	13.1 %
2	腸炎・その他下痢症	3,262	5.7	2	肺炎	10.3
3	原因不明の全疾病	3,100	5.4	3	腸管感染症	6.9
4	肺結核	3,066	5.3	4	肺結核	4.8
5	マラリア等を除く感染症・寄生虫症	2,260	3.9	5	原因不明熱	4.2
6	ガン(リンパ・造血を含む)	2,101	3.6	6	中毒性疾患	3.3
7	分娩時死亡	1,988	3.5	7	その他消化器系疾患	3.2
8	高血圧症等を除く心臓病	1,892	3.3	8	破傷風	3.1
9	交通事故を除く全ての事故	1,756	3.0	9	その他呼吸器系疾患	2.7
10	気管支炎・気腫・喘息	1,429	2.5	10	その他栄養失調	2.1
	合計	57,614	100.0			
WHO統計 1983				保健省資料		

表 2 － 7　年齢別死者数（1978 年）

	全年齢	0	1－4	5－14	15－24	25－34	35－44	45－54	55－64	65－74	75－	不明
実数	57,614	8,356	7,177	3,744	3,213	3,170	4,064	5,766	7,056	7,476	6,944	648
%	100	14.5	12.5	6.5	5.6	5.5	7.1	10.0	12.2	13.0	12.1	1.1

表 2 － 8　疾病統計

10％抽出外来患者の主要疾病（1981）				10％抽出入院患者の主要疾病（1981）（435 郡病院における統計）			
	病名	患者数(人)	%		病名	患者数(人)	%
1	原因不明の熱病	1,794	8.3	1	マラリア	110,775	14.5
2	腸管感染症	1,373	6.3	2	普通分娩	59,589	7.8
3	出産・産褥	1,201	5.5	3	腸管感染症	49,907	6.5
4	その他不特定貧血	1,181	5.5	4	原因不明の熱病	32,392	4.2
5	気管支炎・気腫・喘息	1,014	4.7	5	不特定流・早産	28,106	3.7
6	マラリア	994	4.6	6	肺炎	19,220	2.5
7	肺結核	700	3.2	7	外傷性余病 不特定傷害	18,244	2.4
8	原因不明衰弱	673	3.1	8	その他呼吸器系疾患	17,986	2.4
9	その他寄生虫症	646	3.0	9	その他消化器系疾患	16,650	2.2
10	皮フ・皮下組織感染症	622	2.9	10	気管支炎・気腫・喘息	15,315	2.0
	全合計	21,649	100.0		合計		

表 2 － 9　82／83年度保健サービス機関

（単位；人）

機関 / スタッフ	郡保健所 (R. H. C)	都市部保健所 (U. H. C)	母子保健所 (M/C.H.C)	学校保健サービス (S. H. S)
数・チーム数	1,267	62	336	72
Doctors	32	159	40	82
Dental Surgeons	—	42	—	51
Nurses	—	139	—	—
Dental Nurses	—	—	—	36
Health Assistants	994	—	—	—
Health Supervisor Ⅰ	320	—	130	—
Health Supervisor Ⅱ	260	—	94	—
Lady Health Visitors	937	127	295	—
Midwives	6,486	232	791	—

表 2 － 10　病院総括表（1980年）

行政レベル	病院規模	総合病院		専門病院	合計
		保健省管轄	その他	保健省管轄	
Central State/Division	200床以上	20	2	13	35
State/Division	200床	1	—	4	5
Township	150床	5	—		5
	100床	27	—		27
	50床	30	3		33
	25床	51	2		53
	16床	154	7		161
Village Tracts	Station/H.	195	—		195
		483	14	17	514

表 2 － 11　州別・規模別病院数

（1980）

State/Division	専門病院	総合病院	200床病院	150床病院	100床病院	50床病院	25床以下病院	合　計
Rangoon	10	7(1)	—	1	1	4(1)	24(1)	47(3)
Mandalay	3	1	—	—	5	5(1)	36	50(1)
Sagaing	—	1	—	—	3	3	54(1)	61(1)
Magwe	—	2(1)	—	—	3	3(1)	34	42(2)
Pegu	—	1	—	2	1	4	43	51
Mon	—	1	—	—	1	—	16	18
Tenasserim	—	1	—	—	1	—	18(5)	20(5)
Irrawaddy	—	1	—	—	4	5	37	47
Arakan	—	1	—	—	2	—	25	28
Chin	—	1	—	—	—	3	12	16
Kachin	2	1	—	1	—	5	23	32
Shan	2	2	1	1	5	1	62	74
Kayah	—	1	—	—	—	—	12(1)	13(1)
Karen	—	1	—	—	1	—	13	15
合　計	17	22(2)	1	5	27	33(3)	409(9)	514(14)

（　）は保健省管轄外

表 2 － 12　州別総合病院リスト

州　名	病　院　名	ベッド数
Rangoon	* Rangoon General Hospital	1,500
	North Okkalapa Hospital	250
	East Rangoon Hospital	200
	Workers' Hospital [1]	200
	Kandawgyi Hospital	12
	West Rangoon Hospital	200
	Insein Hospital	150
Mandalay	* Mandalay General Hospital	800

S/D	所　在　地	ベッド数	S/D	所　在　地	ベッド数
Sagaing	Manywa	150	Arakan	Akyab	200
Magwe	Magwe Chank [2]	200 150	Chin	Falam	150
Pegu	Prome	150	Kachin	Myitkyina	200
Mon	Moulmein	350	Shan	Taunggyi Lashio	200 200
Tenasserim	Tavoy	100	Kayah	Loikaw	150
Irrawaddy	Bassein	200	Karen	Pa-an	150

注）＊今回要請のあった病院
1) S.S.B 管轄
2) Myanma石油公社管轄

表 2 － 13　州別専門病院リスト

S / D	病　院　名	対　象	ベッド数
Rangoon	* Central Women's Hospital	婦　人　科	800
	Psychiatric Hospital	精　神　病	1,200
	* Children's Hospital	小　児　科	550
	E. E. N. T. Hospital	眼・耳鼻咽喉科	150
	Orthopaedic Hospital	整　形　外　科	400
	Leprosy (Htaukkyant)	癩　病	550
	Thamaing Hospital for the Disabled	身　体　障　害	50
	Aung San T. B. Hospital	結　核	300
	Infectious Disease Hospital	感　染　症	200
	Women & Children Hospital, S. Okkalapa	婦人・小児科	150
Mandalay	Leprosy Hospital	癩　病	700
	E. E. N. T. Hospital	眼・耳鼻咽喉科	100
	Infectious Disiease Hospital	感　染　症	25
Kachin	Anti-opium Dependence Department, Uyltkyina	麻　薬　中　毒	50
	Anti-opium Dependence Department Putao	麻　薬　中　毒	25
Shan	Women and Children Hospital	産科・小児科	200
	T. B. Hospital	結　核	50

＊今回要請のあった病院

表 2 － 14　ベッド数及び 1 ベッド当り人口（1950 ～ 80）

（1950～80）

	ベッド数				1ベッド当り人口(人)			
	1950	1960	1970	1980	1950	1960	1970	1980
ビルマ	8,583	14,321	23,043	28,889	2,220	1,561	1,197	1,222
タイ	—	19,531	40,653	71,718	—	1,393	846	658
インドネシア	50,410	69,600	76,938	—	1,564	1,343	1,466	—
フィリピン	—	22,598	43,492	93,474	—	1,208	854	518
日本	321,082	842,000	1,311,729	1,319,406	258	111	79	89

表 2 － 15　医療従事者数の推移

（単位；人）

		1979/80	80/81	81/82	82/83
Doctor（医師）	合　計	6,816	7,321	7,831	8,381
	Public	3,176	3,420	3,656	3,823
	Private & Others	3,640	3,901	4,175	4,558
Dental Surgeons（歯科医師）	合　計	317	365	411	471
	Public	190	240	290	317
	Private & Others	127	125	121	154
Health Assistants		1,300	1,300	1,300	1,300
Health Supervisors I		250	356	461	461
Dental Nurses		—	26	36	44
Lady Health Visitors		1,283	1,346	1,401	1,567
Nurses		4,063	4,197	4,326	4,607
Midwives		6,426	7,129	7,831	7,831
Indigenous Medical Practitioners		147	269	359	404
Health Supervisors II		114	238	363	363

表 2 － 16　国別医師数比較

	医師数（人）				人口1万人当り医師数（人）			
	1950	1960	1970	1980	1950	1960	1970	1980
ビルマ	2,242	1,400	3,073	7,321	1.16	0.63	1.11	2.02*
タイ	1,522	3,402	4,313	6,867	0.78	1.29	1.25	1.46
インドネシア	1,196	1,938	4,383	—	0.15	0.21	0.36	—
フィリピン	1,698	3,949	4,051	6,063	0.81	1.44	1.10	1.25
日本	76,446	101,000	117,195	154,578*	9.22	10.84	11.34	13.14*

