

5-4 Materials and Construction Method

Locally available materials and methods will be chosen as far as possible. In addition, as this is an emergency hospital, materials that can be kept clean and that are durable and easily washed will be given preference. The main materials and methods are described below.

(1) Reinforcing Rods

Adequate quality can be provided if materials conforming to SII (Indonesian Industrial Standards) are selected and used.

(2) Cement

Locally produced cement has adequate quality.

(3) Gravel (Coarse Aggregate)

Crushed stone will be mainly used. The coefficient of water absorption, the void percentage and the specific gravity of the crushed stone meet provisions of JASS 5 (Standard Specification 5, Reinforced Concrete Work, Architectural Institute of Japan) but the grain size distribution is slightly inferior.

(4) Sand (Fine Aggregate)

River sand is available and is fully usable as its mud and salt contents are low.

(5) Concrete Mixing

There are three or four ready-mixed concrete plants in Jakarta and a sufficient amount of concrete may be procured for the construction of this building. However, erecting a batcher plant at the site may be more advantageous. The choice between an on-site plant and the use of existing plants should therefore take the size of the construction site into account.

(6) Concrete Forming

Concrete of less than 15 cm slump is normally used. Concrete is normally conveyed by lifts and wheelbarrows in Indonesia and the use of pumping is still uncommon.

(7) Concrete Strength

K220, K250, K275, K300 and K350 are normally used. (The 'K' figures represent the strength in kg/cm².)

(8) Concrete Structure

Owing to the high air temperature in Indonesia, the concrete is cured faster to obtain its strength, and many buildings can be seen to have a smaller wall area. The rate of concrete placement per floor appears to be faster than that in Japan.

There are some prestressed concrete structures in Indonesia and the VSL and Freyssinet methods are largely used.

(9) Steel Materials

There are several steel manufacturers in Indonesia and 'H' sections and many other steel sections are available. However, there is a limited range, which means that larger sizes will have to be imported from Japan.

There is a low import duty for unfabricated steel, but that for fabricated steel is very high.

(10) Steel Fabrication

There are three or four highly reliable fabricating shops in suburban Jakarta, and these fabricate steel for buildings and factories. They should be capable of reliably fabricating all but extremely complicated welded joints.

(11) Piles

Piles used are normally of reinforced concrete between 20 and 40 centimetres square, and steel piles which are driven into the ground. Large in-situ concrete piles have come to be used in recent years.

The earth drill method is normally used for the latter piles but a diameter of 1 to 1.2 metres is desirable in view of the slime generation conditions.

It is said that the city department normally requires a large-scale pile loading test to be conducted, usually for two piles, before any work for buildings supported by piles may start.

The major materials and methods proposed will be those used locally. These and foreign alternatives are listed in the following table.

Work	Material	Locally produced	Imported materials	Remarks
Reinforced concrete	Cement Reinforcing bars	o o	o	6φ and 9φ bars are locally produced (all others are to be imported)
Foundation work	In situ concrete piles	o		
Concrete formwork	Concrete formwork	o		
Concrete blocks	Bricks	o		Standard size of 210×110×45 mm.
Water-proofing	Asphalt waterproofing		o	Locally available imported materials
Stone masonry work	Marble Terrazzo blocks	o o		
Ceramic tiles	Semi-porcelain tile	o	o	Standard sizes of 180 180, 110×110, 200×200, 150×150 and 100×200 mm.
	Porcelain tile	o	o	
Carpentry	Timber	o		
	Laminated timber	o		
	Plywood	o		
Metal	Lightweight steel channel		o	Locally available imported materials

Work	Material	Locally produced	Imported materials	Remarks
Doors and windows	Stainless steel doors and windows		o	There are local Japanese joint corporations.
	Aluminium doors and windows	o	o	
	Steel doors and windows	o	o	
	Wood doors and windows	o		
	Automatic doors		o	
Plaster	Mortar	o		
	In situ terrazzo	o		
Glazing	Ordinary plate glass	o		
	Heat-absorbing glass		o	
	Glass blocks		o	
Painting	Interior paint	o		There are local Japanese joint corporations.
	Exterior paint	o	o	
Interior finishes	Plasterboard		o	Locally available imported materials
	Rockwool sound absorbing panels		o	
	Plastic tiles		o	
Miscellaneous	Kitchen sinks	o	o	
	Styrofoam		o	
Site works	Asphalt concrete pavement		o	Locally available imported materials

5-5 Structural Design

(1) Framework

The building will be a five-storey reinforced concrete structure without basement. A standard span of about 6 to 9 metres will be used without any complex structural items.

The elevator cores and exterior end walls will be reinforced concrete bearing walls capable of resisting seismic forces.

Standards for design seismic loadings have recently been compiled in Indonesia with the cooperation of New Zealand. The structural design will be performed in accordance with these. These standards assume a seismicity for Jakarta of about one-quarter that of Tokyo.

Design standards for reinforced concrete and steel structures are established by the DPU but are almost identical to those of the Architectural Institute of Japan. The design will therefore be performed in accordance with Japanese standards.

(2) Footing

A pile foundation supported by the stratum at a depth of about 30 metres will be used because of the soft ground. The site is near existing hospital buildings and so noiseless, non-vibrating, cast in-situ concrete piles will be used.

There are no design standards for piles in Indonesia and thus ACI (American Standards) or BS (British Standards) are often applied in Indonesia.

The standards of the Architectural Institute of Japan are almost equivalent to ACI and BS, and so the piles will be designed in accordance with these Japanese standards.

5-6 Building Equipment Installation

(1) Electrical Installation

a) Power receiving and transforming

In accordance with the master plan, 10kV high voltage power will be drawn from the existing 1kV sub-station and a new sub-station will be

built in the new Emergency Department Building for its exclusive use. Multiple transformers will be installed for reliable power transmission during power failures or maintenance.

The transformer voltage will be 10kV for the primary transformer and 380V to 220V for the secondary.

b) Power and main line

Power will be supplied from the sub-station to the machine rooms and a distribution board on each floor through separately coded main lines.

c) Lighting fixtures and power outlets

Lighting fixtures and illumination will be selected after taking into account the use of the room and harmony with the finish. The position and number of outlets will be determined upon the use of each room.

d) Telephone

An automatic electronic exchange will be installed in the Emergency Department Building for its exclusive use. This exchange will be connected to the existing 400 line (Philips) crossbar exchange to enable communication with other facilities.

e) Public address system

Public address and emergency announcements can be made throughout the entire building.

