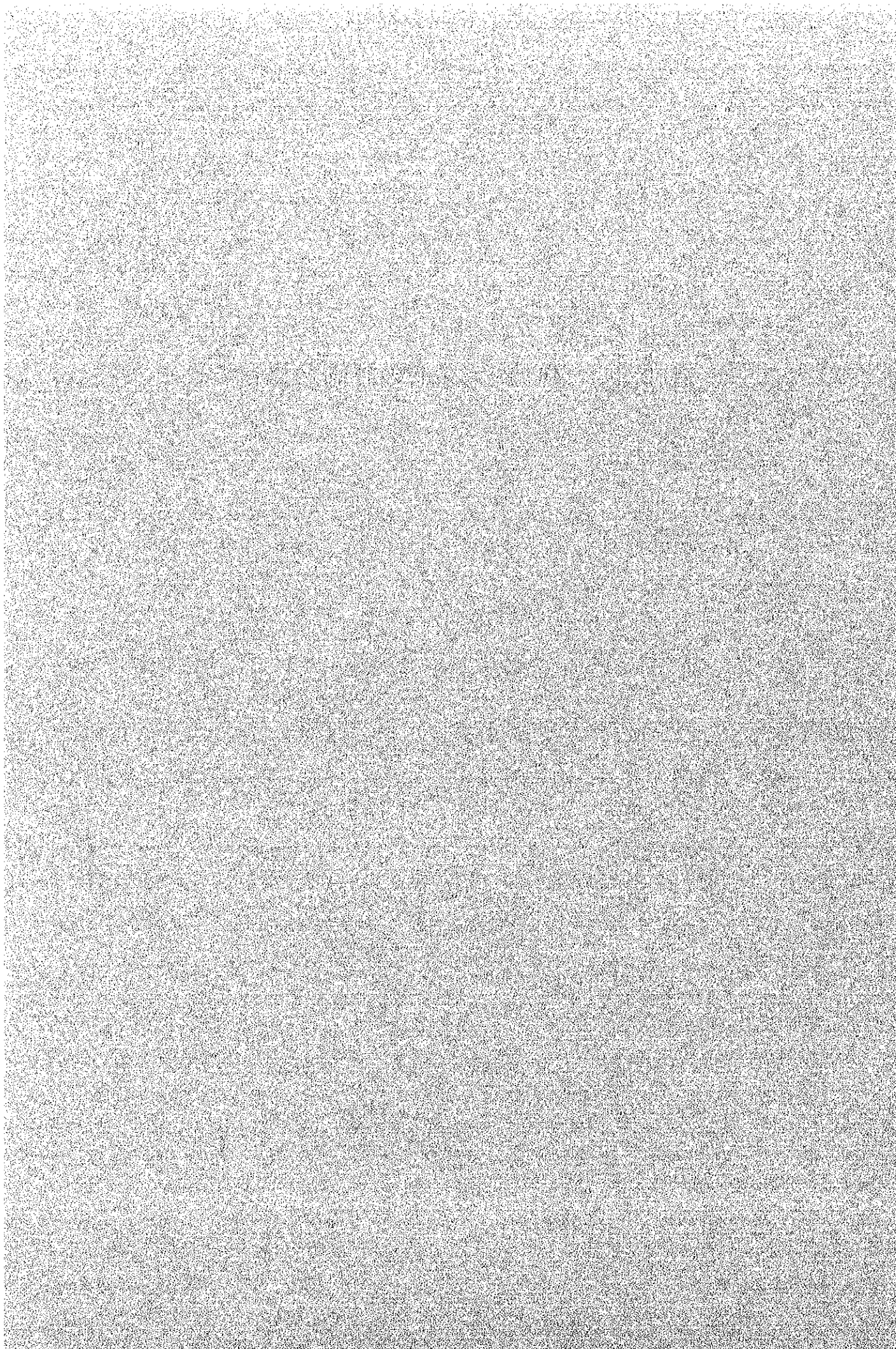


## 第5章 プロジェクトの評価と提言

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### 5-1 裨益効果

この基本設計による機材整備計画が実施され、計画した機材類が適切に使用された場合、アンデラプラデッシュ州のトップレファレル病院として、当該病院は診療機能・教育機能の改善が促進される。以下の表の様な効果が期待できる。

現状と問題点	本計画での対策	計画の効果・改善程度
1. 当該病院はアンデラプラデッシュ州におけるトップレファレル病院であり、その上医科大学の臨床実習及び卒後研修の任務を持っている。創設以来約70年を経過しており、建物設備の老朽化、基礎的医療機材の陳腐化が進んでいる。	診療需要の多い症例に対する設備機材の整備を実施し、診療機能の充実・改善を行う。	イ. 不足していた診療能力の向上につながる。 ロ. 入院患者の滞在期間の短縮が見込める。 ハ. 診療効率が向上し、位置づけに見合った本格的医療の実施が容易となる。
2. 地域患者の80%と云われる貧困層が求める高度医療需要に応えることが困難な状況にある。	同種機能を持った民間病院を利用できない住民に対し、これらの医療需要に応えられる機材・設備の効果効率的な導入を計画する。	今迄他の同格の民間及び有料の公共医療機関への移送患者を充実した内容で直接診療ができるようになるから受診者(貧困層)の利益につながる。
3. 医療要員の質的向上に係る教育機能が不足している。(現代の医療技能を取得するための)	質量共に地域医療を担当すべき要員の養成に必須な既に開発され定着している機材設備を設置する。	年間研修者として 看護婦 220名 医学生 216名 卒後研修医 162名 高級研修医 14名 等の充実した教育研修効果が見込める。
4. 病院機能の基本的な消毒滅菌、清潔維持に係るマイナスの問題を抱えている現状にある。	滅菌設備、清潔維持、医療排棄物処理に必要な機材設備の導入計画を行い、院内環境の整備に努力させる。	院内環境の向上と滅菌作業の確実化が図られ、今まで以上の院内感染の危険性の排除が見込まれ、1日約300Kg以上の医療サービス品の洗濯が可能となる。

## 5-2 妥当性に係る実証・検証

本計画はアンデラプラデッシュ州のトップレラレル病院としての位置づけにある当該病院の、老朽化している設備機材の整備計画である。

この計画の目標は、

1. 当該病院の患者の80%を占めると云われる貧困層住民へ、民間病院と同様な質の医療サービスを安価に提供することである。
2. 短期及び中長期の目標は、現代的・効果的な診療機能を住民に提供すると共にその実施に必要な機材設備の改善を通して、医療要員の技能的効用の実現を促進すること、そのための研修プログラム実施を通じて医師のみならず、看護婦、医療技術者（X線技師、検査技師、臨床工学士等）等の養成を図り、地域の保健セクターの充実を目指すことにある。

尚、本計画実施に対して、アンデラプラデッシュ州政府担当局は、現在の病院の歴史的背景と長年に亘る医療実績を踏まえ、強力に支持する用意がある。

本計画に対する日本の無償資金協力の妥当性を確認するに当たって検討した結果は、以下に集約される。

- ①計画の裨益対象が一般地域住民であり、且つ患者の80%以上とされる貧困層に属する人々である。
- ②本計画の内容が、併行して実施が予定されている世銀ローンによる第一次、第二次医療分野整備が掲げるH.H.C.P.(HUMAN HEALTH CARE PROGRAMM)に合致し、包括的に民生の安定に役立つ。
- ③対象病院の活動に対し、アンデラプラデッシュ州政府保健家族福祉省は支持を与えており、良好な管理運営努力が見込める計画となっている。
- ④環境面での影響を排除するための設備機材の供給整備が計画に含まれている。
- ⑤日本の無償資金協力制度により、同一市内にあるMNJガンセンター病院に医療機器装置の供与実績があり、このことを参考に計画機材の運営計画を立てており、特段の困難なく実施が可能である。

### 5-3 提言

調査団との協議の結果、以下の早急に解決できる問題について、インド側は早急に対処することが確認されている。

#### A. 組織・人材面

##### (1) 短期的な課題・提言

施設面については環境整備について以下に示す問題が見られる。

##### 1) 院内廃棄物の処理について系統だった処理基準が未設定である。

医療廃棄物の分別収集システムの確立、病室における生活廃棄物の処理方法、洗濯部門における廃水・汚水処理にかかる基本設備を早急に整備することを提言する。

##### 2) 手術部門に必要な清潔維持にかかる設備を緊急に整備すべきである。

現在、実質内容は別として一応の無菌手順で手術室の入退室・業務手順を実施しているが手洗水の滅菌精度も不完全・換気空調の不良などが散見されることから清潔維持が適切でなく、これらの改善を早急を実施することを提言する。

##### 3) 病院内外の清掃業務が完全に行われていない。

清掃業務を徹底すると雰囲気的に病院を汚すことが出来にくくなり、清掃度が向上・維持される。清掃の徹底化の費用は従来と変わらないはずであるから強力に実施することを提言する。

##### 4) 医療機材のメンテナンス体制の確立を早急に実現することが肝要である。

即ち、アンデラプラデッシュ州政府に配属されている臨床工学士 (Bio-Medical Engineer) と同格である技術者を業務担当者として常駐する制度を確立し、今後の病院活動の発展に備えることを提言する。

##### (2) 中長期的な課題・提言

##### 1) 本病院はオスマニア総合病院であると共に、オスマニア医科大学の教育実習病院で、各講座が独立しており病院管理が系統立っていない。即ち現状においては院長室の事務担当者が病院の管理業務を担当しているが、病院管理補助業務についてはそれぞれ担当責任の医師 (R.M.O) (部門別 6 人、総括 1 名、計 7 名) の指示により、電気部門、機械部門、電話交換部、倉庫部門、洗濯部門、中央消毒部門等は各個に管理され、又、看護部門も各専門診療科毎に管理され、全体の管理体制下でない。