＊ 1981年

表2－17　州別・分野別医療従事者数（保健局管轄）

State/Division	医師		歯科医師		パラメディカル		看護婦		X線技術士		人口（1983年）	
Rangoon	1,071(人)	38.2%	38(人)	14.5%	163(人)	48.4%	399(人)	14.5%	32(人)	26.2%	397(万人)	11.3%
Mandalay	310	11.1	33	12.6	40	11.9	411	15.0	9	7.4	451	12.8
Sagaing	171	6.1	18	6.9	10	3.0	214	7.8	7	5.7	386	10.9
Magwe	142	5.1	21	8.0	14	4.2	169	6.2	12	9.8	324	9.2
Pegu	159	5.7	27	10.3	15	4.5	215	7.8	11	9.0	380	10.8
Mon	97	3.5	12	4.9	10	3.0	97	3.5	3	2.5	168	4.8
Tenasserim	38	1.4	8	3.1	8	2.4	78	2.9	3	2.5	92	2.6
Irrawaddy	187	6.7	31	11.8	23	6.8	204	7.4	8	6.6	499	14.1
Arakan	107	3.8	12	4.6	8	2.4	134	4.9	3	2.5	204	5.8
Chin	55	2.0	9	3.4	4	1.2	69	2.5	4	3.3	39	1.1
Kachin	103	3.7	12	4.6	8	2.4	167	6.1	4	3.3	90	2.6
Shan	276	9.8	27	10.3	23	6.8	443	16.1	15	12.3	372	10.5
Kayah	37	1.3	6	2.3	4	1.2	59	2.1	2	1.6	17	0.5
Karen	51	1.8	8	3.1	7	2.1	86	3.1	3	3.3	106	3.0
合計	2,804	100%	262	100%	337	100%	2,745	100%	122	100%	3,531	

表 2 － 18. 医療従事者養成機関(1)

Sl. No.	INSTITUTION / CATEGORY OF WORKER	Institute of Medicine	Institute of Dental Medicine	Institute of Technology (for engineers)	Institute of Paramedical Science: Pharmacy	Institute of Paramedical Science: Radiographer	Institute of Paramedical Science: Medical Technologist	Institute of Paramedical Science: Physiotherapist	School of Nursing	School of Lady Health Visitor	Midwifery School	School of Dental Nurse	School of Dental Technician	Ayurvedic Practitioner School	Health Assistant Training School	Training Courses: Compounder	Training Courses: Lab. Technician Training	Training Courses: Township Level
1.	Doctor	*																
2.	Dental Surgeon		*															
3.	Sanitary Engineer			*														
4.	Pharmacist				*													
5.	Radiographer					*												
6.	Medical Technologist						*											
7.	Physiotherapist							*										
8.	Nurse								*									
9.	Health Assistant														*			
10.	Lady Health Visitor									*								
11.	Midwife										*							
12.	Midwife														*			
13.	Public Health Super,Gr.I														*			
14.	Public Health Super,Gr II														*			
15.	Vaccinator														*			
16.	Dental Lab. Technician			*									*					
17.	School Dental Nurse											*						
18.	Compounders															*		
19.	Laboratory Technician I																*	
20.	Laboratory Technician II																*	
21.	X-ray Technician I					*												
22.	X-ray Technician II					*												
23.	Ayurvedic Practitioner													*				
24.	Auxiliary Midwife																	*
25.	Community Health Worker																	*

表 2 － 19. 医療従事者養成機関(2)

Institution	Number	Length of Training	Annuel intake	Estimater output
Institute of medicine	3	4½ years	550-600	450-500
Institute of Dental Medicine	1	4 years	60	50
Institute of Technology (for training engineers)	1			
Institute of Paramedical Science				
(a) Pharmacy	1	2 years	4	4
(b) Radiographer	1	2 years	6	6
(c) Medical Technologist	1	2 years	8	8
(d) Physiotherapist	1	2 years	4	4
School of Nursing	7	3 years	150	150
School of Lady Health Visitor	1	9 months	55	55
Midwifery School	16	18 months	450	450
School of Dental Nurse	1	3 years	20	20
School of Dental Technician	1	3 years	12	12
Ayurvedic Practitioners School	1	3 years	30	30
Courses for:				
(a) Public Health Supervisor I	1	9 months	50	50
(b) Public Health Supervisor II	1	9 months	300	300
(c) Compounder	Hosps.	1 year	30	30
(d) Vaccinator	1	3 months	55	55
(e) Laboratory Technician I	1	2 years	25	25
(f) Laboratory Technician II	1	1 year	37	37

表 2 － 20　第 4 次計画セクター別公共投資実績

（10 万チャット）

部門	1982／83		1983／84		1984／85	
	実施（暫定実績）		実施（暫定）		予算	
	金額	%	金額	%	金額	%
農業	8,705	10.6	9,208	11.3	10,272	12.9
畜産業・水産業	2,344	2.9	2,623	3.2	2,499	3.1
林業	2,744	3.3	1,863	2.3	2,357	3.0
鉱業	11,418	13.9	4,448	5.5	2,412	3.0
製造業	31,695	38.6	31,083	38.1	24,829	31.2
電力	5,130	6.3	7,002	8.6	11,270	14.2
建設	2,369	2.9	3,232	4.0	3,178	4.0
運輸・通信	6,445	7.9	7,484	9.2	8,743	11.0
商業	1,473	1.8	3,316	4.1	3,537	4.4
社会サービス	4,822	5.9	6,287	7.7	5,496	6.9
金融	228	0.3	347	0.4	181	0.2
行政	3,973	4.8	3,785	4.6	3,523	4.4
その他	661	0.8	854	1.0	1,315	1.7
合計	82,007	100.0	81,532	100.0	79,611	100.0

3　対象医療施設に関する資料

3－1　ラングーン総合病院

1.　病院配置

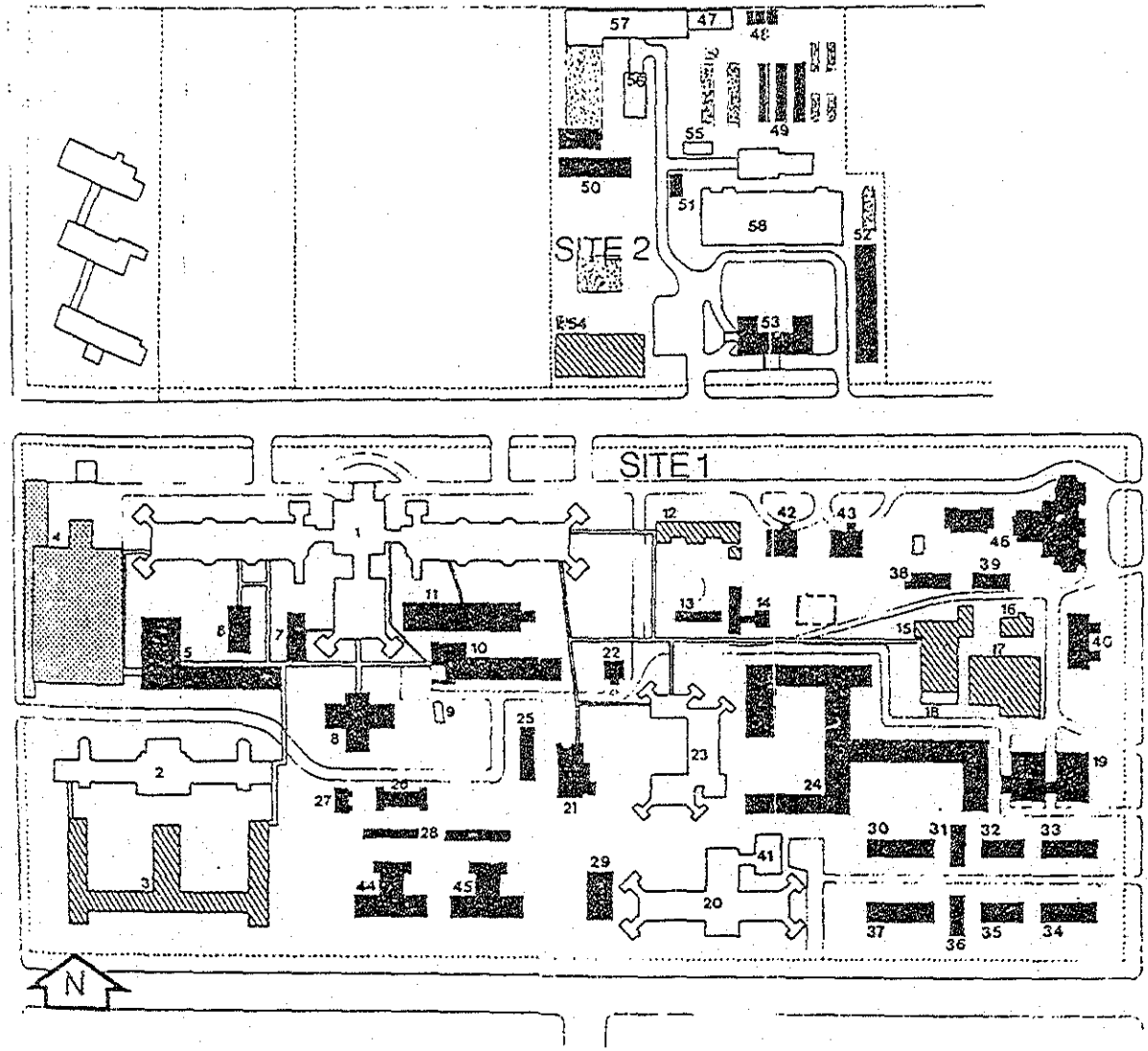
図3－1－1　参照

2.　病院組織

図3－1－2　参照

PROPOSALS FOR THE EXISTING BUILDINGS OF SITE 1&2

Figure 3



A. Building to retain Present Function

Building	Serial No.
Institute of Paramedical Science	5
Physiotherapy Dept	6
IPS Lecture Theatres	7
Nuclear Medicine Dept	11
Radiotherapy	10
Kitchen	8
Medical Staff Residences	21,22,43
Nurses' Residences	24,27
Menial Residences	25,26
Other Staff Residences	28,29
Morguary	39
Garage	15
Blood Transfusion Centre	14
Institute of Dental Medicine	46
Tuberculosis Institute	53