f) Lightning arresters

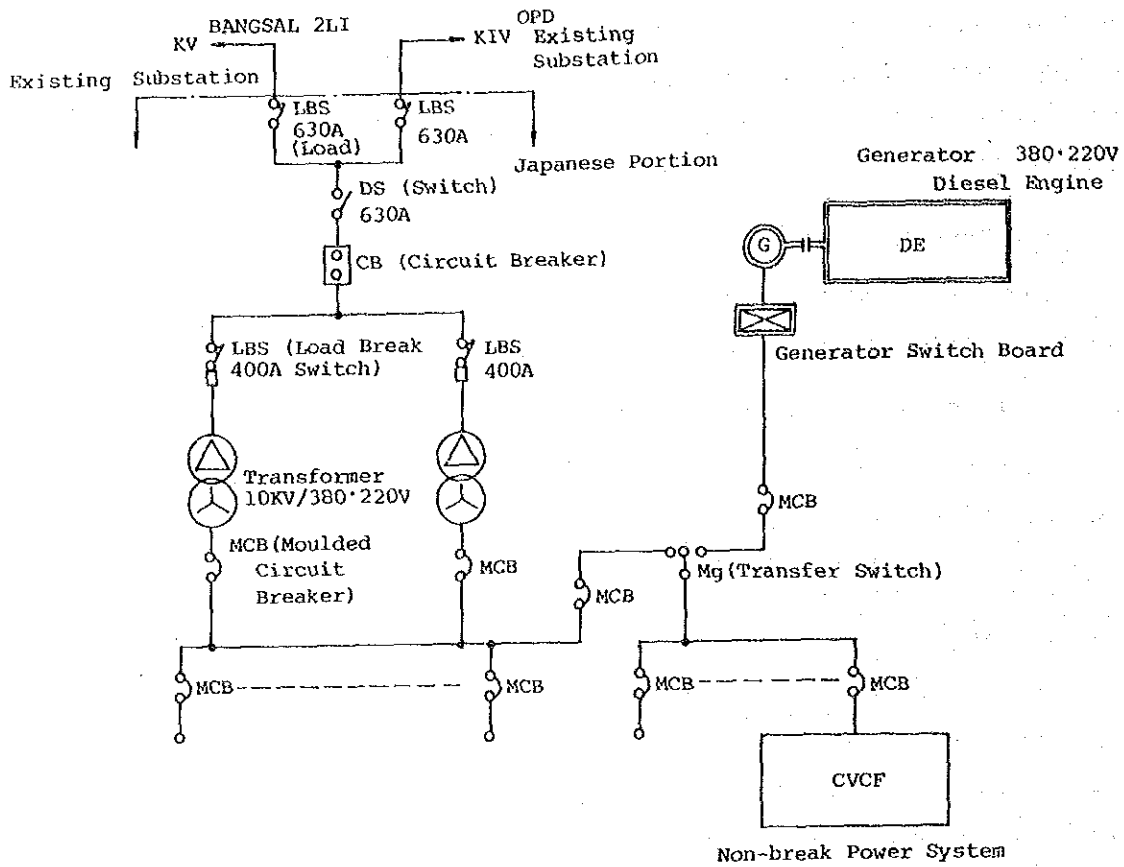
Lightning arresters will be installed on the roof of the building to prevent lightning damage.

g) Fire alarms

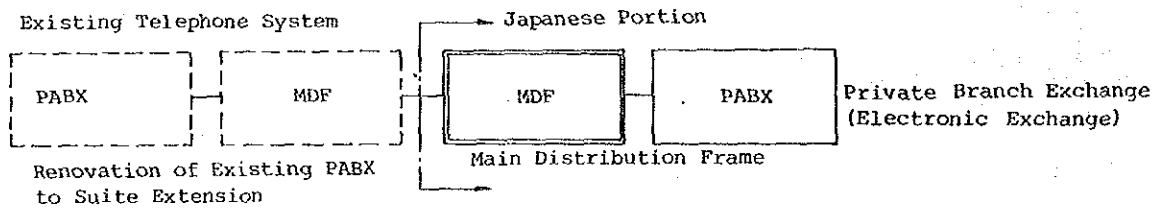
Automatic fire detectors capable of generating alarm signals will be installed to detect fire in its early stages, and to avoid danger and minimize damage.

h) TV antenna

A television antenna will be installed on the roof and outlets will be provided in rooms where television sets are likely to be used.



Substation System



Telephone System

(2) Water Supply and Drainage

An attempt will be made to utilize the existing plumbing facilities of the RSCM as much as possible, and the plumbing system will be designed to allow simple maintenance and cost reductions.

a) Water supply system

The city water service line is used as a water source, and this is backed up with deep wells for emergency supplies. Water will be supplied through looped piping to this building from the water supply plant for the RSCM.

A receiving water tank will store the water needed for one day, and this will then be pumped into an elevated tank and gravity-supplied to each location. The water will be sterilized by chlorine. There will be an individual water treatment system installed in each laboratory, HCU or darkroom that requires purified water.

b) Hot water supply system

Storage-type electric hot water systems will be installed in each room requiring hot water.

c) Drainage system

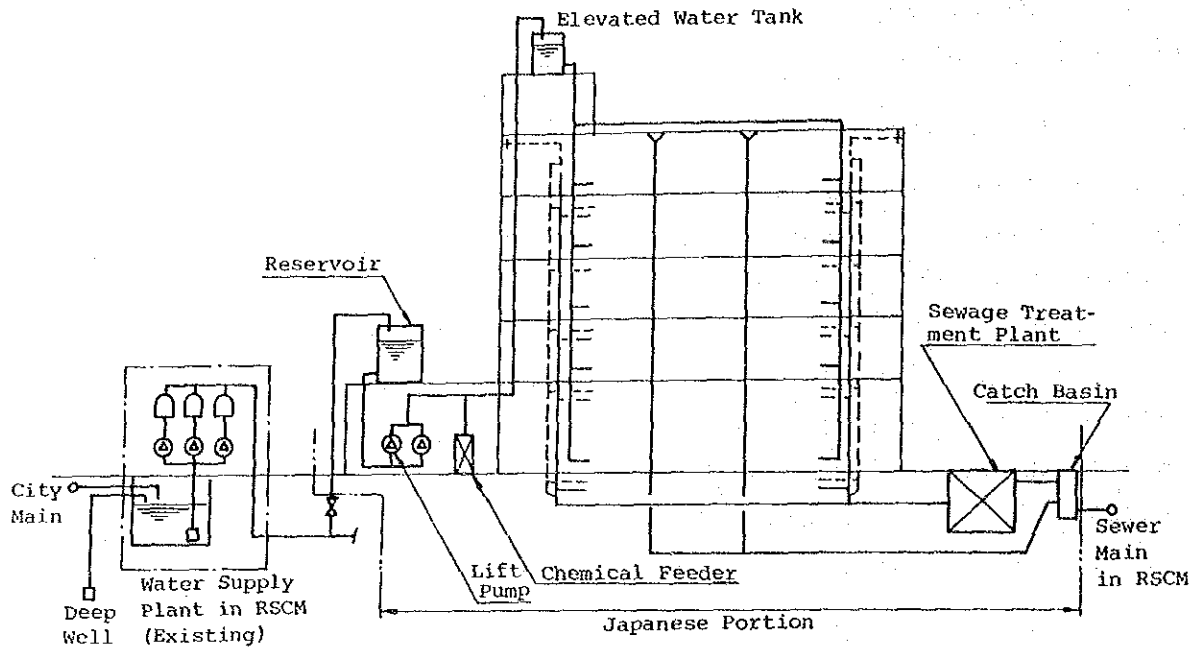
Sewage and miscellaneous waste water will be combined, treated and drained, and rainwater will be directly discharged into the Ciliwung River through the existing drainage pipes.

d) Sanitary fixtures

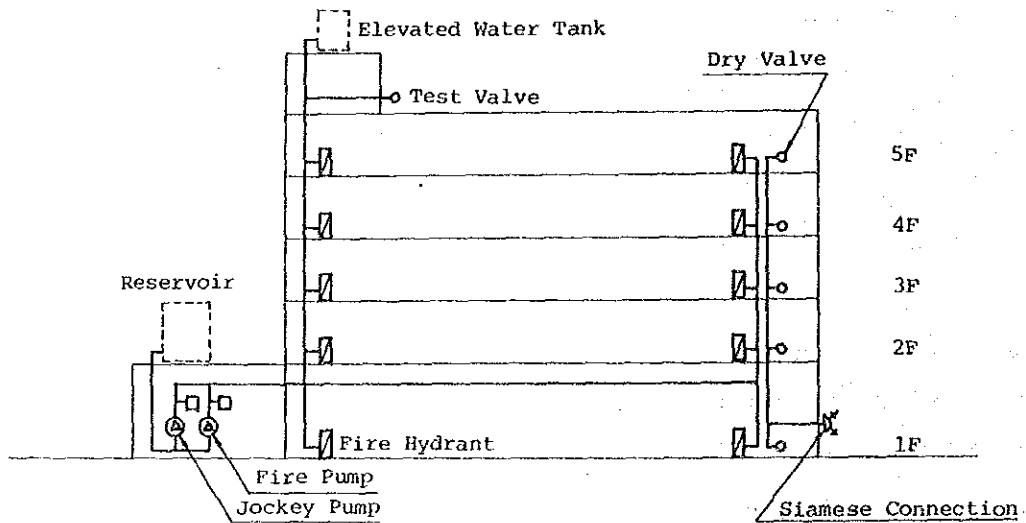
The sanitary fixtures will be selected to suit Indonesian conditions, and will be installed in the rooms requiring them. Western-style toilet fixtures will be installed for the medical staff and a type common in Southeast Asia will be installed for the patients.

e) Fire extinguishing system

Indoor fire hydrants, hydrants exclusively for the fire department will be installed in accordance with the laws and standards of Indonesia. Existing outdoor fire hydrants will be utilized.