総合病院運営の観点から、病院全体管理システムを確立する事、更に教育研修の管理システムは切り離し別個の管理体制下におくことを提言する。

##### 2) 医師に比して、医療従事者の地位が低く、加えて技術水準は余り高いものでない。例をあげれば、看護婦の業務に入る清潔汚染の実務については多くの問題があり、物品管理については乱雑な状況にある。

看護婦の教育・管理について至急改善する事を提言する。

3)病歴管理については殆どが人手処理で、各診療部門よりの病歴表を集計し、疾病分類は、WHO基準に依って実施している。医師の研究等に患者カルテは貸し出しされているが、その成果は病歴室には戻らず、病院全体の活動実態の改善や内容充実に反映させることが困難と見られる。各部門ごとに取りまとめる疾病毎の集計分析等についても同様である。病歴管理の内容を整理統合し、今後の病院運営に活用するシステムを確立させることを提言する。

## B. 財務・資金計画

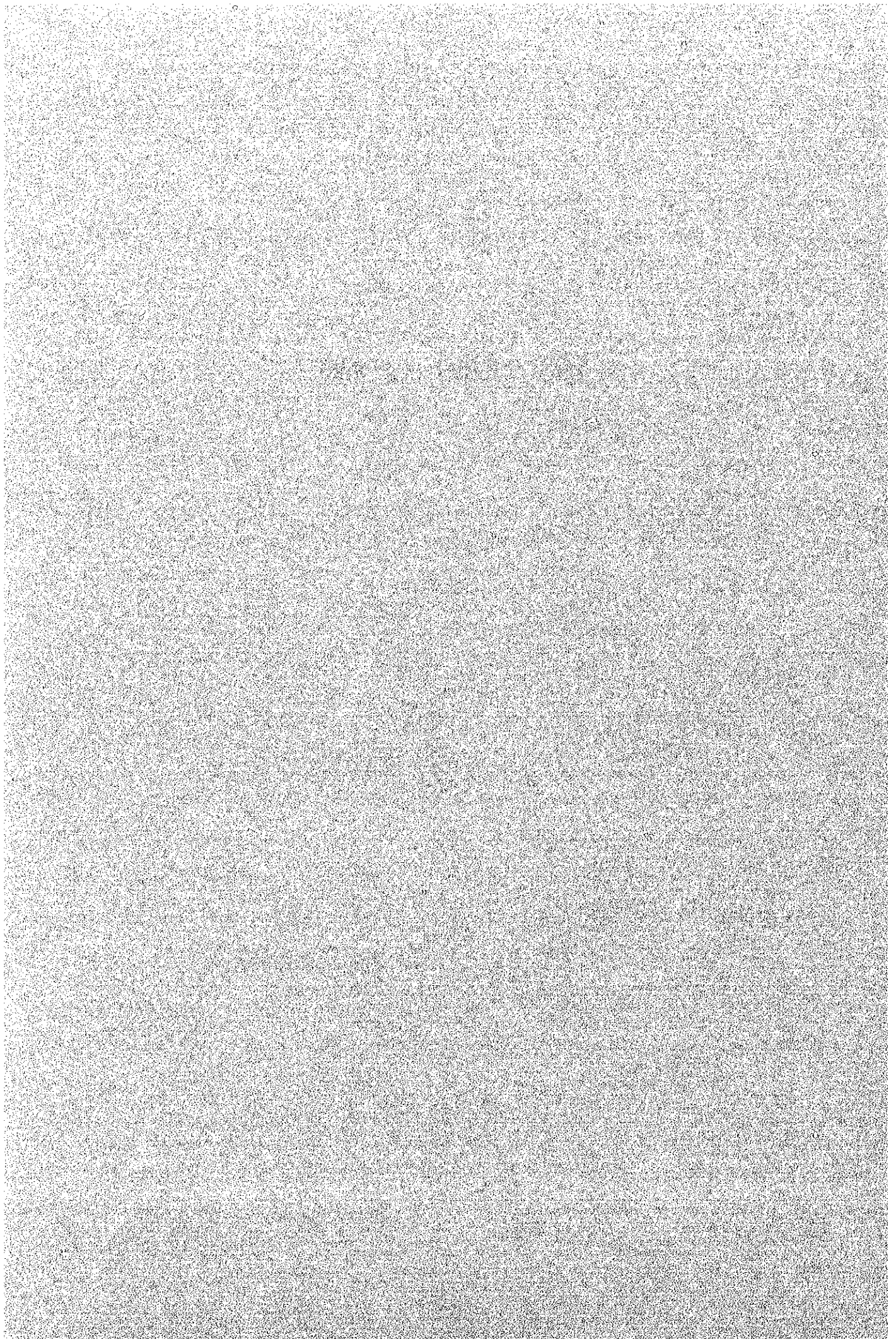
財政面の問題は、当該病院の自立発展的運営にとって重大な事項である。短期的には、州政府当局の支援による病院運営をはかり、その間に病院財政の自立を目指した中・長期計画を立案、実施すべきである。即ち、

- 1)費用を回収し得る検査料、診療費の設定を早急に計画し、行政府の認可を求めると共に実施に当たっては、貧困層に対する配慮（例えば、社会保障にかかる制度・ケースワーカー制度の確立等）を並行して規定すべきである。
- 2)高度先進医療機材を当該病院は診療上必要とされるので、これらの機材にかかる保守管理契約（有償）を締結する事が必要である。これに必要な所要資金は、毎年次、設定すると共に前述した維持管理の項に試算した金額例（病院活動データを基礎にした。主なものとして、現在使用中の心臓内科のコロナリーアンギオ装置は、償却10年として年間約 8,254千円・大動脈補助循環装置は償却5年、年間約15,000千円・血液ガス分析装置は償却6年、年間約 3,100千円等の費用が見込まれる。その上、日常の診療活動に必要な直接材料費として、臨床検査部門用として約54,780千円・生理機能診断(ECG, EEG, EMG, RF等)部門用として約2,270千円・X線診断部門用として約77,799千円・超音波診断部門用として約2,400千円・手術部門用として約164,700千円等が試算される。)を参考に、資金計画を立案し、州政府よりの支援を確保する努力をすべきである。
- 3)当病院で活用される機材は、物理的な耐用年数とは別に機能的な面からの耐用年数を設定する条件下にあるものが含まれている。この為、機材更新に備えて積立を行うこと、及び経年劣化による取り替えを予測した財務計画の確立が必要である。
- 4)病院運営のモニタリング体制の確立をするためには、アンデラブラデッシュ州政府の監督及び支援が必要である。

# 資料編



# 資料編



## 資料編

1. 調査団氏名	1
2. 調査日程	3
3. 相手国関係者リスト	4
4. 討議議事録	7
5. 当該国の社会・経済事情	34
6. 相手国負担経費内訳	43
7. 主要既存医療機材状況表	45



## 1. 調査団氏名

### 1-1 基本設計調査団員の構成

#### 官ベース団員

- 1) 建野 正毅 (Dr.Seiki TATENO) (総括)  
国立国際医療センター国際医療協力局・派遣協力課  
(平成6年10月1日～10月13日 13日間)
- 2) 黒川 清登 (Mr.Kiyoto KUROKAWA) (計画管理)  
国際協力事業団 無償資金協力調査部 基本設計調査第一課  
(平成6年10月1日～10月13日 13日間)

#### コンサルタント団員

- 3) 伊澤 恭一 (Mr.Kyoichi IZAWA) (業務主任)  
株式会社 第一医療施設コンサルタンツ  
(平成6年10月1日～10月21日 21日間)
- 4) 村尾 耕一 (Mr.Koichi MURAO) (機材計画)  
株式会社 第一医療施設コンサルタンツ  
(平成6年10月1日～10月21日 21日間)
- 5) 小田 時夫 (Mr.Tokio ODA) (設備計画)  
株式会社 第一医療施設コンサルタンツ  
(平成6年10月1日～10月21日 21日間)

#### 国際協力事業団(JICA)

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本郷小林ビル2階  
TEL (3) 3817-0830 FAX (3) 3817-0820

## 1-2 ドラフトレポート説明調査団員の構成

### 官ベース団員

- 1) 朝日 茂樹 (Dr.Shigeki ASAH1) (総括)  
国際国立医療センター国際医療協力局・派遣協力課  
(平成6年12月7日～12月17日 11日間)
  
- 2) 黒川 清登 (Mr.Kiyoto KUROKAWA) (計画管理)  
国際協力事業団 無償資金協力調査部 基本設計調査第一課  
(平成6年12月7日～12月17日 11日間)

### コンサルタント団員

- 3) 伊澤 恭一 (Mr.Kyoichi IZAWA) (業務主任)  
株式会社 第一医療施設コンサルタンツ  
(平成6年12月7日～12月17日 11日間)
  
- 4) 村尾 耕一 (Mr.Koichi MURAO) (機材計画)  
株式会社 第一医療施設コンサルタンツ  
(平成6年12月7日～12月17日 11日間)

2. 調査日程 オスマニア総合病院医療機材整備計画基本設計調査団

2-1 基本設計調査日程表

日数	日付	内 容	
1	10/1 (土)	成田発 → バンコック着	
2~5	2(日)~5(木)	ベストによるフライトキャンセルのためバンコックにて待機 国立感染症センター視察	
6	6(木)	バンコック発 → ニュテリ着 JICA・大使館表敬、協議、 中央政府大蔵省、保健省表敬、協議	
7	7(金)	ニュテリ発 → ハテラハート着 州保健省、関係機関表敬・協議 (インテリジョンポート説明他)	
8	8(土)	対象施設調査・協議、関連施設調査	
9	9(日)	団内会議	
10	10(月)	対象施設協議	
11	11(火)	州保健省協議、対象施設協議	
官 側			
12	12(水)	ニュテリへ移動、JICA・大使館報告	対象施設 協議
13	13(木)	ミツ調印、ニュテリ発 → バンコック着	
14	14(金)	バンコック発 → 成田着(官側)	
15	15(土)	対象施設協議	
16	16(日)	対象施設協議	
17	17(月)	対象施設協議	
18	18(火)	対象施設協議	
19	19(水)	医療機材インド国内市場調査	
20	20(木)	ハテラハート発 → ニュテリ着、JICA報告	
21	21(金)	ニュテリ発 → 成田着	

2-2 ドラフトレポート説明

日数	日付	内 容
1	12/7 (水)	成田発 → ニュテリ着
2	8(木)	大使館、JICA、中央政府保健省表敬、協議 ニュテリ発 → ハテラハート着
3	9(金)	州保健家族福祉省表敬、協議(ドラフトレポート説明) オスマニア総合病院訪問、協議
4	10(土)	州保健家族福祉省協議
5	11(日)	団内会議
6	12(月)	州保健家族福祉省協議 オスマニア総合病院協議
7	13(火)	ニュテリへ移動
8	14(水)	JICA報告、協議
9	15(木)	ミツ調印(大蔵省)
10	16(金)	日本大使館報告
11	17(土)	ニュテリ発 → 成田着