B. Buildings to Extend their Present Function

Building	Serial No.
Outpatient Department	4

C. Buildings to Change their Present Function

Building	Serial No.
New Private Patients Block	3
Boiler House	13
Laundry	17
Electrical Workshop	16
Medical Superintendent's Office	12
New Block	54

D. Buildings to be Vacated

Building	Serial No.
RGL Main Ward Block	1
Old Private Patients Block	2
Sisters' Residences	23
School of Nursing	30
Nurses' Residences	31
Neuromedicine Departments	32
Neurology Outpatients	34
Old Tuberculosis Hospital	38
Old Workshops	-

図３－１－１．ラングーン総合病院配置図

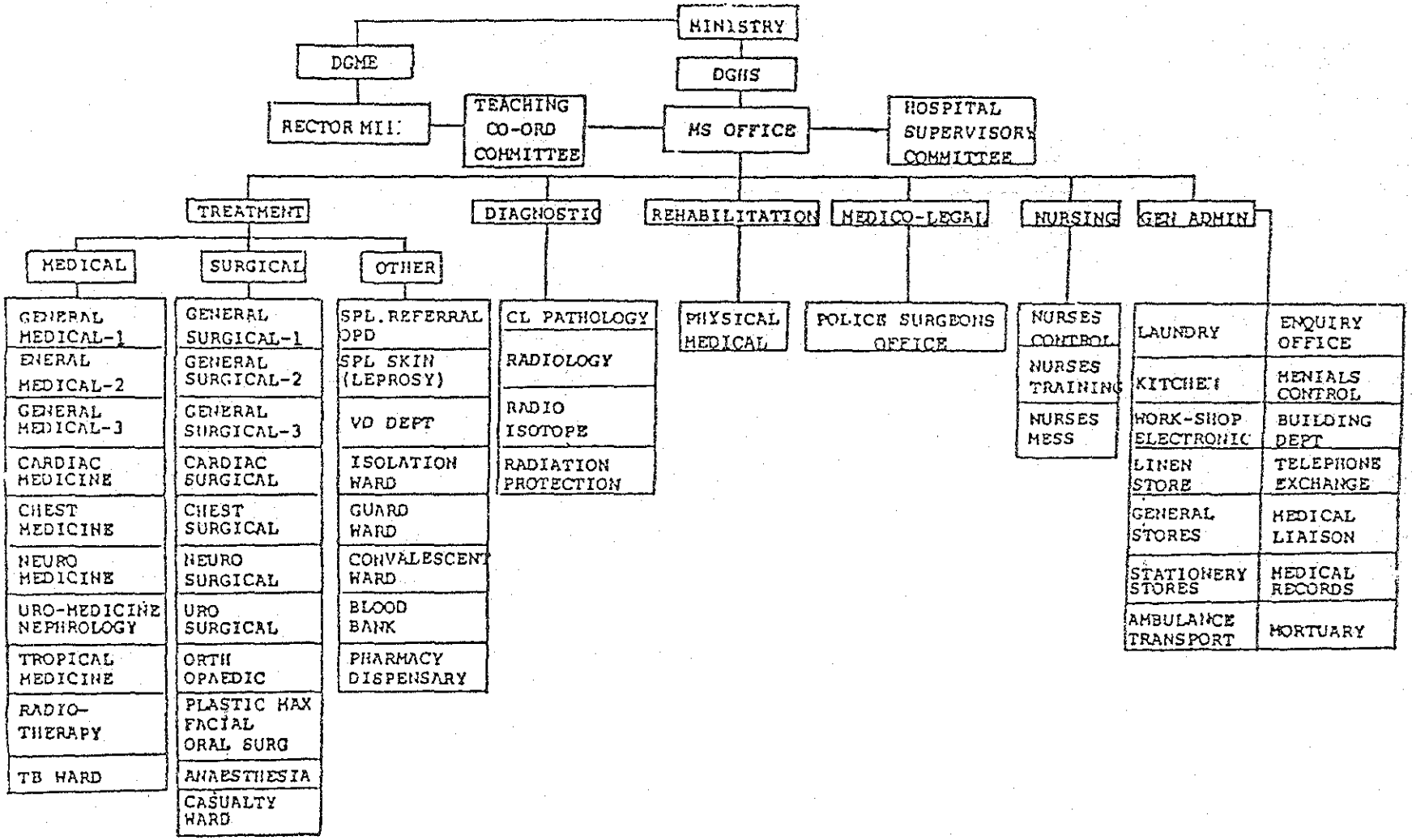


図３－１－２．ランゲーン総合病院組織図

3－1－1. 放射線治療科（RADIO THERAPY DEPT.）

1. ベッド数　90 床

2. 外来患者数　コバルト・マシンⅠ－　80 人／日
1,800 人／月
コバルト・マシンⅡ－　100 ～ 120 人／日
2,200 ～ 2,400 人／月

3. 疾病構造（全てガン件数）

男			女		
1	肺	19.4%	1	乳	19.6%
2	肝　臓	16.7	2	頸　部	17.0
3	胃	10.3	3	肺	11.5
4	食　道	7.5	4	胃	8.7
5	喉　頭	5.0	5	食　道	4.5
6	皮　フ	2.7	6	肝　臓	3.1
7	性　器	2.5	7	卵　巣	2.5
8	そ の 他	35.8	8	そ の 他	32.0

10. 人員構成

医　師	専門医	4
	その他	2
看護婦	婦長	1
	看護婦	2
	準看護婦	9
	看護学生	10
技　師	主任技師	1
	上級技師	1
	技師	7
事　務	事務員	3
	その他	29

5. 現状主要機器

Cobalt Machine I	Model	Theratron Junior(C)
	Year	1957
	Quantity	One
	Condition	Not bad
	Utility Frequency	80 patient/day 1800 patient/mont.
	Maintenance	:Regularly by physicist
	Spare Parts	: Difficult to get.
Cobalt Machine II	Model	Eledorado Super (G)
	Year	1963
	Quantity	One
	Condition	Not bad
	Utility Frequency	100-120 patient/day 2200-2400 patient/month
	Ma intenance	: Regularly by physicis
	Spare parts	: Difficult to get
Deep X-ray	Model	Simens Pendulum type
	Year	1965
	Quantity	One
	Condition	Not bad
	Utility Frequency:	4-6 patient/day /month
	Maintenance :	by physicist and x-ray engineer.
	Spare parts :	(obtained from Siemens Co.)
Dosemeter		One Victoreen Dosemeter (U.S.A.) One Baldwin Former Dosemeter(U.K.)

3－1－2. 心臓病ユニット（CARDIAC MEDIAL UNIT）

1. 入院患者数　40 人

   CCUベッド数　8 床

2. 外来診察日　4 日／週

   内科・外科相談日　1 回／週

   相談日平均患者数　50 人

   年間新規患者数　4,000 ～ 6,000 人

   年間継続患者数　14,000 ～ 18,000 人

3. 疾病構造

	1968 年（新規）	1984 年（新規）
リューマチ性心臓病	約 1,000	約 1,000
高　血　圧　症	〃 500	〃 500
心臓阻血症(Ischemic)	〃 300	〃 1,000
肺　心　症	〃 300	〃 300
先天性心臓病	〃 200	〃 200

4. 人員構成

Number of staff: Head of Cardiac Medical Unit- 1
Cardiac consultants - 2
Assistant to consultants- 2
Post-graduates undergoing training ranging from 4-6/year
Assistants given training for 220 bed-hospital= 2
Rotating assistants: 5 to 6 in eaCH monthly roster

Nurses in CCU: 5 to 6 distributed round the clock

Nurses in Card.Med.Ward: 2 senior staff nurses
3-5 junior nurses distributed round the clock
Male nurses 1 or 2

Nurses in Cardiac Clinic and Card.Catheter-Room: 4

Technicians..Nil

Part-time radiologist- 2
Part-time radiographers- 2

Administrators: part of the hospital-all-round administrators:
Medical superintendent and 2 assistant med.superintendent

Electronic engineer- full-time in Cardiac Unit- one

Echocardiographic sessions :post-graduates 2 per sessions
occasionally one from Children Hospital

5. 主要機器（1980／81年）日本の無償援助による機器のリスト

All the following medical equipment were supplied in 1980-81 under the Japanese Grant Yen 230,635,000/-

-Quantity- one set each

-Spare-parts: nil included

-Condition: working condition except for TEchnicon Autoanalyser No.RRR-[illegible]

-Utility Value_ high, being essential and life-saving items

-Utility Frequency- 5-7 days a week, day in and day out, throughout the year

-therefore utility frequency considered very high.

-Maintenance and spare-parts: maintained by the cardiac electronic engineer U Kyaw Win, AGTI. No spare parts provided from the beginning.

1)Acoma AR-2000D automatic respirator used both in CCU and cardiac -in-patients' ward. Still in working condition

2)Portable ventilator Acoma ARF-850E: used more often because of portability. In working condition

3)Aloka Echocardiograph model SSD-110S- used in over 7000 patients over the past 2 years. Had 2 breakdowns, repaired after obtaining spare-parts from Japan. Negotiated with local agent for Mochida.