Water Supply and Drainage System



Fire Hydrant System

(3) Air-conditioning and Ventilation Systems

Natural ventilation will be employed to the greatest degree possible and only the air-conditioning and forced ventilation required to maintain suitable levels for medical activities will be used. Numerous architectural measures to shield direct sunlight and to promote natural ventilation will therefore be adopted. Air-conditioning systems used in other parts of the RSCM will be studied before the type of air-conditioning is selected. Simple, trouble-free equipment that can be easily operated will be given preference.

a) Air-conditioning

Operating rooms and HCU require clean air in addition to air-conditioning, and so a single duct method connected to an air-conditioning unit equipped with a high-performance filter will be adopted.

The delivery room does not normally require the air to be especially pure, but deliveries by mothers with infectious diseases and so forth necessitate the use of the single-duct method connected to an all fresh air type air-conditioning unit with a medium-performance filter.

Various rooms related to the emergency outpatients department on the first floor mainly require that the air be cooled. Natural ventilation is inadvisable since there is a danger of infection. A single-duct system connected to an air-conditioning unit with a medium-performance filter and fully supplied with outdoor fresh air will be employed. Peripheral spaces will have split package-type air-conditioners that can be individually operated in response to ambient conditions.

Ordinary wards will also be provided with individually operated air-conditioners to allow high flexibility for future partitioning.

b) Ventilation

Natural ventilation will be employed as a rule, but mechanical ventilation will also be used for rooms (such as clinical laboratories) where odours or harmful vapours are generated.

(4) Special Equipment

a) Emergency back-up power supply

A power generator will be installed for emergency supply during interruptions to the power service in order to ensure reliable supply to safety lights, elevators, fire detectors and surgical and life-support equipment. Fuel lines will be provided to the Emergency Department Building from the existing fuel lines by the Indonesian Side.

b) No-break power supply

This will be used to supply continuous power to life-support equipment that cannot be without power even for a matter of seconds.

c) Nurse call

A nurse call system for communication between the nurses' station and the patients will be installed for each nursing unit.

d) Interphones

Interphones will be installed for communication required by the management for the functioning of the hospital.

e) Radio communications

Conduits will be installed between the roof antenna and the radio room to enable communication with police radio, emergency radio and citizens' band radio.

f) Telemetering

Conduits and the necessary wiring will be installed for telemetering particularly important medical equipment.

g) Paging

A paging system will be installed throughout the Emergency Department Building.

h) Central monitoring

A central monitoring system will be installed for the effective monitoring and operation of pumps, air-conditioners, etc.

i) Sewage treatment facility

A treatment facility for sewage and miscellaneous waste water from the building will be installed underground, outside the building. An activated sludge type will be adopted and the quality of the raw effluent and the treated water will be as follows.

	BOD	SS
Raw effluent	200	250
Treated water	20	30

j) Gases used for medical purposes

A system for the exclusive use of this building will be installed. Oxygen, nitrous oxide, nitrogen, compressed air and suction will be provided, and outlets required for the individual operating rooms, delivery rooms, HCU and wards will be installed. In addition, an extractor for excess gas used for anesthesia will be installed in each operating room to enhance safety during operations.

5-7 Medical Equipment Planning

The new Emergency Department can be broadly divided according to four types of emergency medical cares: internal medicine, surgery, pediatrics and obstetrics and gynecology.

In particular, there is an increasing number of patients requiring surgical treatment in ENT and pediatrics, and for treatment resulting from traffic accident injuries (20%). Emergency medical care to provide treatment for head injuries is in urgent need of improvement.

The percentage of patients not requiring surgery is relatively low at about 30%. However, the range of disorders is very wide and includes those of the cardiac and circulatory system, diabetes, renal insufficiency, hepatic failure, and poisoning. As the top referral hospital in Indonesia, the RSCM urgently needs secondary and tertiary functions.

Demands on the obstetric and gynecological services reveal that the majority of women have a defective knowledge of health education. The number of gynecologists is low and this greatly affects prenatal care. In addition, few expectant mothers visit the hospital before delivery, and

therefore knowledge of possible complications is available only immediately before delivery. A large proportion of the deliveries are therefore high-risk emergencies, often accompanied by hemorrhaging. Because of this, the general public hopes that emergency treatment can be offered in obstetrics and gynecology. Such treatment is therefore expected to become very important in the new Emergency Department.

The medical equipment plan must take into account the expected levels of knowledge of the medical and paramedical staff, educational programmes, the expected running costs, maintenance and so on, and allow for future changes in emergency medical treatment.

The main points of this plan are as follows.

(1) Selection of Medical Equipment

Selection will be based on the following criteria.

1. Durability and ease of use.
2. Provision for emergency diagnosis.
3. Effectiveness in emergency medical care.
4. Functions and performance that can be continuously and properly maintained under the present conditions of maintenance, reagent supply, spare parts, running costs and so forth.
5. Response to an increase in the number of local emergency patients, to urgency in diagnosis, and also to equipment malfunctions while improving the quality and level of diagnosis and medical care in the new Emergency Department.

(2) Functions and System of Medical Equipment and Materials

Recently, medical equipment and materials have become increasingly automated for more accuracy and precision. While automatic machines are accurate, they consume more supplies and reagents than do manual or semi-automatic machines.

This problem is serious since most medical equipment in Indonesia is imported. Maintenance of automatic equipment also tends to be complex. Therefore, the equipment system will avoid fully- or semi-automatic

equipment where possible. The use of manual equipment will also greatly assist in the understanding of their functions.

(3) Scope of Equipment and Materials

Modern medical treatment requires many auxiliary materials and supplies. The cost of these must eventually be met by the new Emergency Department, but for the time being the plan will include a substantial amount of auxiliary equipment and materials for ease of running.

(4) Operation of Medical Equipment and Training

Recent medical equipment requires expert techniques for smooth and proper use. Minimum training programmes to ensure effective handling of the equipment will be considered.