### 3. 相手国関係者リスト

#### 日本大使館

岡部 孝道 在インド日本国大使館 参事官  
廣瀬 道雄 在インド日本国大使館 一等書記官

#### JICA

笹子 実 JICAインド事務所 所長  
野村 昌弘 JICAインド事務所 次長  
酒井 利文 JICAインド事務所 所員

#### GOVERNMENT OF INDIA (インド国政府)

##### MINISTRY OF FINANCE (大蔵省)

Mrs. Rama Murali Dept. of Economic Affair, Joint Secretary  
(Mrs. ラマ ムラリ) (経済協力局、次官補)  
Mr. D.N.N. Raju Dept. of Economic Affair, Deputy Secretary  
(Mr. D.N.N. ラジュ) (経済協力局、次官補)

##### MINISTRY OF HEALTH & FAMILY WELFARE (保健家族福祉省)

Mr. Ashok Mehta Dept. of Health, Under Secretary  
(Mr. アショク メタ) (保健局、次官補)  
Mrs. Namita Pradhan Dept. of International Health, Director  
(Mrs. ナミタ プラダハン) (国際保健局、局長)



STATE GOVERNMENT OF ANDHRA PRADESH (アンドラプラデシュ州)

MR. KOTLA VIJAYA BHASKARA REDDY HONOURABLE CHIEF MINISTER

(Mr. コトラ ヴィジャヤ ハスカラ レディ) 首相

MINISTRY OF HEALTH & FAMILY WELFARE (保健家族福祉省)

Mr. K. Rosaiah Honorable Minister

(Mr. K. ロサイア) (大臣、大蔵大臣兼務)

Mr. B.V. Rama Rao Dept. of Health, Medical and Family Welfare, Spl. Chief Secretary

(Mr. B.V. ラマ ラオ) (保健家族福祉局、首席次官)

Ms. K. Sujatha Rao Dept. of Health, Medical and Family Welfare, Secretary

(Ms. K. スジャタ ラオ) (保健家族福祉局、次官)

Mr. K.L. Narayanan Dept. of Health, Medical and Family Welfare, Deputy Secretary

(Mr. K.L. ナラヤナン) (保健家族福祉局、次官補)

Dr. Nandaraj Singh Health Service, Director

(Dr. ナンダラジ シン) (保健局、局長)

Dr. C.M. Habibullah Medical Education, Director

(Dr. C.M. ハビブアラ) (医療教育局、局長)

MNJ Institute of Oncology (MNJガン研究所)

Dr. J. Mandapal Professor of Dept. of Radiology

(Dr. J. マンダハル) (放射線科教授)

NIZAM'S INSTITUTE OF MEDICAL SCIENCE (ニザム医学研究所病院)

Dr. I. Sattapralada rao Director

(Dr. I. サッタプラダ ラオ) (院長)

OSMANIA GENERAL HOSPITAL (オスマニア総合病院)

- Dr. D. Satyanarayana      Superintendent, Professor & Head of the Dept. of Endocrinology  
(Dr. D. サティアナライヤナ)      (院長、内分泌科主任教授)
- Dr. Sudhir R. Naik      Professor & Head of the Dept. of Cardiology  
(Dr. スディール R. ナイク)      (心臓内科主任教授)
- Dr. T.E. Anandavalli      Professor & Head of the Dept. of Neurology  
(Dr. T.E. アナダヴァリ)      (神経内科主任教授)
- Dr. Jayapel Reddy      Professor & Head of the Dept. of Cardiothoracic  
(Dr. ジャヤペル レディ)      (胸部外科主任教授)
- Dr. P. Kantha Reddy      Professor & Head of the Dept. of Neurosurgery  
(Dr. P. カンタ レディ)      (脳外科主任教授)
- Dr. A.V.S. Reddy      Professor & Head of the Dept. of Genito-Urology  
(Dr. A.V.S. レディ)      (泌尿器科主任教授)
- Dr. N.R.S. Iyengar      Professor & Head of the Dept. of Anaesthesiology  
(Dr. N.R.S. イェンカー)      (麻酔科主任教授)
- Dr. C.S.K. Bhagavanulu      Professor & Head of the Dept. of Radiology  
(Dr. C.S.K. バガヴァヌル)      (放射線科主任教授)
- Dr. T.S.S. Laxmi      Professor & Head of the Dept. of Dermatology  
(Dr. T.S.S. ラクシュミ)      (皮膚科主任教授)
- Dr. R. Vidyasagar      Head of the Dept. of Gastroenterology  
(Dr. R. ウィジヤサガル)      (消化器科主任)
- Dr. Nandan Singh      Professor & Head of the Dept. of Microbiology  
(Dr. ナダン シン)      (微生物科主任教授)
- Dr. Farhatunnissa      Professor & Head of the Dept. of Biochemistry  
(Dr. ファハトゥニッサ)      (生化学科主任教授)
- Dr. Gajanand Rao      Assistant Professor of the Dept. of Pathology  
(Dr. ガジヤナンダラオ)      (臨床病理科助教授)
- Dr. K.M. Lakashman Rao      Professor & Head of the Dept. of Surgery  
(Dr. K.M. ラクシュマン ラオ)      (一般外科主任教授)
- Dr. A. Prakasham      Professor & Head of the Dept. of Medicine  
(Dr. A. プラカシャム)      (内科主任教授)
- Dr. Venkata Raghava Reddy      Professor & Head of the Dept. of Plastic Surgery  
(Dr. ウェンカタ ラカハレディ)      (形成外科主任教授)
- Dr. Paul Richmond Peters      Chief Blood Bank Officer  
(Dr. ポール リッチモンド ピーター)      (血液銀行主任)

4. 討議議事録

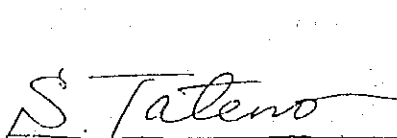
MINUTES OF DISCUSSIONS  
BASIC DESIGN STUDY  
ON  
THE PROJECT FOR THE IMPROVEMENT OF MEDICAL EQUIPMENT  
AT OSMANIA GENERAL HOSPITAL IN INDIA

In response to a request of the Government of India, the Government of Japan has decided to conduct a Basic Design Study on the Project for THE IMPROVEMENT OF MEDICAL EQUIPMENT AT OSMANIA GENERAL HOSPITAL IN INDIA (hereinafter referred to as "the Project"), and entrusted the study to the Japan International Cooperation Agency (JICA). JICA sent to India a study team, headed by Dr. Seiki TATENO, Bureau of International Cooperation International Medical Center of JAPAN, Ministry of Health and Welfare, from October 6 to October 21, 1994.

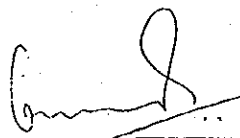
The Team held discussions with the officials concerned of the Government of India and conducted field surveys at the study area.

In the course of discussions and field survey, both parties have confirmed the main items described on the attached sheets. The Team will proceed to further works and prepare the Basic Design Study Report.

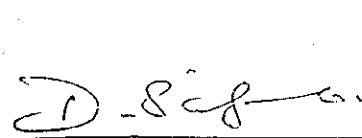
Delhi October 13, 1994



Dr. Seiki TATENO  
Leader  
Basic Design Study Team  
JICA



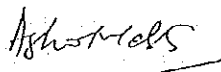
Dr. C. Surya Prakasara  
Incharge Director of  
Medical Education  
Government of  
Andhra Pradesh



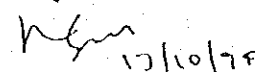
Dr. D. Satyanarayana  
Superintendent  
OSMANIA GENERAL HOSPITAL



Mr. K. L. Narayana  
Deputy Secretary  
Health, Medical & Family  
Welfare, Dept.  
Government of  
Andhra Pradesh



Mr. Ashok Mehta  
Under Secretary  
Dept. of Health  
Ministry of Health  
& Family Welfare  
Government of India



13/10/94

Mr. D. N. N. Raju  
Deputy Secretary  
Department of  
Economic Affairs  
Ministry of Finance  
Govt. of INDIA

## ATTACHMENT

### 1. Objectives of the Project

The objective of the Project is to improve the essential function at OSMANIA GENERAL HOSPITAL through provision of essential equipment.

### 2. Project sites

OSMANIA GENERAL HOSPITAL in Andhra Pradesh

### 3. Executing Agency

Health, Medical & Family Welfare Dept., Government of Andhra Pradesh is responsible for the administration and execution of the Project.

### 4. Items requested by the Government of India

After the discussions with the Basic Design Study Team, the following items were finally requested by the Indian side.

Provision of the equipment described in Annex I

(Note: A=1st priority B=2nd priority C=3rd priority)

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

### 5. Comments by the Japanese side on the items in 4 above

The equipment to be given high priority in the Project is;

- 1) the equipment to be utilized for treatment of the common diseases.
- 2) the equipment to be replaced with the existing equipment which is already deteriorated.
- 3) the essential equipment for primary health care identified by the World Bank, WHO, UNICEF etc.

While, the equipment to be given low priority in the Project is;

- 1) the equipment not required for health care services such as diagnosis treatment and prevention.
- 2) the simple equipment/furniture available locally.
- 3) the most advanced equipment to be utilized for research activities.
- 4) the equipment with some difficulties on installation/infrastructure conditions,
- 5) The expensive equipment less utilized because of small number of testing/less number of patients,
- 6) the equipment hazardous to environmental control,
- 7) the equipment only utilized with exclusive reagent kit available from the specific manufacture, and
- 8) the equipment with financial/marketing difficulties on the procurement of consumable and spare parts etc.

### 6. Japan's Grant Aid Program

- (1) The Government of India & the Government of Andhra Pradesh have understood the system of Japanese Grant Aid explained by the team.
- (2) The Government of India & the Government of Andhra Pradesh will take necessary measures described in ANNEX II, for smooth implementation of the Project on condition that the Grant Aid assistance by the Government of Japan is extended to the Project.