4)Autospirometer AS-700: 500-600 readings done per year. In working condition.

5)Central air-conditioner MAT 20 EYK: Still in working condition.

6)Bedside Monitor Life-scope 8: in working condition.

7)SMA @ 6/60 (4+2)System TEchnicon, Auto-analyser No.RRR-0400-01 -since delivery, out of working condition,despite visit from firm expert from abroad. under care of Dr U Mg Ko, Head Pathology Dept.

8)Nihon-Kohden polygraph-8 channel: in working condition

9)Treadmill Model MAT-1200A, in working condition

10)Cardiac pacemaker AEC-2101: in working condition

11)Phonocardiograph Nihon-Kohden: PCG microphone TA-501T: was in working condition, recently both the microphones broke down Replacement now requested with JICA

12)Cardiopac 3M01: in working condition

13)Artificial cardiac massager: in working condition

14)CCU hardwire monitoring system for 8 patients:was in working condition. Now, the central monitor needs spare parts as indicated in Spare-Part List 2 All patients' cables are breaking because of wear and tear: will need replacement Please see same list.

15)Cardiac ambulance-one only with cardio-pulmonary resuscitator: working but cannot be used in the programme for "Mobile CCU" because of lack of 3 more ambulances and staff.

3－1－3. 神経外科（NEURO－SURGICAL DEPT.）

1. ベッド数　100 床
2. 外来患者数　12 人／日，360 人／月
3. 疾病構造

Neuro-Trauma (A & E)　30%
Brain Tumours　20 - 30%
- Glioma
- Meningioma
- Acoustic Neuroma
- Pituitary Tumour
- Pineal Tumours

Vescular surgery　5%
Congenital abnormalities　10%
Spinal surgery　3%
Others including brain abscess　22%

There is a changing trend in the disease profile with the installation of the CAT SCAN in 1982. Brain tumours and vascular lesions are now on the increase.

4. 人員構成

Doctor	-	14
Consultant Neuro-surgeon	-	2
Senior Assistant	-	2
Junior Assistant	-	4
Consultant Anaesthetist	-	1
Senior Assistant	-	1
Consultant Neuro-Radiologist	-	1
Senior Assistant	-	1
Consultant Neuro-Pathologist	-	1
Neuro-Physiologist	-	Nil

Nurses		
Sister	-	2
Senior Staff Nurse	-	18
Junior Staff Nurse	-	6
Nursing Attendance	-	Nil
Technician		
Neuro-Radiology	-	2
Physiotherapist	-	1
Administrator	-	1
Others (General purpose workers)	-	12

5. 主要機材リスト

Serial Number	Model / Year	Quantity	Condition	Utility Value	Utility Frequency /day /month
6.1.	Autoclave. 1962 A.N.S. American Sterilizer Co.	1	Fair	Very useful	Daily
6.2.	Operating table 1973 American sterilizer Co. and ECHMAN	2	Only one servicable	Very useful	5 days/week
6.3.	Major operating lamp 1970 Ceiling Type. SKYLUX American Sterilizer Co.	2	Servicable	Very useful	5 days/week
6.4.	Spot light 1970 SKYLUX. PALLAS.	2	Not servicable	Very useful	5 days/week
6.5.	Diathermy 1975 MIZUHO IKA Kogyo Co. Ltd.	1	Servicable	Very useful	5 days/week
	Down Bros. 1954	2	Not servicable	Very useful	
6.6.	Suction apparatus Guy's Model 1960 ACOMA 1975	2 1	Not servicable Servicable	Very useful Very useful	 5 days/week
6.7.	Monitoring system, U.S.A. 1970	1	Servicable	Very useful	5 days/week
6.8.	Boyle's Machine, MIE 1970	3	Servicable	Very useful	5 days/week
6.9.	Ambu Resuscitator, MIE 1970	1	Fair	Very useful	
6.10.	Oxygen piping system	Nil			
6.11.	Basic Neuro-Surgical Instruments				
	(a) Craniotomy set 1968	2 sets	Servicable		
	(b) Laminectomy set 1968	2 sets	Servicable		
	(c) Functional Neuro-surgery	Nil			
	(d) Basic Micro-surgery	Nil			
	(e) Trans-Spheroidal hypophysectomy set	Nil			

Serial Number	Model / Year	Quantity	Condition	Utility value	Utility Frequency /day /month
6.12.	Air Conditioner National 1970 Amcor (Israel) 1970	8 1	2 Servicable Servicable	Very useful	Daily
6.13.	Pneumatic Craniotome set 1970 Zimmer, Warsaw, Indiana	1	Servicable	Very useful	Daily
6.14.	Stryker Electric Craniotome set	Nil			
6.15.	Air Compressor for Pneumatic Craniotome	Nil			
	MAIN MEDICAL EQUIPMENTS LIST OF NEURO-RADIOLOGY DEPARTMENT OF RANGOON GENERAL HOSPITAL				
6.16.	Skull unit. Elema Schonanda 1970 (Sweden). Fabr.Nr. 477666 Type DS 555/90	1	Servicable	Very useful	5 days/week
6.17.	Myelogram unit. Sirescop with TV monitor (Siemen/Germany 1000 mA 1970 RBV 23, Nr. 9599, Sirecon 23 994/01433, C.72199-A12-A3 F.Nr. 180538	1	Out of order Since 9/8/83	Very useful	5 days/week
6.18.	Over Head Tube (Siemen/Germany) Fabr.Nr. 535913, 1035/03613 1038/01225, Installed 1970	1	Out of order since 18/11/82	Very useful	5 days/week
6.19.	Tridoron-5-S. Control console Two units (1000 mA) 1051/02464, 1051/02477 Installed 1970	2	Servicable	Very useful	5 days/week
6.20.	Echo machine (Ekoline 20) U.S.A. 1970	1	Unservicable since 9/6/82	Very useful	5 days/week
6.21.	C.T. Scanner (Head Scanner) (C.T.H.F.), Hitachi Installed 1981 November	1	Servicable	Very useful	5 days/week

3－1－4. 口腔・形成外科（ORO－MAXILLO FACIAL & PLASTIC SURGERY）

1. ベッド数　50 床

2. 外来患者数　270 人／日，8,100 人／月

3. 疾病構造

(i) Oral and Dental diseases e.g.	Dental caries, oral infections, oral cysts and tumours.
(ii) Maxillo facials diseases e.g.	Road traffic accidents. Fracture of facial bones Aquired & congenital defects Cancer of maxilla etc.
(iii) Plastic Surgical diseases e.g.	Congenital deformities like cleft of lips and palate, facial clefts etc, Aquired deformities e.g. Burns and Post burn contractures, skin lesions e.g. Cancer of Skin, Melanomas etc..

4. 人員構成

Doctors	-	Consultant and Head of Department	1
		Consultant Plastic Surgeon	1
		Civil Assistant Surgeon	2
		Dental Assistant Surgeon	4
Nurses	-	Sister	1
		Staff Nurse	2
		Trained Nurses	7
Technicians	-	Dental Technician	9
Administrator	-	Head of the Department	1
Others	-	Ward Boys	2
		Sanitory Attendant	9
		Security personel	1

5. 主要機器

i. An incomplete range of different varieties of dental extraction forceps, dental elevators and other dental surgical instruments. e.g. Chisels, Bone Rongeure etc. and incomplete range of Periodental instruments - e.g. Scaler, probes curettes etc.

ii.

		Model	Qty.	Condition	Utility Value	Utility Freq.
	Autoclaves (portable)	very old	2	Non-functional(out or order)	Nil	-
iii.	Suction Apparatus	Downs 1964	1	Functioning poorly	Not satisfactory.	Daily use
iv.	Dental X Ray Unit (portable)	Seemens 1964	1	out of order	Nil	-
v.	Dental Chair and light	Old "	3	working but unsatisfactory. (No dental engine unit) for conservative dentistry.	Not satisfactory.	Daily use

(NOTE: Dental Chairs are on loan from the Institute of Dental Medicine, Rangoon, since March 1968).

vi.	Sterilizer (Small)	Japan 1978	2	1 out of order	Not satisfactory.	Daily use
vii.	Air Condi-	Japan National	1	Out of order	-	-

3 － 1 － 5. 泌尿器科（UROLOGY DEPT.）

1. ベッド数　　65床

2. 外来患者数　　40人／日（2日間／週）

3. 疾病構造

	- 1980	- 1981
Prostate	- 51.6%	47.7%
Kidney	- 17.8%	26.7%
Ureter	- 7.7%	9.7%
Bladder	- 12.1%	9.7%
Urethra	- 10.8%	6.2%

4. 人員構成

Doctors	- Head/Consultant Urologist	FRCS	- 1
	Consultant Urologist	FRCS	- 1
	1st Assistant	M.Sc.	- 1
	2nd Assistant	MBBS	- 2
	Rotating M.O.		- 4
		Total	- 9

Nurse	- Sister	- 1
	Blue Staff	- 1
	Trained Nurse	- 5
	Nurse aid	- 1
	Dressor	- 1
	Ward servant	- 2
	Boy	- 2
	Stretcher man	- 4