LIST OF MAJOR MEDICAL EQUIPMENT

1) Emergency Outpatient Department

1. Medical diagnosis and treatment sets
2. Minor surgery instrument sets
3. ENT and ophthalmologic diagnosis and treatment sets
4. Endoscopes and light sources
5. ECG monitors
6. Syringe pumps
7. Defibrillators
8. Respirators
9. Anesthetic apparatus
10. General X-ray unit
11. Head C/T scanner
12. Mobile X-ray unit
13. Automatic X-ray film developer and darkroom equipment

2) Emergency Ward

1. Beds
2. Patient trolleys (stretchers)

3. ECG monitors
4. EEG
5. Defibrillators
6. Respirators
7. Infusion pumps
8. Hemodialyzers
9. Ultrasonic diagnosis apparatus
10. Peritoneal dialyzer

3) Clinical Laboratory

1. Refrigerator and freezer for blood bank
2. Equipment for coagulation studies
3. Blood gas analyzer
4. Electrolyte analyzer
5. Cross-match test equipment
6. Urinalysis equipment

4) Emergency Obstetrics and Gynecology Department

1. Diagnosis and treatment sets
2. Endoscopes and light sources
3. Cardiotachographs (delivery monitors)
4. Fetal heart detector
5. Ultrasonic diagnosis apparatus
6. Delivery tables
7. Delivery instrument sets
8. Neonatal incubators
9. Infant resuscitators
10. Infant incubators
11. Heart and lung monitor

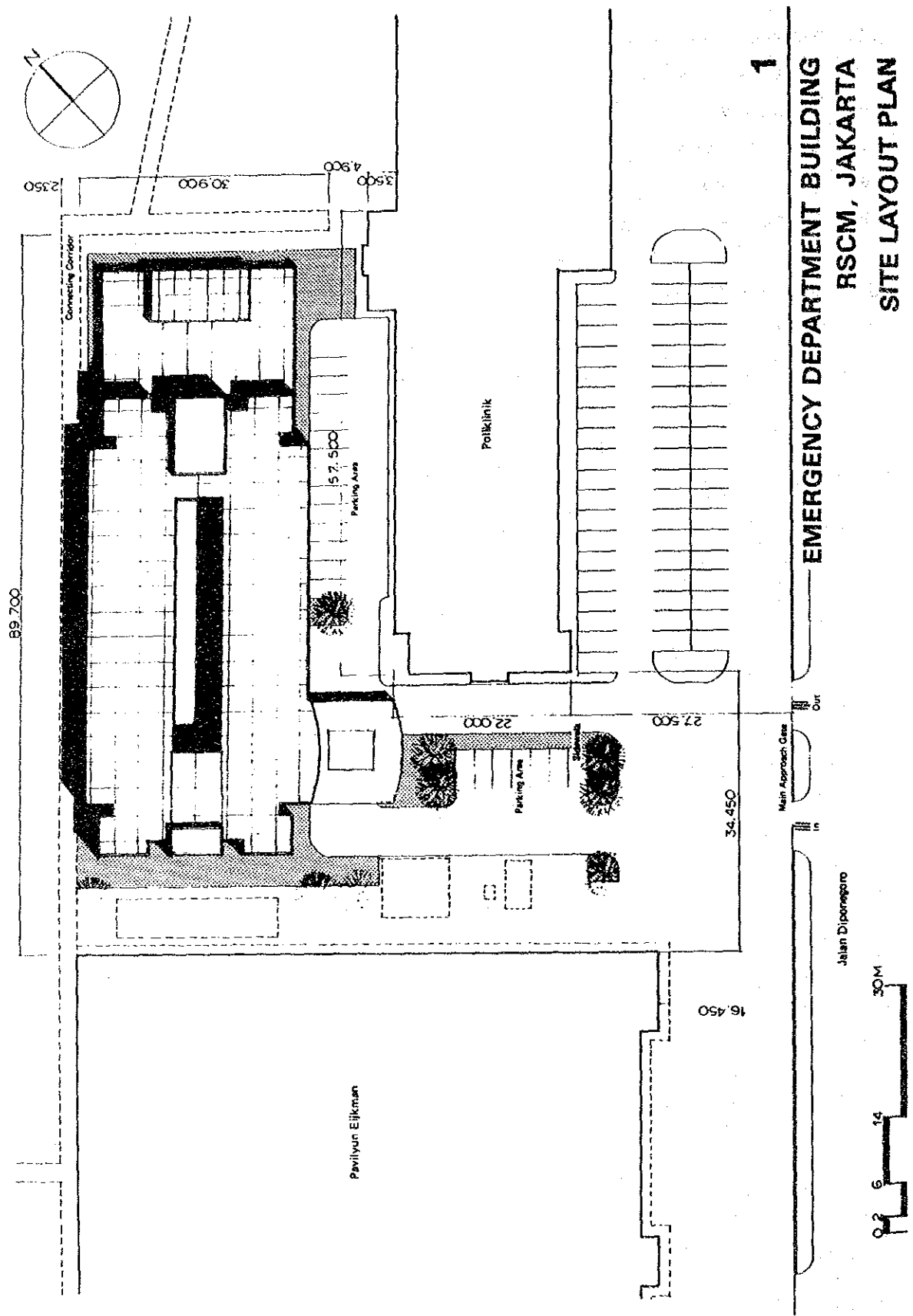
5) Emergency Operating Department

1. Operating tables
2. Basic operating instrument set
3. High-frequency surgical equipment

4. Portable X-ray unit
5. Anesthetic apparatus
6. Respirators
7. Difibrillators
8. ECG monitors
9. Steam sterilizers

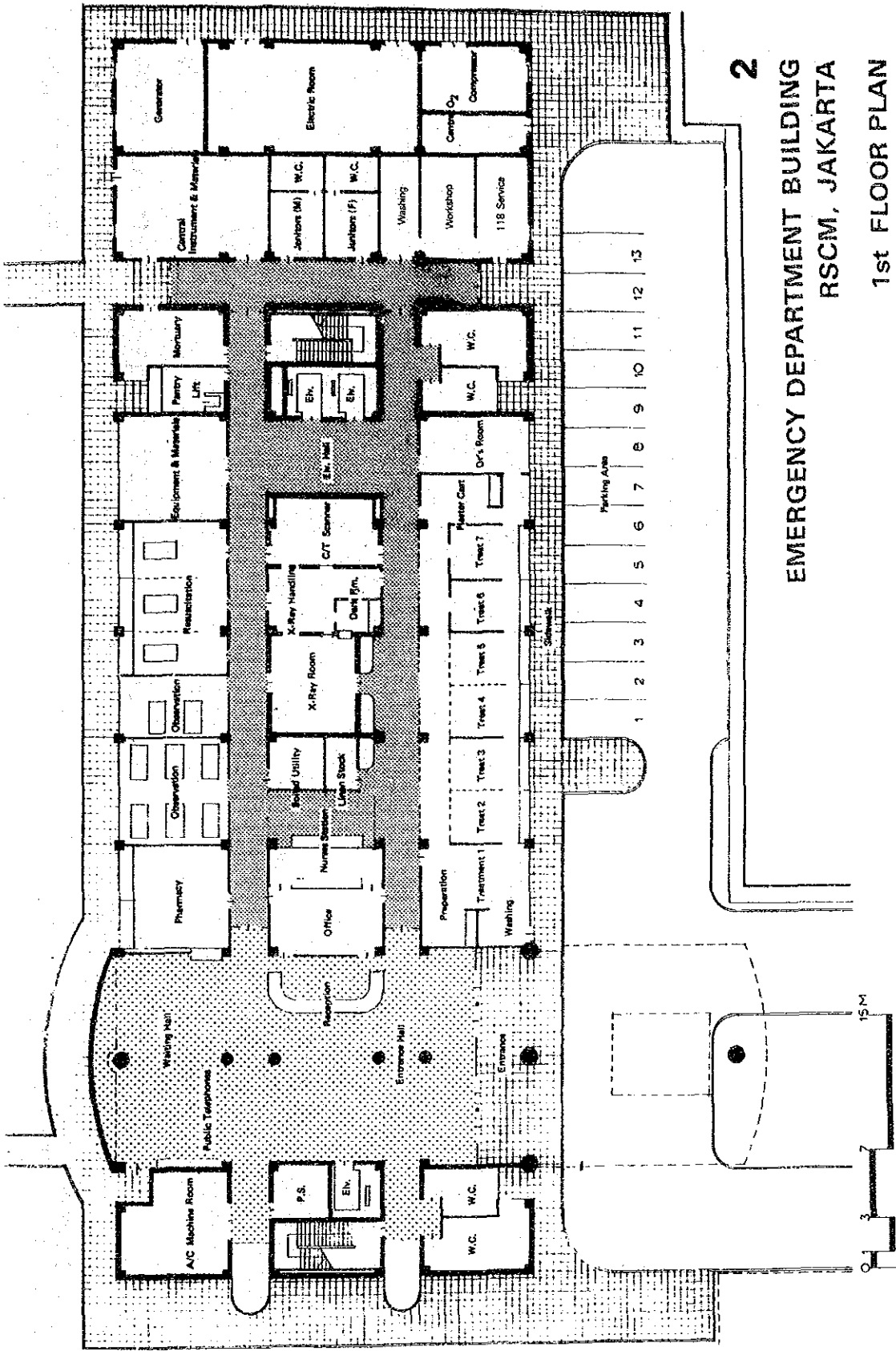
5-8 Basic Design Drawings

1. Site Layout Plan
2. 1st Floor Plan
3. 2nd Floor Plan
4. 3rd Floor Plan
5. 4th Floor Plan
6. 5th Floor Plan
7. Roof Plan
8. Elevation (1)
9. Elevation (2)
10. Elevation (3)
11. Section (1)
12. Section (2)
13. Floor Area Summary