7. Schedule of the study

- (1) The consultants will proceed to further studies in India until October 21st, 1994.
- (2) JICA will prepare the draft report and dispatch a mission in order to finalize the contents of the report around December 1994.
- (3) In case the contents of the report is accepted in principle by the Indian side, JICA will complete the final report and send it to the Government of India by April, 1995.

8. The relationship between Japanese Project and World Bank Project.

- (1) Indian side will coordinate the above relation and make no overlappings and conflicts between these two donors.
- (2) In case the World Bank prepare the basic equipment, Japanese Project should be suspended until the concrete plan be provided.
- (3) The Government of Andhra Pradesh confirmed that the World Bank Project does not extend any assistance to Osmania General Hospital.

9. Financial problem.

- (1) Japanese side stressed the importance of tackling the financial plan of the hospital and requested to make clear picture of the hospital including operation and maintenance cost of the sophisticated equipment, which was presented by the Study Team, until 30, Oct. 1994.
- (2) The hospital shall work out the mechanism for recovery of charges of costs involving modern sophisticated investigation and treatment.

10. Avoid duplication of the equipment.

To avoid duplication, the hospital will submit the list of existing equipment and plan of new equipment which will be purchased by themselves and other donors until 20, Oct. 1994.

11. Reply to the questionnaire.

Indian side will submit the reply to the questionnaire until the end of October 1994 to the office of JICA in India, New Delhi.

12. Priority of the grant aid.

The fund of the grant aid is come from the contribution of the tax payer. The first priority of the fund should be given to the suffering poor patient.

The Government of Andhra Pradesh responded that Osmania General Hospital is catering to the needs of poor patient.

The Study Team did understand the needs for the latest sophisticated equipment. However, it is not suitable as grant aid because of less cost, effectiveness and less urgency.

*[Handwritten signatures and initials]*

ANNEX-I

NO	DESCRIPTION	Q'TY	PRIORITY
100	RADIOLOGY DEPARTMENT		
101	MRI	1	C
102	X-RAY CT SCANNER, WHOLE BODY	1	B
103	MAMMOGRAPHIC X-RAY SYSTEM	0	B
104	X-RAY PHOTOGRAPHIC SYSTEM W/TV, D.S.A	1	A
105	X-RAY SYSTEM	2	C
107	MOBILE X-RAY SYSTEM	0	A
108	COLLOR DOPPLER USG	1	A
109	ULTRA SONOGRAPHY	0	A
110	PROCESSING TANK	1	A
111	AUTO FILM DEVELOPER	1	A
112	FILM DUPLICATOR	1	A
113	ANGIOGRAPHY UNIT WITH D.S.A.	1	C
200	ENDOSCOPY		
201	TV VIDEO ENDOSCOPY SET	1	A
202	ENDOSONOGRAPHY	1	C
203	UPPER GI FIBERSCOPE, TV TYPE (INFANT)	1	A
204	UPPER GI FIBERSCOPE, TV TYPE (ADULT)	2	A
205	UPPER GI FIBERSCOPE, NORMAL (ADULT)	1	A
206	DUODENO FIBERSCOPE, TV TYPE	2	A
207	COLONO FIBERSCOPE, TV TYPE	2	A
208	SIGMOID FIBERSCOPE, NORMAL	1	A
209	LIGHT SOURCE	1	A
211	ENDOSCOPIC ILLUMINATER	0	A
212	ENDOSCOPIC/PROCTOSCOPIC TABLE	0	A
213	FIBERSCOPE CLEANING MACHINE	1	A
214	ENDOSCOPIC TROLLEY	0	A
215	ENDOSCOPIC HANGER	0	C
216	ENDOSCOPIC CABINET	0	C
217	SUCTION PUMP	0	C
218	S.G. DIALATORS SET	2	A
219	PNEUMATIC DIALATORS SET	9	A
220	OESOPHAGEAL MANOMETRY	2	A
300	CLINICAL LABORATORY		
301	AUTOANALYZER	1	A
302	BLOOD GAS ANALYSER, FULLAUTOMATIC	1	A
303	ELECTROLYTE ANALYSER	2	A
304	SPECTROPHOTOMETER, DOUBLE BEAM	1	A
305	ELECTROPHORESIS / SCANNER	1	A
306	REFRIGERATED CENTRIFUGE	1	A
307	SPECTROPHOTOMETER, SINGLE	2	A
308	ELECTRICAL BALANCE	2	A
309	PH METER	1	A
310	DEEP FREEZER (-20C)	1	A
311	SEMI AUTOANALYZER	2	A
312	CHLORIDE METER	2	A
313	ICE CUBE MACHINE	1	A
314	PERSONAL COMPUTER / PRINTER	2	A

NO	DESCRIPTION	Q'TY	PRIORITY
400	MICROBIOLOGY		
401	ANALYTICAL BALANCE	1	A
402	U.V. LAMPS	5	A
403	LAMINAR FLOW	1	A
404	BIONUCLAR MICROSCOPE	5	A
405	MONOCULAR MICROSCOPE	5	C
406	FLOURESCENT MICROSCOPE	1	A
407	ELISA READER	1	A
408	THIN LAYER CHROMATOGRAPHY	1	C
409	IMMUNOELECTREOPHORESIS	1	A
410	ANAEROBIC STATION / GAS CYLINDER	1	A
411	DEEP FREEZER (-80)	1	A
412	DEEP FREEZER (-20)	1	A
413	REFRIGERATORS	4	A
414	WATER BATH WITH SHAKER	1	A
415	VERTEX MIXER	1	A
416	FREEZ DRYER	1	A
417	MICRO PIPETTES SET	1	A
418	SONICATOR	1	B
419	INCUBATOR	1	A
0	VERTICAL AUTOCLAVE	2	A
421	HOT AIR STERILIZER	2	A
422	CO2 INCUBATOR	1	B
423	CENTRIFUGE, TABLE TOP	4	A
424	STEREO MICRO SCOPE	1	A
425	LOW TEMPERATURE INCUBATOR	1	B
426	PH METER	2	A
427	ULTRASONIC CLEANER	1	A
428	PCR	1	C
429	GAMMA COUNTER	1	C
430	LIQUID NITROGEN CYLINDER	1	B
500	PATHOLOGY		
501	FLUORESCENT MICROSCOPE	1	A
502	TISSUE PROCESSOR	2	A
503	AUTOMATIC STAINER	1	A
504	MICROTOME SEMIAUTOMATIC / SHARPNER	2	A
505	CRYOSTAT	2	A
506	BLOOD CELL COUNTER	1	A
7	COAGULOMETER	1	A
8	LEUCOCYTE COUNTER	0	A
509	CYTOSPIN	1	C
510	BINOCULAR MICROSCOPE	21	A
511	TEACHING MICROSCOPE FOR 5 PERSONS	0	A
512	TRINOCULAR MICROSCOPE / CAMERA	0	A
513	TV MICROSCOPE	0	B
514	PERSONAL COMPUTER / PRINTER	1	A
515	ELECTRON MICROSCOPE SET	1	C
516	DEEP FREEZER (-80)	1	A
517	REFRIGERATOR	3	A
518	TABLE TOP CENTRIFUGE	8	A
519	HEMATOCRIT CENTRIFUGE	1	A
520	HIGH SPEED CENTRIFUGE	1	A
521	SPECTROPHOTOMETER (DOUBLE BEAM)	1	A
522	ELECTROPHORESIS WITH DENSITOMETER	2	B
523	H.L.A. LAB	1	B
524	PLATLET AGGREGOMETER	1	B
525	ELECTRONIC BALANCE	1	A

*nm*

*[Handwritten signature]*

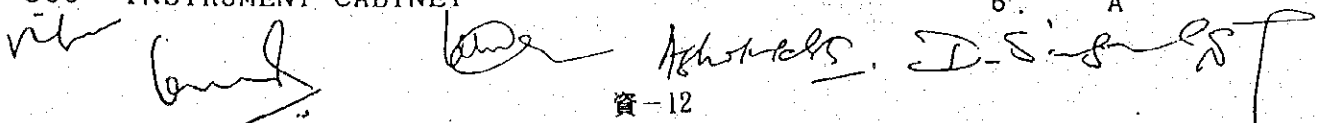
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*Ashtoktel's*

*D.S. SP*

NO	DESCRIPTION	Q'TY	PRIORITY
526	REFRIGERATOR CENTRIFUGE	1	A
527	DOUBLE DISTILLATION PLANT	1	A
528	FLOW CYTOMETER	1	C

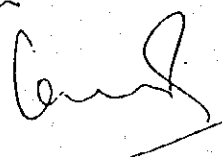

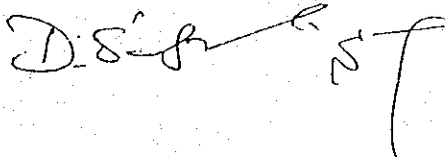
NO	DESCRIPTION	Q'TY	PRIORITY
600	BLOOD BANK		
601	CENTRIFUGE	2	A
602	CENTRIFUGE REFRIGERATOR	1	A
603	CENTRIFUGE HEAVY DUTY	1	A
604	INCUBATOR	1	A
605	REFRIGERATOR 120PCS	2	A
606	REFRIGERATOR MEDIUM	2	A
607	MICROSCOPE BINOCULAR	1	A
608	B.P. APPARATUS	2	A
609	BLOOD SCALE	4	A
610	MICRO PIPETTE	2	A
611	B.P. APPARATUS BED SIDE	2	A
613	DEEP FREEZER -70°C	1	A
614	GENERATOR MINI	1	A
615	PLATELET AGITATOR	1	A
616	DOUBLE DISTILLATION PLANT	1	A
617	LAMINA FLOW	1	B
618	PERSONAL COMPUTER / PRINTER	1	A
619	PPP & PRP COLLECTION	1	C
700	ANESTHESIOLOGY (OPERATION THEATER)		
701	VENTILATOR(ADULT)	6	A
702	VENTILATOR(INFANT)	2	A
703	PULSE OXIMETERS	6	A
704	MULTI-CHANNEL TEMPERATURE MONITOR	6	A
705	CO2 MONITOR	6	A
706	BLOOD GAS ANALYSER, 3P	1	A
707	TEMPERATURE CONTROL BLANKET	6	A
708	INTRA-AORTIC BALLOON PUMP	1	C
709	C-ARM FOR GUIDED LONG TERM NERVE BLOCK FOR	1	A
710	PULMONARY FUNCTION MONITOR	1	A
711	ANESTHESIA APPARATUS / VENTILATOR	29	A
712	C-ARM X-RAY UNIT /MOBILE	1	A
713	OPERATING TABLE, UNIVERSAL	29	A
714	OPERATING LIGHT / MOBILE	29	A
715	DIATHERMY (ELECTRO SURGICAL UNIT)	6	A
716	DEFIBRILATOR	7	A
717	REFRIGERATOR	7	A
718	PATIENT MONITOR	29	A
719	STRETCHER	10	A
720	SURGICAL SCRUB STATION, 2	6	B
800	CSSD		
801	STEAM STERILIZER (LARGE)	2	A
802	STEAM STERILIZER (SMALL)	1	A
803	ULTRASONIC CLEANER	1	A
804	TUBE DRYER	1	A
805	STERILIZER PACK SEALER	1	B
806	INSTRUMENT CABINET	6	A