5. 主要機器

a. Operation table one

Eschmann T.M 529R - good, usuable

b. Eschmann Solid Stat matburn - good, usuable

electro surgical unit T.D 310 with suction unit

c. Hopkin's Telescope with lysto- good, usuable

Urethre scopes with accessories 30°, 0°

d. ACMI Telescope with cystoscopic accessories - not good, unservicible

e. Storz cold light fountain 485B-1 - good, usuable

f. ACMI light source FCB 100 A - 2 - good, usuable

g. Resectoscope for oblique telescope

thumb support stationary - 1 } - good, usuable
movable thumb spring with accessories-1 }

h. ACMI Lithotube - 1 - not usuable

i. Biopsy forcep (Storz) - 1 - good, usuable

j. Foundation general surgical instruments -2 sets- good

3 − 1 − 6. 手術部（OPERATION THEATRE）

1. 14手術部の構成

1. & 2.	Theatre	No.of Operation per day.	No.of Opn./ month
Operation Theatre Suite 3rd Floor	4	about 16 cases /day in each theatre.	320 cases in eachTheat
Operation Theatre Suite 2nd Floor	4	"	320 cases in each Theat
Emergency Theatre	2	1.Trauma 40	1120
		2.Gen. 20 Emergency	560
Chest Theatre(Thoracic)	1	8-10/wK.	40
Neuro Theatre	1	9/Wk.	36
Cardiac Theatre	1	10-15/ Wk.	40-60
Cancer Unit Theatre	1	4/Wk.	16

2. 人員構成

4. No. of Staff	Doctors(Anaesthetist)	Nurses	Tech.	Admin.	Other
Theatre Suite 3rd floor, " " 2nd floor)	12	20		2	6
Emergency Thatre	8	12		1	6
Chest Theatre	1	5		1	2
Neuro Thaatre	2	2		1	2
Cardiac Theatre	3	10		1	3
Cancer Unit Theatre	1	4		1	1

3. 主要機器

	Model/per Year	Qty.	Condition	Utility Value	Utility Freq.
1. Anaesthetic Machines	Very old 1960 except 4 Acoma machine 1978.	14	Almost obsolete except 4	Not satis-factory except 4	Everyday
2. Ventilators	Very old	7	5 out of order 2 in used	-"- except 2	-"-
3. Diathermy	Very old except 2 1978.	7	5 old 2 good order	-"-	-"-
4. Suction Apparatus	Very old 3-1978 model	8	out of order except 3	-"- except 3	-"-
5. Operating Table	Very old model except 1-1978 model	14	All not working except 1	-"-	-"-
6. Main Operating Light	Very old model except 5	14	Working but not satisfac-tory	-"- except 5	-"-
7. Spot Light	2 old model 5-1978 model	7	2 out of order 5 in good condi-tion.	2 out of use. 5 satis. factory	-"-

3－1－7. 臨床検査科（DEPT. OF CLINICAL PATHOLOGY）

1. 人員構成

医　　師	6人
専 門 医	3人
生化学者	1人
医療技術者	8人
技 師 Ⅰ	12人
技 師 Ⅱ	12人

2. 組織

次頁図3－1－3　参照

3. 現状主要機器

表3－1－1　参照

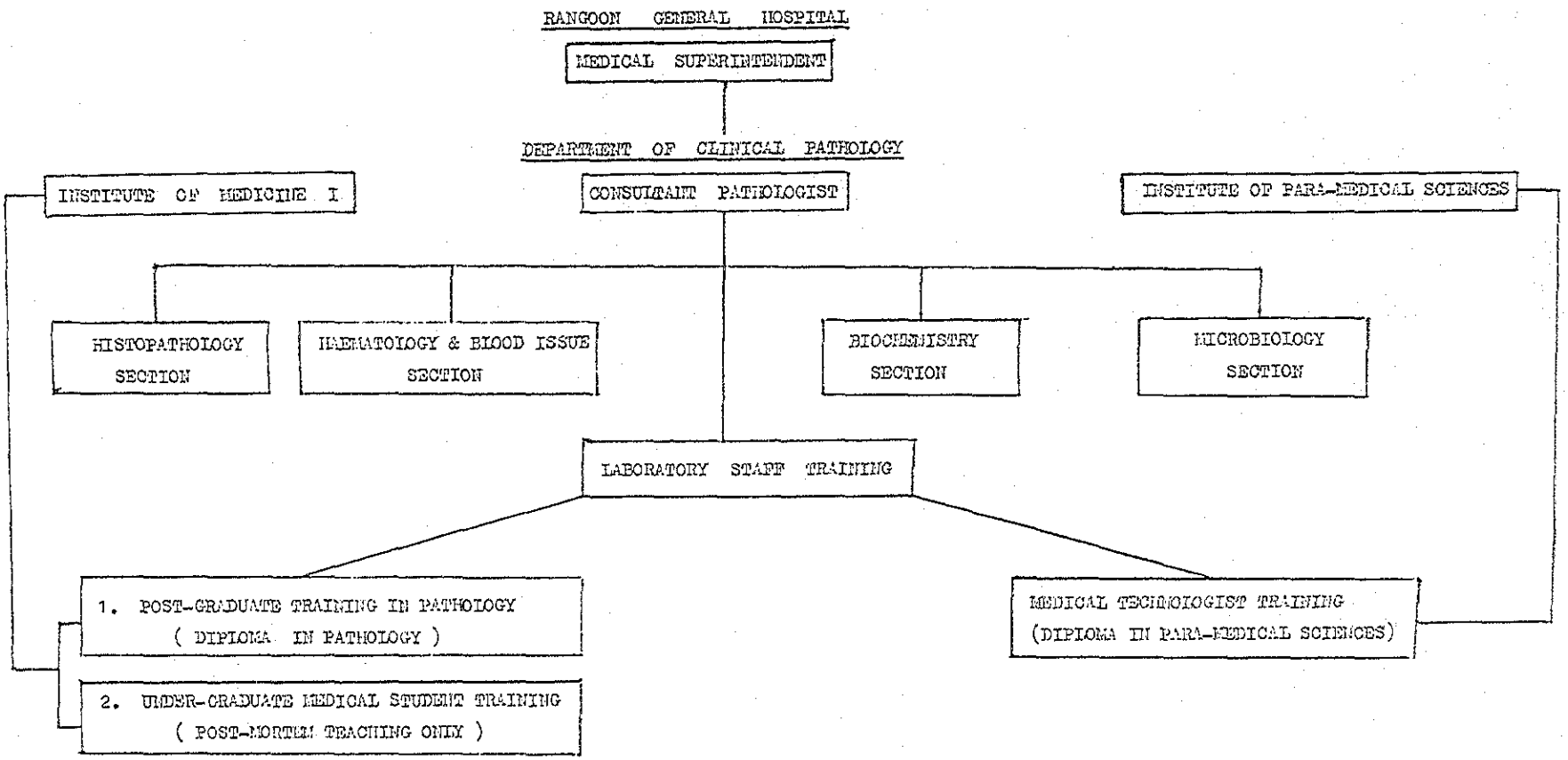


図 3 − 1 − 3. 臨床検査科組織図

表３－３－１　R.G.H現状主要機器リスト（中央検査部）

LIST OF CAPITAL ITEMS OF EQUIPMENTS.

DEPARTMENT OF CLINICAL PATHOLOGY.

R.G.H.

S: Serviceable
R: Repairable
U: Unrepairable

S. No.	Description of Equipments or Machinary	Total no. of existing equipments	CONDITION S	R	U
1.	Auto-analyser	2 sets	2	–	–
2.	Automatic Tissue Processer	2	1	1	–
3.	Cryostat	1	1	–	–
4.	Colorimeter	7	2	–	5
5.	Spectrophotometer	8	3	3	2
6.	Flame photometer	8	3	3	2
7.	Fluorimeter	1	1	–	–
8.	Hot air oven	11	7	1	3
9.	Incubator	7	7	–	–
10.	Microscope (Binocular)	21	19	1	1
11.	Microscope (Monocular)	20	18	–	2
12.	Air conditioner	6	3	3	–
13.	Autoclave (jacketed)	1	–	–	1
14.	Autoclave (non-jacketed)	2	–	–	2
15.	Autoclave (Large)	4	2	–	2
16.	Centrifuge	17	13	–	4
17.	Balance (electrical)	3	2	1	–
18.	Electrophoresis tank	2	2	–	–
19.	Freezer	7	3	1	3
20.	Microscopic slide projector	1	1	–	–
21.	Refrigerator	9	7	–	2
22.	Scanner	4	2	–	2
23.	Water bath	14	10	–	4
24.	Haematocrit centrifuge	2	1	–	1
25.	Haemoglobin dispensor	1	1	–	–
26.	Air compressor	2	2	–	–
27.	Steriliger (Fish bath)	3	3	–	–
28.	Yankee Rotator	3	3	–	–

3－2. 中央婦人科病院

1. 病院組織

次頁図3－2－1 参照

2. 主要疾病構造（1983年）

Tumours

Ovarian - benign	108
- malignant.....	56
Corpus uteri - benign ...	170
- malignant	22
Chorio carcinoma	16
Carcinoma of cervix	47
Carcinoma vulva	7
Others **	20

Other conditions

Endometriosis	13
Hydatidiform mole ..	39
Investigations of infertility	496
Prolapse	273
Fistulae:Vesico-vaginal.	10
Recto-vaginal...	3