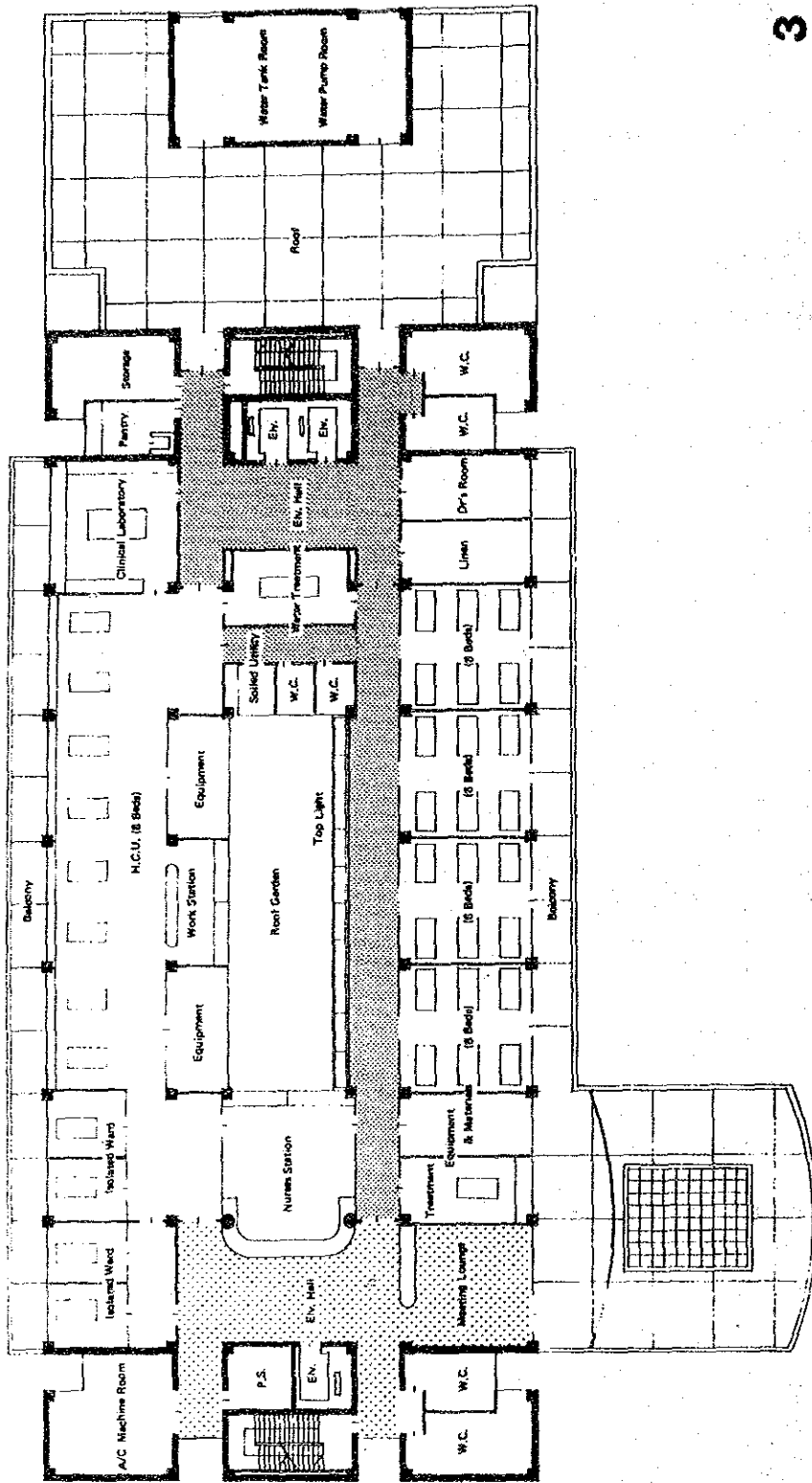


**EMERGENCY DEPARTMENT BUILDING
RSCM, JAKARTA
SITE LAYOUT PLAN**

1



2
EMERGENCY DEPARTMENT BUILDING
RSCM, JAKARTA
1st FLOOR PLAN

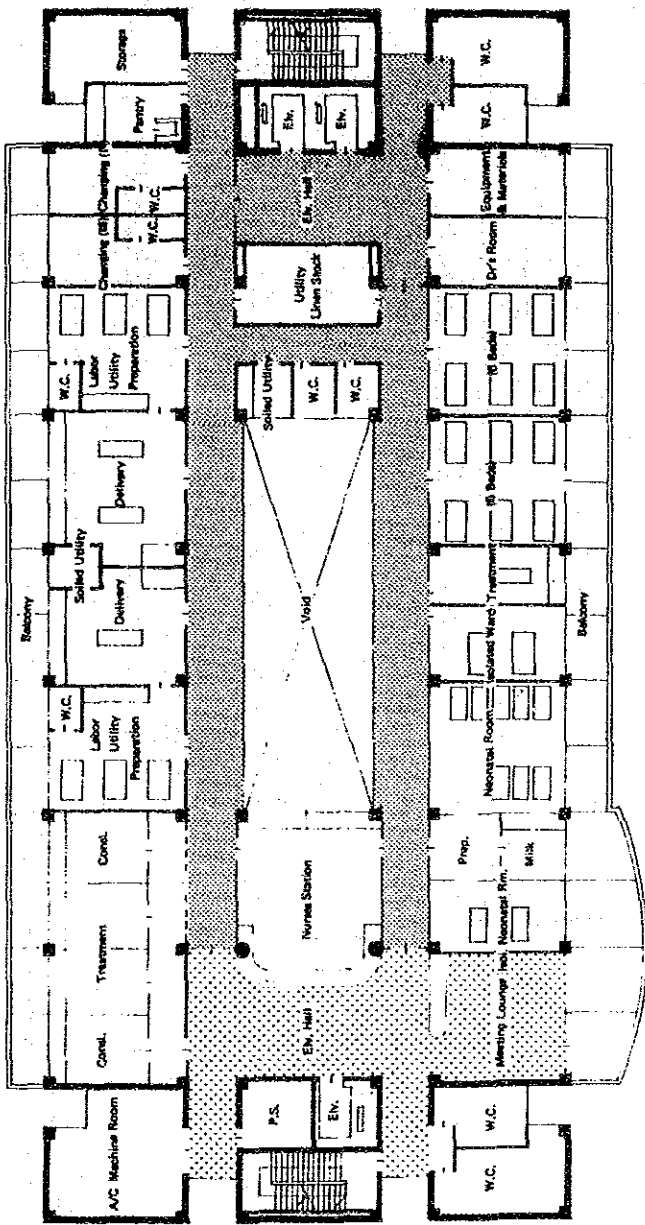


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**EMERGENCY DEPARTMENT BUILDING
RSCM, JAKARTA**

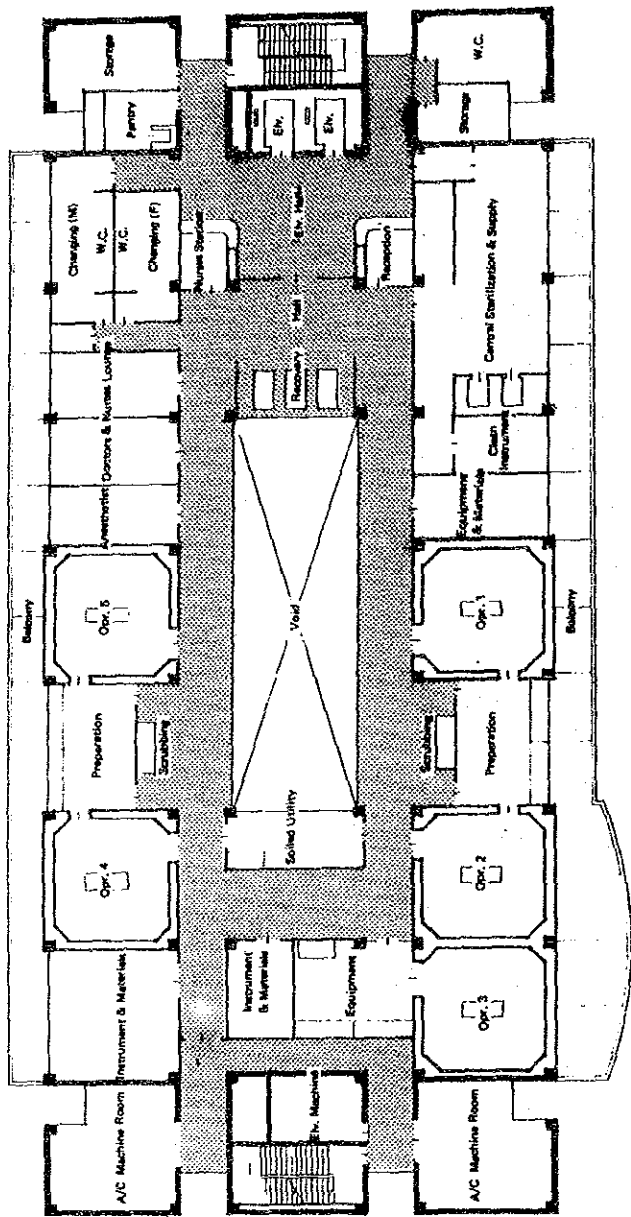