  
 資-12



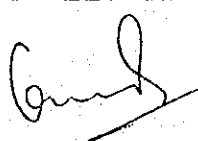
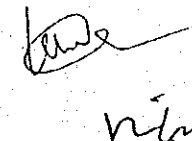
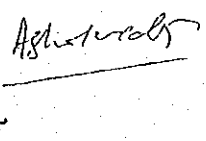
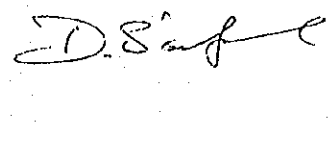
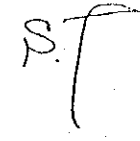
807	SHELVES	6	A
808	CARRING CART	6	A
809	EOG STERILIZER	1	A
810	EO GAS AERATOR	1	A

NO	DESCRIPTION	Q'TY	PRIORITY
900	EMERGENCY		
901	OPERATING TABLE / STRETCHER	2	A
902	MINOR OPERATING LIGHT /FIXED STAND	2	A
903	ANESTHESIA APPARATUS WITHOUT VENTILATOR	2	A
904	BEDSIDE MONITOR / 4 CH	2	A
905	DEFEBRILATOR	2	A
906	VENTILATOR	2	A
907	EMERGENCY CART	2	A
908	MOBILE X RAY MACHINE	1	A
1000	CARDIOLOGY		
1001	BED CARDIAC I.C.U	24	A
1002	CENTRAL MONITORS	3	B
1003	TELEMETRY MONITOR SET	3	B
1004	CATH.LAB	1	C
1005	CATH. ABLATOR SET	1	C
1006	I.A.B.P.	2	C
1007	VENTILATORS	6	A
1008	2-D ECHO	2	C
1009	INTRA VASCULAR ULTRA SOUND	1	C
1010	CORONARY ANGIOSCOPE	1	C
1011	BIOPTOMES FOR MYOCARDIAL BIOPSY	2	C
1012	NUCLEAR CARDIOLOGY	1	C
1013	HOLTER MONITORING SYSTEM	2	B
1014	AMBULATORY B.P. MONITOR, NON INVASIVE	4	A
1015	BLOOD GAS ANALYSER, 3P	2	A
1016	EOG STERILIZER	1	C
1017	PATIENT TROLLEYS	25	A
1018	COMPUTER /COLOR XEROX	4	C
1019	C-ARM BEDSIDE IMAGE INTENSIFIER	2	B
1020	ACTIVATED CLOTING TIME UNIT	2	A
1021	AUTOANALYSER /CHEMISTRY	1	C
1022	LIQUID/GAS CHROMATOGRAPHY	1	A
1023	MOBILE CORONARY CARE	2	C
1024	PAGING SYSTEM FOR MEDICAL PERSONNEL	25	C
1025	ECG, 6-CH	1	A
1026	ECG/PCG/PULSE RECORDER	1	A
1027	LONG TERM ECG RECORDER/ANALYZER	1	C
1028	STRESS TEST SYSTEM	1	A
1029	TREADMILL	1	A

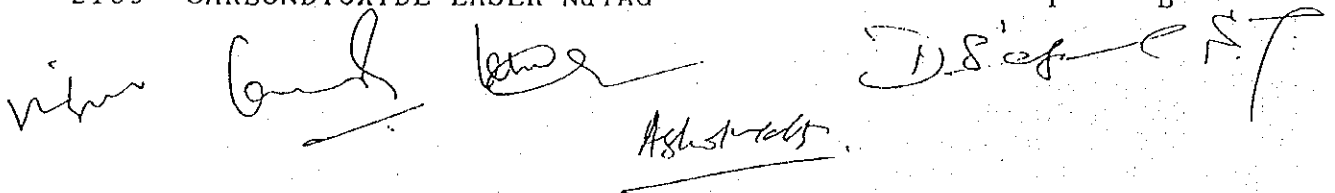
*Wife*  
  
  
Ashstrelts  


NO	DESCRIPTION	Q'TY	PRIORITY
1100	CARDIO & THORACIC SURGERY		
1101	CARDIAC MONITOR	10	A
1102	DEFIBRILLATOR	10	A
1103	MECHANICAL VENTILATOR	6	A
1104	HEART LUNG MACHINE	2	B
1105	BLOOD AUTO TRANSFUSION PUMP	2	A
1106	DEEP FREEZER	2	A
1107	FINE VASCULAR INSTRUMENTS SET	4	A
1108	4 CHANNEL MONITOR	4	A
1109	BLOOD GAS ANALYZER	2	C
1110	OPERATING TABLE	4	A
1111	OPERATING ROOM CELING LIGHTS	4	A
1112	SUCTION	6	A
1113	DIATHERMY MACHINE	4	A
1114	BRONCOSCOPE SET / LIGHT SOURCE	2	A
1115	OESOPHAGOSCOPE SET	2	A
1116	SPIROMETER	1	A
1200	ORTHOPEDIC		
1201	ORTHOPEDIC OPERATION TABLE	3	A
1202	SPINAL STABILISATION INSTRUMENTATION SET	1	A
1203	SCOLIOSIS CORRECTION INSTRUMENTATION SET	1	A
1204	PNEUMATIC POWER DRILL	3	A
1205	TOTAL KNEE REPLACEMENT INSTRUMENTATION SET	1	A
1206	HYPERBARIC OXGEN THERAPY TENT	1	B
1207	OPERATING MICROSCOPE	1	A
1208	FRAGMENT FIXATION SETS MINI	1	A
1209	FRAGMENT FIXATION SETS MAXI	1	A
1210	ILLIZAROV EXTERNAL FIXATOR SYSTEMS	20	A
1211	ELECTRIC BONE STIMULATOR	3	A
1212	FREEZER	2	A
1213	REFRIGERATOR	1	A
1214	EXTRACTION BED SET (MADE IN INDIA)	10	C
1215	PHOTOCOPIER	1	C
1216	ARTHROSCOPE WITH SURGERY INSTRUMENTATION	1	A
1217	OZONE THERAPY UNIT	1	B
1218	BIO FEED BACK INSTRUMENT	1	B
1219	TRANSCUTANEOUS NERVE STIMULATOR	3	A
1220	SHORT WAVE DIATHERMY SET	3	A
1221	ULTRASONIC AND LOW FREQUENCY COMBINATION	3	A
1222	TRACTION UNIT	6	A
1223	ULTRA VIOLET THERAPY UNIT	3	A
1224	MUSCLE AND NERVE STIMULATOR	4	A
1225	HIGH FREQUENCY THERAPY UNIT	4	A
1226	ULTRA SOUND THERAPY UNIT	4	A
1227	ELECTRIC BODY VIBRATORS	2	A
1228	HYDROTHERAPY TANKS	2	A
1229	WHIRL POOL BATH	1	A
1230	MOTORIZED WHEEL CHAIR	20	C
1231	REFRIGERATOR	2	A
1232	ANKLE ROTATING FRA-SEA MACHINE	3	A
1233	HYDRO COLLATOR UNIT	1	A
1234	QUADRICEPS EXERCISE TABLE	5	A
1235	STATIC BICYCLE EXERCISER	2	A
1236	OPERATING RETRACTOR LIGHT	1	A

NO	DESCRIPTION	Q'TY	PRIORITY
1300	MEDICINE		
1301	COLORIMETER (SPECTROPHOTOMETER)	1	C
1302	SPECTOMETER	1	C
1303	ANALYTICAL BALANCE	1	A
1304	CENTRIFUGE	2	A
1305	BINOCULAR MICROSCOPE	8	A
1306	WBC CELL COUNTER	2	C
1307	HEMOGLOBINOMETER	2	A
1308	AUTOANALYSER	2	C
1309	FLAME PHOTOMETER	2	C
1310	B.P. APPARATUS	10	A
1311	ECHOGRAPHY, PORTABLE	1	A
1312	PULSE OXYMETER	1	A
1313	DEFIBRILLATOR	2	A
1314	VENTILATOR	6	A
1315	CENTRAL CARDIAC MONITOR FOR 8 BEDS	1	B
1316	COLOUR DOPPLER	1	C
1317	4 CHANNEL BEDSIDE MONITOR	25	B
1318	COMPUTARIZED PULMONARY FUNCTION TEST	2	C
1319	NEBULIZER, NORMAL TYPE	24	A
1320	PORTABLE X-RAY MOBILE	2	C
1321	INFUSION PUMPS	24	A
1322	BLOOD GAS ANALYSER	2	C
1400	ENDOCRINOLOGY		
1401	BETA COUNTER	1	C
1402	DEEP FREEZER	2	A
1403	REFRIGERATED CENTRIFUGE	2	A
1404	SEMI AUTO ANALYZER	1	B
1405	LABORATORY CENTRIFUGE	2	A
1406	SINGLE PAN BALANCE	1	A
1407	PHOTOELECTRIC COLORIMETER	1	A
1408	PH METER	1	A
1409	AUTO PIPETTER	4	A
1410	VERTEX MIXTURE	5	A
1411	MAGNETIC STIRRER	2	A
1412	MULTI WELL AUTO GAMMA COUNTER	1	C
1413	ELISA READER	1	A
1414	PERSONAL COMPUTER / PRINTER	1	A
1415	INFUSION PUMP	2	A
1416	DOUBLE DISTILLATION PLANT	1	A
1500	NEPHROLOGY		
1501	HAEMODIALYSIS MACHINES	2	A
1502	BLOOD GAS ANALYSER	1	C
1503	AUTO ANALYSER - SEMI	1	A
1504	PHASE CONTRAST MICROSCOPE W/CAMERA	1	A
1505	ELECTROLYTE ANALYSER	1	B
1506	BINOCULAR MICROSCOPE	2	A
1507	PH METER	1	A
1508	NEEDLE BIOPSY SET	1	A
1600	NEUROLOGY		
1601	EEG MACHINE, 2 CH	1	B
1602	EMG / EVOLVED POLENLET, 8 CH	1	B
1603	AUBULATORY EEG	1	A
1604	EEG TELEMETRY	1	A