Infections

Pelvic	77
Others	15

3. 手術疾病構造（1983年）

Major

Abdominal hysterectomy - total	181
- sub-total	3
Vaginal hysterectomy	125
Repair of prolapse	129
Repair of fistulae **.....	5
Myomectomy	20
Ovarian cystectomy	4
Oophorectomy	39
Others **	120

Minor

Tubal ligation	1249
Laparoscopy diagnostic	11
E U A and/or diagnostic curettage	525
Cervical cautery	48
Others **	250

Operations of malignant disease

Ovaries	32
Corpus uteri	15
Cervix uteri	12
Vulva	2

Total operations - 6782

Major :	Abdominal	367
	Vulval	5
	Vaginal	254

Minor :

Diagnostic curettage..	525
Evacuation of RPC's..	5004
Vulva	48
Others	365
Laparoscopy	49
Diagnostic	11
Operative	38
Tubal ligation (non-puerpural) ...	167
Day cases	413

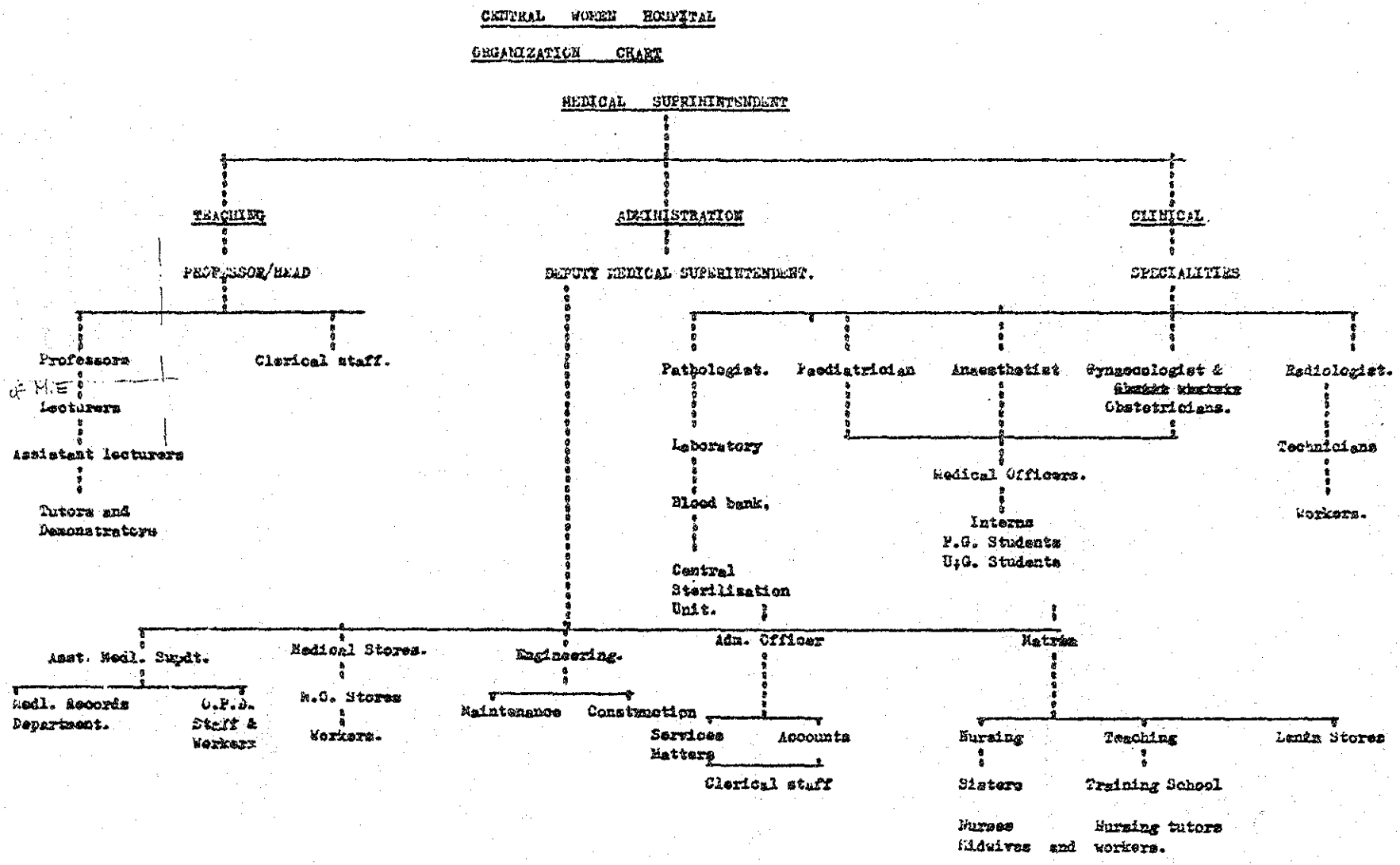


図 3 − 2 − 1. 中央婦人科病院組織図

表３－２－１　現状機器リスト(1)

Sr. No. (1)	Medical Equipment List (2)	Model (3)	Year (4)	Foreign Aid (5)	Quantity (6)	Condition* (7) S	R	US	Utility Value (8)	Utility & Frequency per day (9)	per month	Maintainence (10)	Spare Parts (11)	Quantity Now Reqd (12)*
I.	Delivery Table	Downs	I955 I965	Government Supply	I7	2	5	I0	Absolutely Essential	24 hours	daily	Occasional servicing	Nil	I2
2.	Electrical Bowl Sterilizer	Downs	I974	- " -	I0	5	2	3	- " -	"	"	"	Nil	I0
3.	Electric Section Apparatus Adult.	Japan & U.S.A.	I98I	- " -	I4	4	2	8	- " -	"	"	"	Nil	8
4.	Fowlers Bed	Downs	I955 I960	- " -	84	26	26	32	Essential	"	"	"	Nil	I2
5.	Electric Cautery	Mac Barn	I978	- " -	2	I	I	-	Essential	"	"	"	Nil	4
6.	Electric Vacuum Extractor with Suction Curette.	A TCM No. 2325. Japan	I98I	- " -	I	I	-	-	Essential	"	"	"	Nil	6
7.	Dilatation and Curettage Instruments.	Downs	I955	- " -	I6	I0	-	6	Essential	"	"	-	Nil	6
8.	Hysterectomy Sets	Downs	I955 I980	- " -	5	3	-	2	Essential	Average 2 cases/day	44 cases/month	-	Nil	4
9.	Caesarean Section Sets	Downs	I955 I980	- " -	8	5	-	4	Essential	24 hours	daily	-	Nil	6
I0.	Electric Suction Apparatus(Neonates)	Gomco GRC.	I970	- " -	2	2	-	-	Absolutely Essential	24 hours	daily	"	Nil	6
II.	Incubator	Aimstrong & Oxygen Air	I965	- " -	9	-	-	9	Essential	24 hours	daily	No servicing	Nil	6
I2.	Bilirubinometer	Biluit Moshida	I982	- " -	I	I	-	-	Essential	8 hours	daily	"	Nil	I

* Under the heading of Condition in Column 7.
S = denotes Serviciable.
R = denotes Repairable.
U.S = denotes Unserviciable.

* Column I2 is the answers to question 8 which denotes the quantity required.

表３－２－２　現状機器リスト(2)

CAPITAL ITEMS (For Local & Foreign)　　FORM - (A)

Sr. No.	DESCRIPTION OF GOODS (IN ALPHABETICAL ORDER)	A/U	STOCK IN HAND	QTY. NOW REQUIRED	NAME & ADDRESS OF REQUIREDCOMPANY	JUSTIFICATION
1	Manley Pulmoventilator Pulmovet M.P.T. 2000 ME		2 (R)	2	Blease Aneasthetic Equipment LTD U.K. MEDISHIELD	In use for 15 years without servising repair of parts. "UNSERVICEABLE"
2	CARDIOSCOPE CARDIOSECOURS CDS. 685		NIL	I	JAPANESE OR ENGLAND MADE which ever is available MEDISHIELD	As a teaching hospital dealing with complicated cases refered from all over Burma it is compulsary to have one.
3	BOYLE MACHINE BOYLE INTERNATIONAL (2)		S - 2 2 R - I	3	BRITISH OXYGEN CO.U.K. MEDISHIELD	Machines in use are 15 years old & no replacement of damaged parts this is poorly in fundtion.
4	VACUUM SUCTION APPARATUS		I -	2	JAPANESE OR BRITISH MAKE	The one is use is 15years old and non functioning
5	ELECTRICAL SUCTION APPARATUS		I - R	4	DOWN BROTHERS CO.LONDON	In use for 10 years without replacement of spare parts.
6	ELECTRONIC BLOOD PRESSURE APPARATUS		NIL	2	JAPAN	Teaching hospital needs mordern equipments.
7	OXY-VIVA 3 VENTVAR AL EMERGENCY RESUSCITATOR PART NO.517859		NIL	4	C 16 MEDISHIELD	Teaching hospital needs modern equipment.
8	UNIMIX AIR/OXYGEN MIXER		NIL	25	MEDISHILD	