2nd FLOOR PLAN





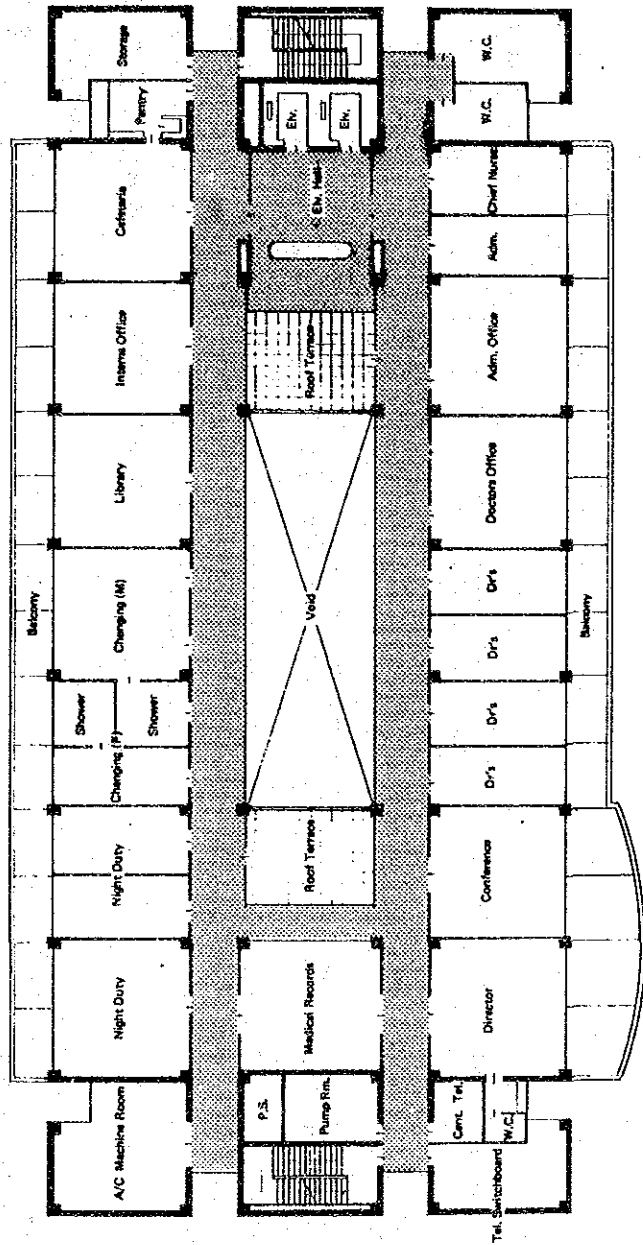
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EMERGENCY DEPARTMENT BUILDING
RSCM, JAKARTA
3rd FLOOR PLAN





5
EMERGENCY DEPARTMENT BUILDING
RSCM, JAKARTA
4th FLOOR PLAN





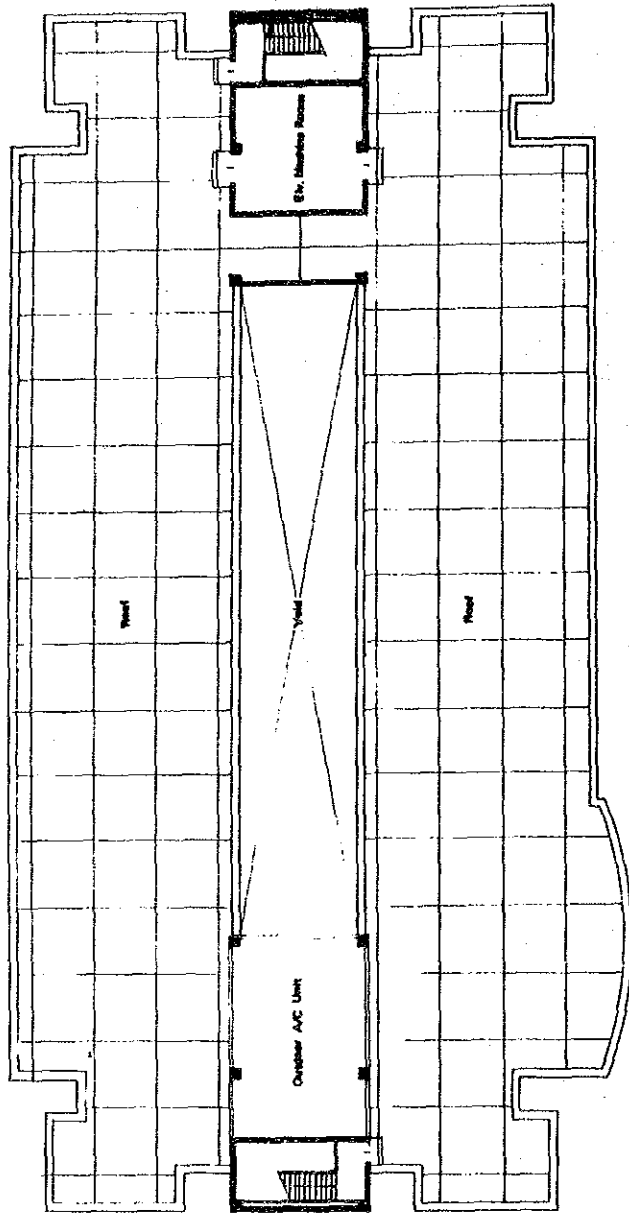
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EMERGENCY DEPARTMENT BUILDING