NO	DESCRIPTION	Q'TY	PRIORITY
1700	NEUROSURGERY		
1701	OPERATING MICROSCOPE	2	A
1702	LASER CO2 & NdYAG	1	A
1703	C.U.S.A	1	A
1704	OPERATING LOUPES	4	A
1705	RADIO FREQUENCY LESION MAKER	1	B
1800	UROLOGY		
1801	CYSTOSCOPE, FLEXIBLE SET	1	A
1802	PAEDIATRIC CYSTOSCOPE, RESECTOSCOPE SET	1	A
1803	LASER LITHOTRIPTOR	1	B
1804	URODYNAMICS, COMPUTERISED	1	B
1805	UROLOGY OPERATING TABLE	1	A
1900	PLASTIC SURGERY		
1901	OPERATING MICROSCOPE FOR PLASTIC SURGERY	1	A
1902	INSTRUMENTS FOR MICROSURGERY	1	A
1903	ELECTRIC DIATHERMY	2	C
1904	OPERATION THEATRE LIGHTS - LUX	1	B
1905	TISSUE EXPANDERS SET	1	A
1906	LIPOSUCTION UNIT	1	A
1907	INTERNAL FIXATION SYSTEM FOR M.F. SURGERY	2	A
1908	DOPPLER UNIT FOR MAPPING	1	A
1909	RIPPLE BEDS & AIR FLUIDISED BEDS	10	A
1910	SKIN GRAFTS MESHER	1	A
1911	NASENDOSCOPE	1	A
1912	INFRA-RED LAMP	1	A
2000	GENERAL SURGERY		
2001	OPERATING TABLES, UNIVERSAL	6	C
2002	OPERATION THEATER LIGHTS, CEILING	6	C
2003	DIATHERMY	6	C
2004	TV VIDEO ENDOSOPY	3	C
2005	KENTO LIFT RETRACTOR FOR LIVER SURGERY	3	A
2006	SILICON RUBBER CLAMPS FOR HEPATIC SURGERY	3	A
2007	ULTRASOUND FOR SURGERY	2	A
2008	TV SYSTEM FOR OPERATION THEATER / VIDEO	2	A
2009	CYSTO-URETHEROSCOPIC EQUIPMENT	1	C
2010	PORTABLE ULTRASOUND MACHINE	1	A
2100	DERMATOLOGY		
2101	FLUORESCENT MICRSCOPY	1	C
2102	BINOCULAR MICROSCOPE	1	A
2103	BINOCULAR MICROSCOPE / DARK FIELD	1	A
2104	WOODSLAMP	1	A
2105	DIATHERMY FOR DERMATOLOGY	2	A
2106	IONTOPHORESIS APPARATUS (MADE IN INDIA)	1	A
2107	DERMABRADARS	1	A
2108	ULTRAVIOLET CHAMBERS UVA & UVB LAMPS	1	A
2109	CARBONDIOXIDE LASER NdYAG	1	B


  
*Handwritten signatures and initials, including 'D.S. of ST' and 'Ashwath'.*

NO	DESCRIPTION	Q'TY	PRIORITY
2200	ADMINISTRATION		
2201	AMBULANCE CAR / FULL EQUIPED	2	A
2202	PERSONAL COMPUTER / PRINTER	1	A
2203	COPIER	1	A
2204	FAX MACHINE	1	A
2205	PAGING SYSTEM (FOR HOSPITAL)	1	B
2206	AUTOMATIC WASHER WITH EXTRACTOR	1	A
2207	HOT AIR DRYER (LAUNDRY)	1	A

*W. E.*      *Conrad*      *DS-J*      *ST*  
*W. E.*      *Agustine*

ANNEX-II

Necessary measures to be taken by the Government of India & the Government of Andhra Pradesh in case Japan's Grant Aid is executed.

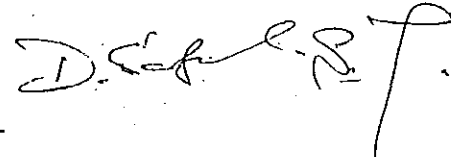
1. To provide the land for temporary site office, warehouse and stock yard during the implementation period
2. To exempt taxes and to take necessary measures for customs clearance of the materials and equipment brought for the Project at port of disembarkation
3. To accord Japanese nationals whose services may be required in connection with the supply of the products and services under the verified contract such facilities as may be necessary for their entry in India and stay therein for the performance of their work.
4. To maintain and use properly and effectively that the facilities constructed and equipment purchased under the Grant.
5. To bear all the expenses other than those to be borne by the Grant
6. To bear commissions to the Japanese foreign exchange bank for the banking services based on Banking arrangement.

nh



Agst. 1955





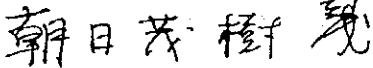
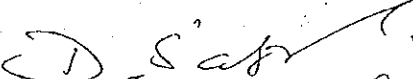
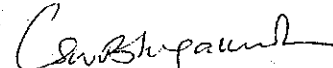
MINUTES OF DISCUSSIONS  
BASIC DESIGN STUDY  
ON  
THE PROJECT FOR THE IMPROVEMENT OF MEDICAL EQUIPMENT  
AT OSMANIA GENERAL HOSPITAL IN INDIA  
(CONSULTATION ON DRAFT REPORT)

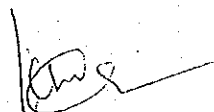
In October 1994, the Japan International Cooperation Agency (JICA) dispatched a Basic Design Study on the Project for THE IMPROVEMENT OF MEDICAL EQUIPMENT AT OSMANIA GENERAL HOSPITAL IN INDIA (hereinafter referred to as "the Project"), and through discussions, field survey, and technical examination of the results in Japan, has prepared the draft report of the study.

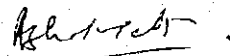
In order to explain and consult the Indian side on components of the draft report, JICA sent to India a study team, headed by Dr. Shigeki ASAMI, Bureau of International Cooperation, International Medical Center of JAPAN, Ministry of Health and Welfare, from December 7 to December 17, 1994.

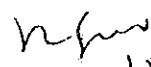
As a result of discussions, both parties confirmed the main items described on the attached sheets.

New Delhi December 15, 1994

 Dr. Shigeki ASAMI Leader Basic Design Study Team JICA	 Dr. D. Satyanarayana Director of Medical Education Government of Andhra Pradesh	 for Dr. A. Prakasham Superintendent OSMANIA GENERAL HOSPITAL
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Mr. K. L. Narayana  
Deputy Secretary  
Health, Medical & Family  
Welfare, Dept.  
Government of  
Andhra Pradesh

  
Mr. Ashok Mehta  
Under Secretary  
Dept. of Health  
Ministry of Health  
& Family Welfare  
Government of India

  
15/12/94  
Mr. D. N. Narasimha Raju  
Deputy Secretary  
Ministry of Finance  
Department of  
Economic Affairs  
Government of India

## ATTACHMENT

1. Components of draft report.  
The Government of India has agreed and accepted in principal the components of the draft report proposed by the Team.  
And main items discussed by both sides are described in ANNEX-I and the Team has understood the needs, which are described in the revised equipment list in ANNEX-II., and recommend it to the Government of Japan.
2. Japan's Grant Aid Program
  - (1) The Government of India & the Government of Andhra Pradesh have understood the system of Japanese Grant Aid as explained by the team. (See ANNEX-III)
  - (2) The Government of India & the Government of Andhra Pradesh will take necessary measures described in ANNEX-III, for smooth implementation of the Project on condition that the Grant Aid assistance by the Government of Japan is extended to the Project.
3. Schedule of the study  
JICA will complete the final report and send it to the Government of India by March, 1995.
4. Monitoring  
Health, Medical & Family Welfare, Dept. Government of Andhra Pradesh and the OSMANIA General Hospital have the responsibility of 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-IV and reporting it to the Embassy of Japan and JICA India Office annually through Ministry of Finance, the Department of Economic Affairs,
5. Other relevant issues.
  - 1) Health, Medical & Family Welfare, Dept. Government of Andhra Pradesh will allocate the necessary budget (including counter part funds) and personnel for the Project.
  - 2) Health, Medical & Family Welfare, Dept. Government of Andhra Pradesh will get various internal clearances and also from the Government of India, as applicable, including expenditure / financial clearances.

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ANNEX-I

Main item discussed by the Team and Indian side ( The Government of India , the Government of Andhra Pradesh and the OSMANIA General Hospital ) is as follows.

1. The proper utilization of equipmet.

The Study Team requested the proper and efficient utilization of equipmet.

The equipment should be used commonly , mutually and should be centrally managed by the Hospital.

The OSMANIA General Hospital will arrange and be responsible for the proper and efficient utilization of the equipment, and modernize the management of the Hospital.

2. Comment for the main requested equipment.

X-ray CT scanner, MRI

The OSMANIA General Hospital has requested CT and MRI because of the needs for immediate , detailed and fine diagnosis.

The Team explained that the renovation of the OSMANIA General Hospital should be done step by step manner.

First of all, the needs of essential equipment should be emphasized in the Hospital.

The Study Team has arranged the modernized essential equipment according to the Minitues of Discussions on Octorber 13, 1994 Annex-I, which has agreed priority of the provision of the equipment.