NOTE : S - Serviceable
R - Repairable
U - Unserviceable

3 － 3. ラングーン小児科病院

1. 主要疾病構造（1979 年）

LEADING CAUSES OF ADMISSION TO RCH 1979

0 - 1 year	1 - 4 years	5 - 14 years
1. Enteritis and other diarrhoeal diseases 20~25 %	1. Enteritis and other diarrhoeal diseases 20~25%	1. Malaria 25 %
2. Pneumonia 20 %	2. Pneumonia 20 %	2. Enteritis and other diarrhoeal diseases 25 %
3. Pyrexia of unknown origin 10 % (DENGUE HAEMORRHAGIC FEVER)	3. Pyrexia of unknown origin 10 % DC	3. Pyrexia of unknown origin 10 %
4. Bronchitis and bronchiolitis	4. Malaria	4. Ascariasis and helminthiasis
5. Other diseases of respiratory system	5. Bronchitis	5. Typhoid fever
6. Malaria	6. Ascariasis and helminthiasis	6. Laceration, open wounds, superficial injuries etc.
7. Upper respiratory tract infection	7. Other diseases of respiratory system	7. Fractures of humerus radius and ulna
8. Infection of skin and subcutaneous tissue	8. Malnutrition	8. Pneumonia
9. Immaturity	9. Whooping coughs	9. Bronchitis
10. Tetanus	10. Infections of skin and subcutaneous tissue	10. Influenza

2. 主要死因

LEADING CAUSES OF DEATHS IN RCH

0 - 1 year	1 - 4 years	4 - 15 years
1. Pneumonia	1. Enteritis and other diarrhoeal diseases	1. Pneumonia
2. Enteritis and other diarrhoeal diseases	2. Pneumonia	2. Malaria
3. Pyrexia of unknown origin	3. Pyrexia of unknown origin	3. Enteritis and other diarrhoeal diseases
4. Immaturity	4. Malaria	4. Pyrexia of unknown origin
5. Tetanus	5. Malnutrition	5. Tetanus
6. Other diseases of respiratory system	6. Bronchitis	6. Dengue haemorrhagic fever
7. Meningitis	7. Other diseases of respiratory system	7. Meningitis
8. Ascariasis and helminthiasis	8. Diphtheria	8. Typhoid fever
9. Vitamins and nutritional deficiencies	9. Dengue haemorrhagic fever	9. Malnutrition
10. Chronic and unqualified bronchitis	10. Tetanus	10. Laceration, open wounds superficial injuries etc.

3. 人員構成

4.MEDICAL ADMINISTRATION.

Population M (I)

F (2)

5.MEDICAL STAFF.

Prof: Paediatrics I.

Lecturer Paediatric I.

Paediatric Surgeon 2.

Anaesthetist I.

Pathologist I.

Radiologist I.

JUnior Consultants 7.

Assist: Surgeon Male 9.

: : :: Female 27.

NURSES.

Matron I.

Sisters II.

Senior Staff

Nurses 33.

Junior Staff

Nurses 89.

Nursing Atten:

male and female 46.

TECHNICAL AND PARAMEDICAL.

Pharmacist . . I.

Radiographer . . 2.

Medical Techonologist . . 4.

Phiotherapist . . 5.

X ray Technician . . I.

Lab: Technician . . 8.

Compounders . . 6.

(Administratives)

Administrative Officer . . I

Office Assist: Clerks . . 8.

Store Keepers . . 2.

Ambulance Driver . . 2.

Stretcher Bearer . . 6.

Office Poem . . 2.

Ward Servant Male and Female I22.

X ray Servant . . I.

Gate Keeper . . I2.

Sweeper . . 20.

Cooks . . 6.

Cultivation System Of Staff.

Officers by Public Service Commission.

Others by Local Labour Offices,

6.CONDITION OF CONSTRUCTION WORK.

Construction completed in I978.

4. 現状主要機器リスト

PRIORITY 3 : FOR NEONATAL UNIT, CHILDREN'S HOSPITAL

SR. NO.	ITEM REQUIRED	REQD: NO.	IF PREVIOUSLY PRESENT MODEL	YEAR ACQUIRED	NO.	CONDITION
1.	INCUBATORS	SIX	AIR SHEILDS	1962	SIX	N
2.	APNOEA MONITOR	FOUR	NIL	-	-	-
3.	OXIMETER	FOUR	NIL	-	-	-
4.	REFLECTANCE METER FOR BLOOD GLUCOSE	TWO	NIL	-	-	-
5.	PHOTOTHERAPY UNIT	FOUR	LOCAL MADE	1978	THREE	S
6.	BILIRUBINOMETER	TWO	MOSHIDA	1980	ONE	S
7.	INFUSION PUMP	TWO	NIL	-	-	-
8.	OXYGEN PIPE LINE SYSTEM	ONE	SMALL UNIT WITH CANISTER & RUBBER PIPES (LOCAL)	1978	ONE FOR EACH WARD	Not Central Supply
9.	OXYGEN SYNTHESIZER PLANT	ONE	NIL	-	-	-
10.	PLASMA EXCHANGER AND HAEMODIALYSIS UNIT	ONE	NIL	-	-	-

Note : S = Serviceable N = Non-Serviceable

PRIORITY 2 : FOR CHILDREN'S HOSPITAL

SR. NO.	ITEM REQUIRED	REQD. NO.	IF PREVIOUSLY PRESENT MODEL	YEAR ACQUIRED	NO.	CONDITION
1.	ALOKA ECHO VISION	ONE	NIL	-	-	-
2.	BRONCHOSCOPE (Non-Rigid)		Only Rigid Type Available			
	2.1. NEONATE	ONE	BORSEL-HUGLY 30 x 5	1976	ONE	S
	2.2. CHILDREN	ONE	30 x 4	1976	ONE	S
3.	FIBREOPTIC CYSTOURETHROSCOPE with accessories		Only Rigid Type Available			
	3.1. NEONATE / INFANT	ONE	STORZ			
	3.2. CHILDREN	ONE	No.10, 11, 13, 14	1974	ONE EACH	S
4.	PORTABLE X-RAY	ONE	SEIMENS	1970	ONE	N
5.	FIBREOPTIC COLONOSCOPE with accessories	ONE	DOWN'S (Rigid Type Sigmoidoscope)	1966	ONE	S
6.	ECHO CARDIOGRAM	ONE	NIL	-	-	-
7.	BLOOD GAS ANALYSER	ONE	RADIOMETER COPENHAGEN ABC III	1976	ONE	N
8.	SUCTION MACHINE					
	8.1. LOW	THREE	NIL	-	-	-
	8.2. HIGH	THREE	NIHON	1978	FIVE	S
9.	X-RAY VIEW BOX (Triple) with Trolley	SIX	SEIMENS (SINGLE)	1964	SIX	S
10.	ULTRASONIC NEBULISER	FOUR	NIL	-	-	-
11.	ECG MACHINE	THREE	TOSHIBA ECG 9 01K	1976	FOUR	S (TWO) N (TWO)

Note : S = Serviceable N = Non-Serviceable

3 － 4. マンダレー総合病院

1. 主要疾病構造（1982年）

10.1 MEDICAL CAUSES

1.	Malaria	1420
2.	Rheumatic Heart Diseases	809
3.	Viral Hepatitis	543
4.	Liver Diseases	531
5.	Lung Diseases including kochs	507
6.	Respiratory Diseases (asthma bronchiectasis)	484
7.	Typhoid	442
8.	Poisoning	434
9.	Hypertension	370
10.	Gastro intestinal Diseases including Gastroenteritis	345

10.2 SURGICAL CAUSES

1.	Accident & Violencs	4716
2.	Gastric Ulcer, Duodenal Ulcer pyloric Stenosis	1872
3.	Infection of skin &	1567
4.	Neoplasm (Malignant)	681
5.	Appendicitis	643
6.	Disease of Genitourinary System	626
7.	Neoplasm (Benign)	596
8.	Hernia	550
9.	Intestinal Obstruction of othere Diseases of G.I. Tract	326
10.	Diseases of Circulatory System	313