RSCM, JAKARTA

5th FLOOR PLAN

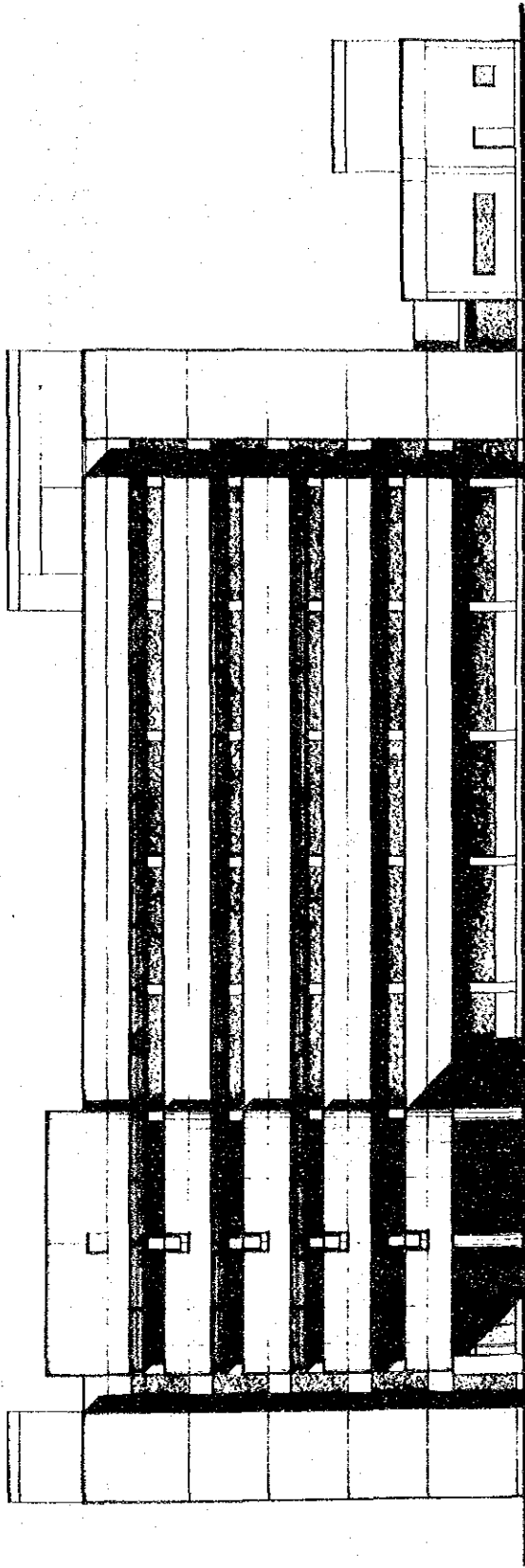




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EMERGENCY DEPARTMENT BUILDING
RSCM, JAKARTA
ROOF PLAN



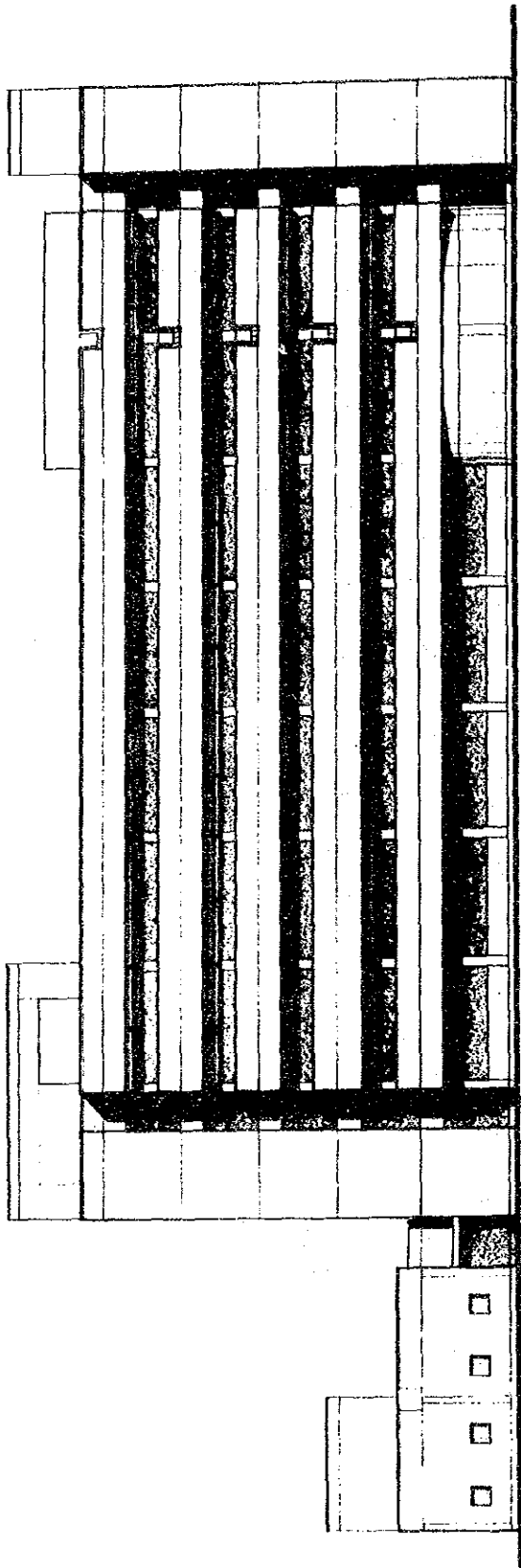


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EMERGENCY DEPARTMENT BUILDING
RSCM, JAKARTA

SOUTH ELEVATION (FACADE)