Second, the maintaining and operating of sophisticated equipment requires annual and concrete financial support of a substantial nature. Maintaining a patient in a hospital has also become quite expensive because of innovations in diagnostic and therapeutic techniques.

So, the Team has stressed the importance of tackling the financial plan of the Hospital and requested to make clear picture of the hospital including operation and maintenance cost of the sophisticated equipment , which was presented by the Study Team at the previous study.

(See Minitues of Discussions on Octorber 13, 1994 Attachment, Item No. 9) But, the Team has not yet received the clear financial plan of the Hospital.

In view of the high costs involved , there is an immense need for proper and scientific planning of hospital facilities as well as for the proper utilization of hospital resources. That is why the Team requested the step by step renovation.

The hospital has also agreed to work out the mechanism for recovery of charges of costs involving modern sophisticated investigation and treatment. So, these kinds of equipment , which require huge , concrete and clear financial planned operation and maintenance cost with specified by annual basis , should be considered after the modernization of the Hospital.

The Government of Andhra Pradesh may consider certain measures to reduce the number of accidents deaths.

For example, making it compulsory for two wheelers riders to wear the helmets can substantially bring down the number of death of accident victims.

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## ANNEX II

EQUIPMENT LIST

NO	DESCRIPTION	Q' TY
100	RADIOLOGY DEPARTMENT	
108	COLOR DOPPLER USG	1
109	ULTRA SONOGRAPHY	1
110	PROCESSING TANK	1
112	FILM DUPLICATOR	1
200	ENDOSCOPY	
201	TV VIDEO ENDOSCOPY SET	1
203	UPPER GI FIBERSCOPE, TV TYPE (INFANT)	1
204	UPPER GI FIBERSCOPE, TV TYPE (ADULT)	2
205	UPPER GI FIBERSCOPE, NORMAL (ADULT)	1
206	DUODENO FIBERSCOPE, TV TYPE	1
207	COLONO FIBERSCOPE, TV TYPE	1
208	SIGMOID FIBERSCOPE, NORMAL	1
209	LIGHT SOURCE	1
211	ENDOSCOPIC FILM VIEWER	1
212	ENDOSCOPIC/PROCTOSCOPIC TABLE	1
213	FIBERSCOPE CLEANING MACHINE	1
214	ENDOSCOPIC TROLLEY	2
218	S. G. DILATORS SET	2
219	PNEUMATIC DILATORS SET	1
220	ESOPHAGEAL MANOMETER	1
	CLINICAL LABORATORY	
300	BIOCHEMICITY	
301	AUTOANALYZER	1
302	BLOOD GAS ANALYZER, AUTOMATIC	2
303	ELECTROLYTE ANALYZER	2
304	SPECTROPHOTOMETER, DOUBLE BEAM	1
305	ELECTROPHORESIS / SCANNER	1
306	REFRIGERATED CENTRIFUGE (20,000RPM)	1
307	SPECTROPHOTOMETER, SINGLE	2
308	ELECTRICAL BALANCE	2
309	pH METER	2
310	FREEZER (-20° C)	1
311	SEMI AUTOANALYZER	1
312	CHLORIDE METER	1
313	ICE CUBE MACHINE (70KG/DAY)	1
314	PERSONAL COMPUTER / PRINTER	2
400	MICROBIOLOGY	
401	ANALYTICAL BALANCE	1
402	UV. LAMPS	5
403	LAMINAR FLOW (100CM WIDE)	1
404	BINOCULAR MICROSCOPE FOR CLINICAL TEST	10
406	FLUORESCENT MICROSCOPE W/PHOTO ATTACH.	1
407	ELISA READER	1
409	IMMUNOELECTROPHORESIS	1
410	ANAEROBIC STATION / GAS CYLINDER	1

15/11/11

Ashok Kumar

15/11/11

EQUIPMENT LIST

NO	DESCRIPTION	Q' TY
412	FREEZER (-20° C)	1
413	REFRIGERATORS (CAP 200L)	4
414	WATER BATH WITH SHAKER	2
415	VERTEX MIXER	1
416	FREEZE DRYER	1
417	MICRO PIPETTES SET	1
419	INCUBATOR (60CM WIDE)	2
420	VERTICAL AUTOCLAVE	2
421	HOT AIR STERILIZER (60CM WIDE)	2
423	CENTRIFUGE, TABLE TOP (4,000RPM)	3
424	STEREO MICRO SCOPE	1
426	pH METER	1
427	ULTRASONIC CLEANER (TABLE TYPE)	1
500	PATHOLOGY	
501	FLUORESCENT MICROSCOPE	1
502	TISSUE PROCESSOR	1
503	AUTOMATIC STAINER	1
504	MICROTOME SEMIAUTOMATIC / SHARPENER	1
505	CRYOSTAT	1
506	BLOOD CELL COUNTER	2
508	LEUKOCYTE COUNTER	1
510	BINOCULAR MICROSCOPE FOR STUDENT	20
511	TEACHING MICROSCOPE FOR 5 PERSONS	1
512	TRINOCULAR MICROSCOPE / CAMERA	1
514	PERSONAL COMPUTER / PRINTER	1
516	DEEP FREEZER (-80° C)	1
517	REFRIGERATOR (CAP 200L)	3
518	TABLE TOP CENTRIFUGE (4,000RPM)	3
519	HEMATOCRIT CENTRIFUGE	1
520	HIGH SPEED CENTRIFUGE (12,000RPM)	1
525	ELECTRONIC BALANCE	1
526	REFRIGERATED CENTRIFUGE (20,000RPM)	1
527	DOUBLE DISTILLATION PLANT	1
600	BLOOD BANK	
601	TABLE TOP CENTRIFUGE (4,000RPM)	1
602	REFRIGERATED CENTRIFUGE (20,000RPM)	1
603	CENTRIFUGE HEAVY DUTY (5,000RPM)	1
604	INCUBATOR (60CM WIDE)	1
605	REFRIGERATOR (CAP 450G BLOOD PACK 120PACKS)	2
606	REFRIGERATOR MEDIUM (CAP 250L)	2
607	MICROSCOPE BINOCULAR	1
608	B. P. APPARATUS	2
609	BLOOD SCALE (4KG/10G SENSITIVE)	4
610	MICRO PIPETTE	2
611	B. P. APPARATUS BED SIDE	2
613	DEEP FREEZER (-70° C)	1
614	GENERATOR MINI (15KW)	1

*15/11*      *John the Ashcroft*      *Eq*      *Lead*

EQUIPMENT LIST

NO	DESCRIPTION	Q' TY
615	PLATELET AGITATOR	1
616	DOUBLE DISTILLATION PLANT	1
617	LAMINA FLOW BENCH	1
618	PERSONAL COMPUTER / PRINTER	1
700	ANESTHESIOLOGY (OPERATION THEATER)	
701	VENTILATOR (ADULT)	2
703	PULSE OXIMETERS	3
704	MULTI-CHANNEL TEMPERATURE MONITOR	6
705	CO2 MONITOR	3
706	BLOOD GAS ANALYZER	1
707	TEMPERATURE CONTROL BLANKET (BLANKET, 3 SIZES)	4
710	PULMONARY FUNCTION MONITOR	1
711	ANESTHESIA APPARATUS / VENTILATOR	6
712	C-ARM X-RAY UNIT MOBILE	1
713	OPERATING TABLE, UNIVERSAL TYPE	6
714	OPERATING LIGHT / MOBILE	6
715	DIATHERMY (ELECTRO SURGICAL UNIT)	6
716	DEFIBRILLATOR	3
717	REFRIGERATOR (CAP 250L)	7
718	PATIENT MONITOR (4CH TYPE)	6
719	STRETCHER	10
720	SURGICAL SCRUB STATION (3 UNIT ASSEMBLY)	6
800	CSSD	
801	STEAM STERILIZER (LARGE) 27CM DIA. DRUM 12PCS	2
802	STEAM STERILIZER (SMALL) 27CM DIA. DRUM 6PCS	1
803	ULTRASONIC CLEANER	1
804	TUBE DRYER	1
805	STERILIZER PACK SEALER	1
806	INSTRUMENT CABINET	6
807	SHELVES	6
808	CARRYING CART	6
809	EOG STERILIZER	1
810	EO GAS AERATOR	1
900	EMERGENCY	
901	OPERATING TABLE / STRETCHER	2
902	MINOR OPERATING LIGHT /FIXED STAND	2
903	ANESTHESIA APPARATUS WITHOUT VENTILATOR	2
904	BEDSIDE MONITOR /2 CH	2
905	DEFIBRILLATOR	2
906	VENTILATOR	2
907	EMERGENCY CART	2
908	MOBILE X RAY MACHINE	1
1000	CARDIOLOGY	
1001	BEDSIDE MONITOR CARDIAC FOR I. C. U (ASSEMBLY)	1
1007	VENTILATORS	2

*15/11*      *King*      *Ashok*      *19*      *Law*

EQUIPMENT LIST

NO	DESCRIPTION	Q' TY
1008	2-D ECHO	1
1013	HOLTER ECG SYSTEM (2 ECG RECORDER)	1
1014	AMBULATORY B.P. MONITOR, NON INVASIVE	2
1015	BLOOD GAS ANALYZER, 3P	1
1017	PATIENT TROLLEYS	3
1020	ACTIVATED CLOTING TIME UNIT	1
1025	ECG, 6-CH	1
1028	STRESS TEST SYSTEM	1
1029	TREADMILL	1
1100	CARDIO & THORACIC SURGERY	
1101	CARDIAC MONITOR FOR OPERATION THEATRE TYPE	1
1105	BLOOD AUTO TRANSFUSION PUMP	2
1106	FREEZER (-20° C)	1
1107	FINE VASCULAR INSTRUMENTS SET	2
1108	4 CHANNEL MONITOR	2
1110	OPERATING TABLE (UNIVERSAL TYPE)	4
1111	OPERATING ROOM CEILING LIGHTS 9 BULB TYPE	4
1112	SUCTION FOR OPERATION THEATRE TYPE	6
1113	DIATHERMY MACHINE (ELECTRIC SURGICAL UNIT)	2
1114	BRONCHOSCOPE SET / LIGHT SOURCE	1
1116	SPIROMETER	1
1200	ORTHOPEDIC	
1201	ORTHOPEDIC OPERATION TABLE	1
1202	SPINAL STABILIZATION INSTRUMENTATION SET	1
1203	SCOLIOSIS CORRECTION INSTRUMENTATION SET	1
1204	PNEUMATIC POWER DRILL	2
1205	TOTAL KNEE REPLACEMENT INSTRUMENTATION SET	1
1208	FRAGMENT FIXATION SETS MINI	1
1209	FRAGMENT FIXATION SETS MAXI	1
1210	ILLIZAROV EXTERNAL FIXTURE SYSTEMS	3
1212	FREEZER (-20° C)	1
1213	REFRIGERATOR FOR ORTHOPEDIC	1
1216	ARTHROSCOPE WITH SURGERY INSTRUMENTATION	1
1219	TRANSCUTANEOUS NERVE STIMULATOR	1
1221	ULTRASONIC AND LOW FREQUENCY COMBINATION THERAPY	2
1222	TRACTION UNIT	2
1223	ULTRA VIOLET THERAPY UNIT	1
1224	MUSCLE AND NERVE STIMULATOR	1
1225	HIGH FREQUENCY THERAPY UNIT	1
1226	ULTRA SOUND THERAPY UNIT	1
1227	ELECTRIC BODY VIBRATORS	1
1231	REFRIGERATOR FOR REHABILITATION	1
1236	OPERATING RETRACTOR LIGHT	1
1300	MEDICINE	
1303	ANALYTICAL BALANCE (CAP 200MG)	1
1304	CENTRIFUGE (4,000RPM)	1