2. 病院配置　図３－４－１　参照

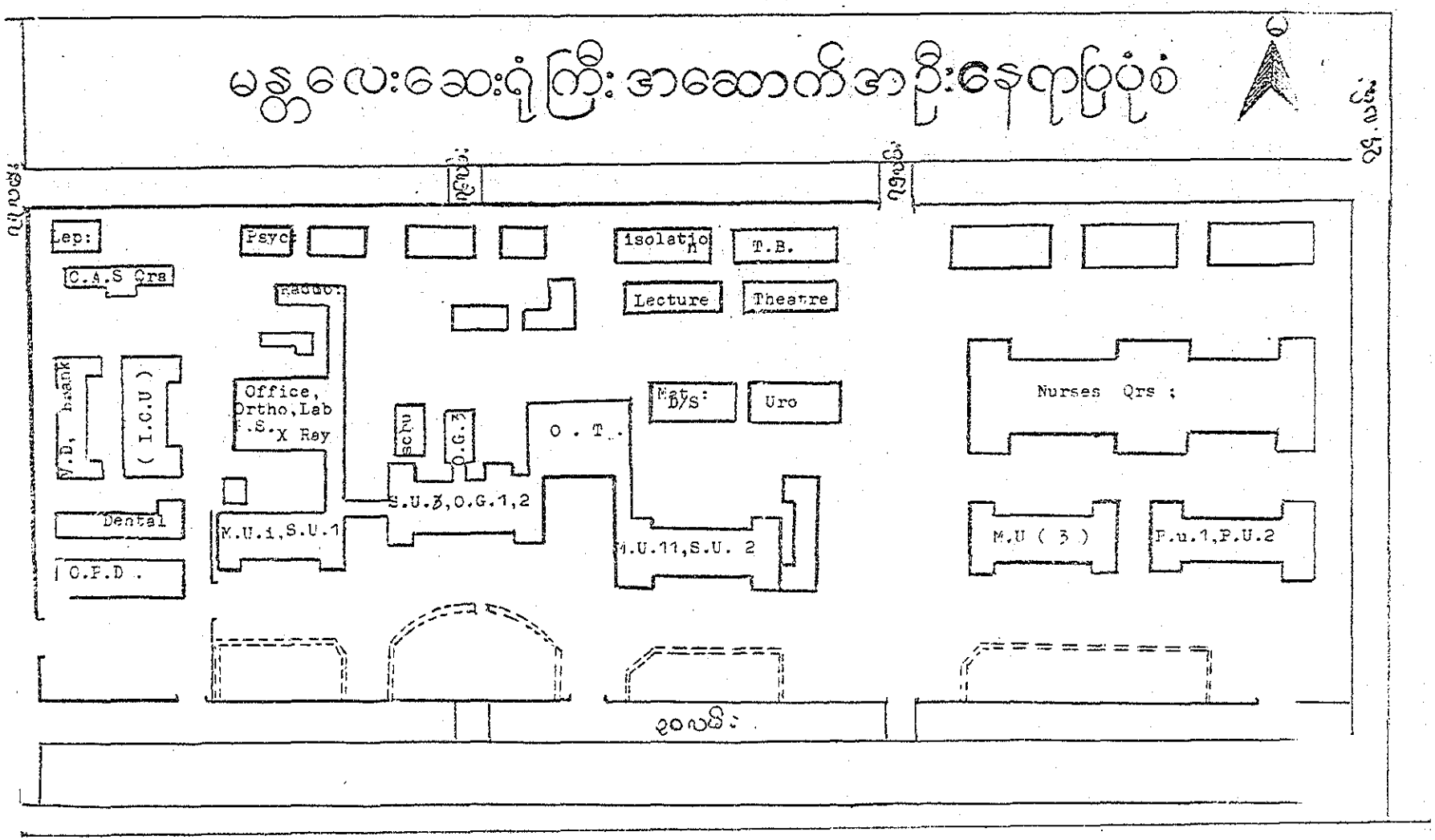


図３－４－１．マンダレー総合病院配置図

3. 主要死因（1982年）

11. TEN LEADING CAUSES MORTALITY IN M.G.H. 1982.

Ser. No	Causes	Cases	%
1	Respiratory Causes	154	14.7
2	Accident Injury	150	14.3
3	Low-Birth weight	125	11.9
4	Cardiovascular Disc:	106	10.1
5	Gastroenteritis	73	7.0
6	Malaria	65	6.2
7	Liver Diseases	61	5.8
8	Tetanus	58	5.6
9	Malignant Diseases	55	5.3
10	Septicemia & Shock	37	3.6

4. 現状主要機器

表3－3－5～8参照

表３－４－１　現状機器リスト(1)（泌尿器科）

MEDICAL EQUIPMENT LIST (EXISTING) FOR UROLOGY DEPARTMENT/UNIT B.G.H.

S/N	Equipment	Model/Year	Sources	Quantity	Condition	Utility value	Utility Frequency /day /month	Maintenance	Spare Parts	Remarks
1	DIATHERMY MACHINE WITH LIGHT SOURCE	DS 30 1 (83. 104. 19) Wachmann, Eng	C.M.S.D.	ONE	SERVICABLE	ESSENTIAL	8/days 64/month	Electronic Dept	Nil	
2	HOPKINS. TELESCOPE 30°	270 15B, 1978	C.M.S.D.	three	"	"	5/day 40/month	"	"	one out of order
3	HOPKINS. TELESCOPE 0°	270 15A 1978	"	One	"	"	"	"	"	
4	HOPKINS. TELESCOPE 70°	270 15A 1978	"	Two	"	"	"	"	"	one out of order
5	COLD LIGHT FOUNTAIN SPECIAL	486B 1978	"	One	Fair	"	"	"	"	
6	CATHETER DEFLECTING MACHANISM	27026EF 1978	"	One	"	"	1/day 8/months	"	"	
7	SWIVEL ARM WALL MOUNTED FOR MODELS 485 & 486	491W 1978	"	One	"	"	5/day 40/months	"	"	
8	DIRECT VISION CYSTOSCOPE SHEATH WITH OBTURATOR 21 F	27026B 1978	"	One	"	"	"	"	"	
9	DIRECT VISION CYSTOSCOPE SHEATH WITH OBTURATOR 17 F	27026D 1978	"	One	"	"	"	"	"	
10	RESECTOSCOPE SHEA TH 24 F SHORT BEAK YELLOW	27040 BK 1978	"	Two	"	"	1/dat 8/month	"	"	
11	RESECTOSCOPE WORKING ELEMENT MOTION BY MEANS FINGER GRIP	27040 D1978 F.A.	C.M.S.D.	TWO	"	"	"	"	"	

表３－４－２　M.G.H現状機器リスト(2)（内科）

MEDICAL EQUIPMENT LIST (EXISTING) FOR MEDICINE DEPARTMENT/UNIT M.G.H.

S/N	Equipment	Model/Year	Sources	Quantity	Condition	Utility value	Utility Frequency /day /month	Maintenance	Spare Parts	Remarks
	CARDIAC UNIT									
1	E.C.G. (TOSHIBA)	1978	C.M.S.D.	1	not functioning	-	-	-	-	
2	MONITOR DEFIBRILLATOR (FUKUDA DENSHI)	1983	C.V.D project	1	Functioning	Essential	Occasional (20-25 Pts.)	Staff & Technician	Nil	20-25Pts./day
3	RESPIRATOR (ACOMA)	"	"	1	"	"	"	"	"	
4	STERILIZER (	Over 10 Yrs	C.M.S.D.	1	"	"	24 Hrs. / day	"	"	
5	MEDICAL UNIT (I)									
5	E.C.G. (FUKUDA)	1978	C.M.S.D.	1	not functioning	"	"	"	"	
6	E.C.G. (CARDIOFAX) NIHON SOKDEN	1982	C.M.S.D	1	functioning	"	20-25 Pts./day	"	"	
7	E.C.G. (CARDIOTRACE WATSON VICTOR)		C.M.S.D.	1	not functioning	"	"	"	"	
8	E.C.G. (CARDIOMAT SIEMENS)	-	C.M.S.D.	1	"	"	"	"	"	
9	SUCKER MSP 207, MATBURN	-	C.M.S.D.	1	"	"	"	"	"	
10	STERILIZER	-	C.M.S.D	3	(only one functioning)		"	"	"	
	MEDICAL UNIT (II)									
11	E.C.G. CARDIOSUNY	-	C.M.S.D.	1	functioning	"	20-25 Pts /day	"	"	
12	SUCKER ATMOZON (ENGLAND)	-	C.M.S.D.	1	"	"	"	"	"	
13	STERILIZER (")	old	C.M.S.D.	1	"	"	"	"	"	
	MEDICAL UNIT (III)									
14	E.C.G. CARDIOFAX	1981	C.M.S.D.	1	"	"	30-35 Pts /day	"	"	
15	SUCKER	-	C.M.S.D.	1	not functioning	"	"	"	"	
16	STERILIZER	-	C.M.S.D	2	only one functioning		"	"	"	

表3－4－3　M.G.H現状機器リスト(3)（産婦人科）

1. Ultra sound. - One

U - Sonic Model RT 2000
Yokogawa Medical Systems.
Year February 1984.

In use Since 7-2-84.

Number of cases seen Obstetrics & Gynaecology cases.

February	-	32
March	-	48
April	-	41
May	-	88
June	-	80
July	-	111

Medical cases seen:-

About 30 - 40 cases per month.
Electronic Engineer for Maintainance.
No spare parts yet.

No service manual
Need Polaroid film for recording.

2. Colposcope - One no.
Inami company.
Year July 1984
Just received will be used about 3 times a week, for defection of high risk cases for early cancer cervix.
Electronic Engineer for Maintainance.
No spare parts yet
No Service manual
No instruction manual

3. Fetal Heart Monitor - One no.
M.T. 810
Toitu
Year July 1984.
Valuable for monitoring high risk patients in labour
Use possibly almost daily.
No spare parts or accessories
Maintainance by electronic Engineer.

4. Doppler Fetus detector - One no.
FID 200
Toitu
Valuable in determination of fetal well being and in diagnosis of H.Mole.
Use Almost daily use.

4. 収集資料リスト

1. Report to The Pyithu Hluttaw on The Financial, Economic and Social Conditions of the Socialist Republic of the Union of Burma for 1984/85. 1984 Ministry of Planning and Finance
2. Hospital List: 1980 Health Information Services Department of Health, Ministry of Health, Burma
3. General Information Booklet December 1983, Department of Medical Education, Ministry of Health
4. Rangoon General Hospital Annual Statistical Report, 1983 Published Jointly by Health Information Services, Dept. of Health and Medical Records Dept., Rangoon General Hospital August 1984
5. Cancer in Rangoon July, 1983 Rangoon Cancer Registry Radiotherapy Dept. Rangoon General Hospital
6. Department of Medical Research: Research Programmes and Facilities (1982) Dept. of Medical Research, Ministry of Health
7. World Health: The Magazine of the World Health Organization May, 1984
8. General Health and Health Related Information in Burma
9. The United Nations and Burma August, 1983
10. Primary Health Care in Burma: UNICEF Assistance 1978-86
11. Background Information and Activities of Mandalay General Hospital

JICA