*Yo*  
*1/11*  
*John Doe*  
*John Doe*  
*Eq.*  
*CSO*

EQUIPMENT LIST

NO	DESCRIPTION	QTY
1305	BINOCULAR MICROSCOPE	2
1307	HEMOGLOBINOMETER	1
1310	B.P. APPARATUS (TABLE TOP TYPE)	10
1311	ECHOGRAPHY, PORTABLE	1
1312	PULSE OXYMETER	1
1313	DEFIBRILLATOR	1
1314	VENTILATOR	2
1319	NEBULIZER, NORMAL TYPE	5
1321	INFUSION PUMPS	3
1400	ENDOCRINOLOGY	
1402	FREEZER (-20°C)	1
1403	REFRIGERATED CENTRIFUGE (20,000RPM)	1
1405	LABORATORY CENTRIFUGE (4,000RPM) TABLE TOP TYPE	1
1406	SINGLE PAN BALANCE (CAP 200G)	1
1407	PHOTOELECTRIC COLORIMETER	1
1408	pH METER	1
1409	AUTO PIPETTE	4
1410	VERTEX MIXTURE	5
1411	MAGNETIC STIRRER	2
1413	ELISA READER	1
1414	PERSONAL COMPUTER / PRINTER	1
1415	INFUSION PUMP	2
1416	DOUBLE DISTILLATION PLANT	1
1500	NEPHROLOGY	
1501	HAEMODIALYSIS MACHINES (FOR SINGLE PATIENT)	2
1504	PHASE CONTRAST MICROSCOPE W/CAMERA	1
1506	BINOCULAR MICROSCOPE	2
1507	pH METER	1
1508	NEEDLE BIOPSY SET	1
1600	NEUROLOGY	
1601	EEG MACHINE (18CH TYPE)	1
1603	EMG MACHINE	1
1700	NEUROSURGERY	
1701	OPERATING MICROSCOPE	1
1703	C. U. S. A	1
1704	OPERATING LOUPES	2
1800	UROLOGY	
1801	CYSTOSCOPE, FLEXIBLE SET	1
1802	PEDIATRIC CYSTOSCOPE, RESECTOSCOPE SET	1
1803	LASER LITHOTRIPTOR OUTPUT 60W (Nd YAG 10.6)	1
1805	UROLOGY OPERATING TABLE	1
1900	PLASTIC SURGERY	
1901	OPERATING MICROSCOPE FOR PLASTIC SURGERY	1

*W*  
*15/11*  
*[Handwritten signatures]*

EQUIPMENT LIST

NO	DESCRIPTION	Q' TY
1902	INSTRUMENTS FOR MICROSURGERY	1
1905	TISSUE EXPANDERS SET	1
1906	LIPOSUCTION UNIT	1
1907	INTERNAL FIXATION SYSTEM FOR M. F. SURGERY	2
1908	DOPPLER UNIT FOR MAPPING	1
1909	RIPPLE BEDS & AIR FLUIDISHED BEDS	2
1910	SKIN GRAFTS MESHER	1
1911	NASENDOSCOPE W/LIGHT SOURCE	1
1912	INFRA-RED LAMP STAND TYPE	1
2000	GENERAL SURGERY	
2005	KENTO LIFT RETRACTOR FOR LIVER SURGERY	2
2006	SILICON RUBBER CLAMPS FOR HEPATIC SURGERY	2
2007	ULTRASOUND INTRAOPERATIVE FOR SURGERY	1
2008	TV SYSTEM FOR OPERATION THEATER / VIDEO	1
2010	PORTABLE ULTRASOUND MACHINE	1
2100	DERMATOLOGY	
2102	BINOCULAR MICROSCOPE	1
2103	BINOCULAR MICROSCOPE / DARK FIELD	1
2104	WOODSLAMP	1
2105	DIATHERMY FOR DERMATOLOGY	2
2106	IONTOPHORESIS APPARATUS (MADE IN INDIA)	1
2107	DERMABRADARS	1
2108	ULTRAVIOLET CHAMBERS UVA & UVB LAMPS	1
2200	ADMINISTRATION	
2201	AMBULANCE CAR / STANDARD EQUIPPED	2
2202	PERSONAL COMPUTER / PRINTER	1
2203	COPIER	1
2204	FAX MACHINE	1
2206	AUTOMATIC WASHER WITH EXTRACTOR	1
2207	HOT AIR DRYER (LAUNDRY) /HEAT SOURCE	1
2208	INCINERATOR	1
2209	ELECTRIC TYPEWRITER	1

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Japan's Grant Aid

1. Japan's Grant Aid Procedures

The Japan's Grant Aid Program is executed through the following procedures.

- (1) 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.)
- Implementation ( The Notes exchanged between the Government of Japan and the recipient country.)

- (2) At the First step, 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.

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

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

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

2. Basic Design Study

- (1) Content 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:

- 1) Confirmation of the background, objectives, and benefits of the requested Project and also institutional capacity of agencies concerned of the

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recipient country necessary for the Project's implementation.

- 2) Evaluation of the appropriateness of the Project to be implemented under the Grant Aid scheme from a technical, social and economic point of view.
- 3) Confirmation of items agreed on by both parties concerning the basic concept of the Project.
- 4) Preparation of a basic design of the Project
- 5) 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 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 organization 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) firm(s) based on proposals submitted by interested firms. The firm(s) selected carry(ies) out 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 Project's implementation after the Exchange of Notes, in order to maintain technical consistency and also 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 Program 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 principals in accordance with the relevant laws and regulations of Japan. Grant Aid is not supplied through the donation of materials as such.

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(2) Exchange of Note (E/N)

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

(3) "The period of the Grant" means the one fiscal year which the Cabinet approves the Project for. Within the fiscal year, all procedures such as Exchange of Notes, concluding contracts with (a) consultant firm(s) and (a) contractor(s) and financial 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) The Grant is used properly and exclusively for the purchase of products. 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, grant aid may be used for the purchase of the products or services of a third country.

However the prime contractors, namely, consulting, contracting 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 the "Verification".

The government of the recipient country or its designated authority will conclude contracts in Japanese yen with Japanese nationals.

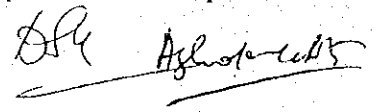
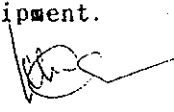
Those contracts shall be verified by the Government of Japan. The "verification" is deemed necessary to secure accountability to Japanese taxpayers.

(6) Undertaking required of the Government of 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 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 site.
- 3) To secure buildings prior to the procurement in case the installation of the equipment.

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- 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 should not be re-exported from the recipient country.

(9) Banking Arrangement ( B/A )

- 1) The government of the recipient country or its designated authority should open an account in the name of 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.
- 2) The payment 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.

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ANNEX-IV

Monitoring of the Project.

It is proposed that Monitoring and Evaluation be in-built in the Project right at the planning stage. Initially the focus will be to monitor the progress of the Project in terms of inputs from the Government of Japan and Government of India and Government of Andhra Pradesh. Major components of the project to be monitored will be:

1. INPUTS

- 1) Funds allocated, released, utilized
- 2) Infrastructural development.
- 3) Equipment.

2. Monitoring

A system to check the supplies in terms of quality / quantity / specifications will be established in the Health, Medical & Family Welfare Dept., Government of Andhra Pradesh.

- 1) Time gap in supply and installation.
- 2) Training of the manpower handling the equipment.  
Category of staff training.  
Duration of training.  
Place of training.  
Satisfaction of trained people.  
Knowledge.  
Skills how to use the equipment.  
Theoretical lectures or On the Job training ?  
Job aids available ?  
Is the Log book being maintained ?  
responsible person for the Log book.
- 3) Maintenance contracts.  
Break down notice and the action.  
Interval between break down and repairs.  
Number of investigation done during the last 1 year.  
Charged money for the investigation and repairs.
- 4) Manpower development.  
New jobs created for each section.  
Employed new staff.  
Pre-service training, In service training.  
New training for existing staff.
- 5) Training  
Funds allocated.  
Trained person by category.  
Arrangement for the absence/leave of technical staff.
- 6) Financial data  
Expenditure and revenue, donation etc.

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MEASURE OF

(Example)

EFFICIENCY

·Base line data

·Staffing  
·Staff presence

·Availability of drugs

·Basic knowledge  
·Skills

·Imm. coverage.

·Supervision  
·Regularity of staff /Board meeting

·Availability of transport.

·Job aids available.

·Regular continuous supportive services.

- Water supply.
- Electricity
- Oxygen supply

-Voluntary blood donation.

EFFECTIVENESS

- duration of stay
- outcome of admission
- admission
- cost of treatment
- case fatality

- No. of referred cases
- Improved attendance in OPD

IMPACT

- fatality
- Health services utilization

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