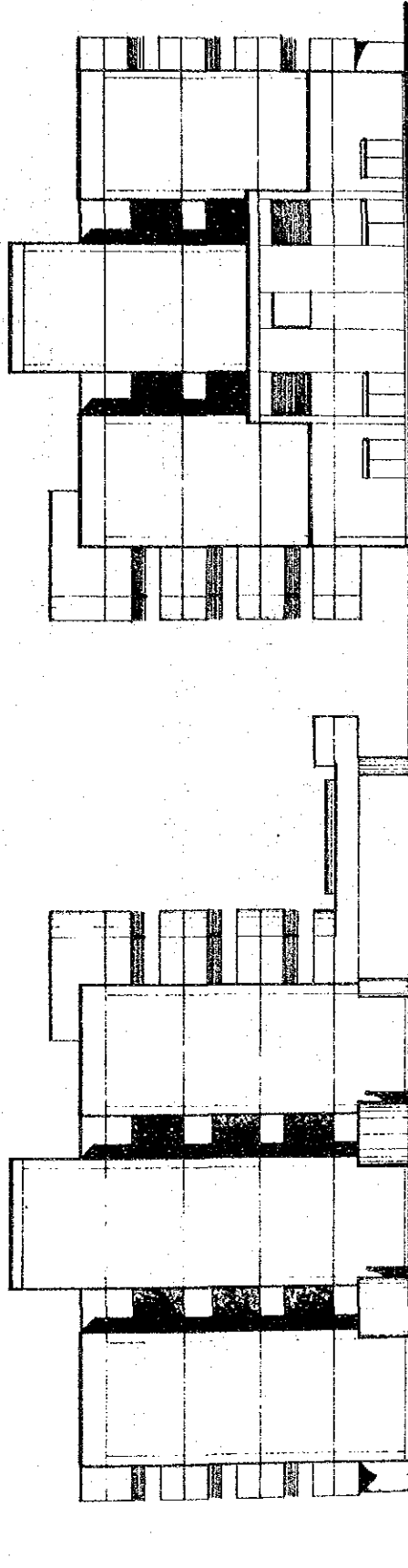


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EMERGENCY DEPARTMENT BUILDING
RSCM, JAKARTA

NORTH ELEVATION





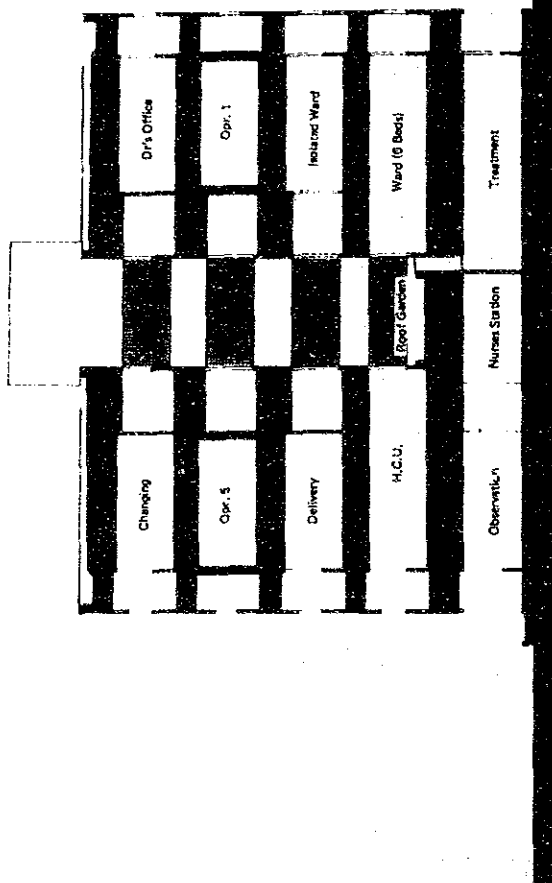
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EMERGENCY DEPARTMENT BUILDING

RSCM, JAKARTA

WEST ELEVATION EAST ELEVATION



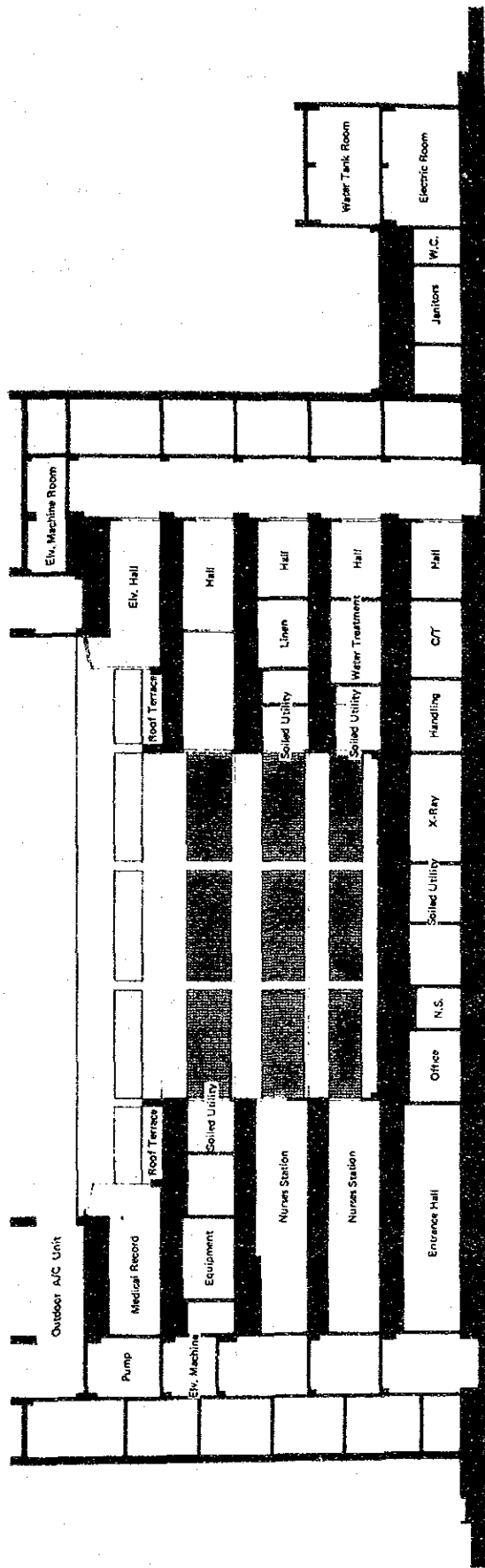


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EMERGENCY DEPARTMENT BUILDING
RSCM, JAKARTA

SECTION (1)





12

EMERGENCY DEPARTMENT BUILDING
RSCM, JAKARTA
SECTION (2)



13. FLOOR AREA SUMMARY

Floor	Floor Area
Roof tower	100 m ²
5th floor	1,210 m ²
4th floor	1,270 m ²
3rd floor	1,270 m ²
2nd floor	1,390 m ²
1st floor	1,760 m ²

Total Floor Area	7,000 m ²
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6. CONSTRUCTION PROGRAM

6-1 Implementation

6-2 Construction and Supervision

6-3 Scope of Work

6-4 Construction Schedule

6-5 Procurement

CHAPTER 6 CONSTRUCTION PROGRAM

6-1 Implementation

After exchange of notes on this project between both Governments, a contract for the detailed design and supervision is to be concluded between the Government of Indonesia and a Japanese consulting firm before the start of detailed design work.

The contract with the Indonesian side will be signed by the Directorate General of Medical Care of the Ministry of Health, in coordination with the Directorate of Hospitals as well as with the Directorate of Health Facilities of the same Ministry.

Tenders will be invited from construction companies after drawings have been prepared along with specifications, medical equipment specifications and necessary documents. The detailed design documents will be subject to approval by the Indonesian side.

Construction will begin after a contract has been concluded between the Directorate General of Medical Care and the successful Japanese firm, and the contract will be subject to verification by the Japanese Government.

The Indonesian Government shall ensure that the necessary preparation, such as site clearance, are completed in time so that the start of construction is not delayed.

6-2 Construction and Supervision

The construction firm will be Japanese, and it must have sufficient expertise and have conducted adequate preliminary surveys in Indonesia. The key to successful construction lies in cooperation with the local companies concerned. It will therefore be necessary to organize a system for smooth management by subcontracting work and by the appropriate deployment of manpower.

Supervision will require that, from the design stage onwards, the Japanese consultants should maintain close communication with the Indonesian Ministry of Health, the RSCM, the authorities of DKI Jakarta and other authorities concerned. Experienced experts need to be stationed at the site for close cooperation with these authorities for the most effective consultation, and smooth implementation of construction works. These persons must also conduct quality control and schedule supervision. Engineers and specialists will be sent out regularly from Japan to assist.

6-3 Scope of Work

The work to be undertaken by the Indonesian side and that to be undertaken by the Japanese side for the construction of the proposed hospital is defined below.

WORK TO BE UNDERTAKEN BY THE JAPANESE SIDE	WORK TO BE UNDERTAKEN BY THE INDONESIAN SIDE
<p>1. Architectural work</p> <p>Structure of the building, architectural finishes, laboratory benches and other fixtures</p>	<p>1. Ground preparation work</p> <p>Demolition of existing buildings, work required to relocate existing equipment and piping</p>
<p>2. Electrical work</p> <p>Power receiving and transforming equipment, power lines, lighting fixtures, power outlets, telephone facilities, public address system, lightning arresters, fire detectors and alarms</p>	<p>2. Site work</p> <p>Landscaping, planting, gates, gutters, road pavement, roads outside the site</p>
<p>3. Plumbing and ventilation</p> <p>Water supply, hot water, waste water drainage and venting, sanitary fixtures, air conditioning, fire extinguishing, ventilation</p>	<p>3. Connections to utilities</p> <p>Electricity, water, telephone, sewerage outside the site, alterations to and renovation of central RSCM telephone switchboard Extension of fuel line outside the site</p>
<p>4. Special equipment</p> <p>Sewage treatment, emergency back-up power supply, nurse call system, interphones, medical gas supply, radio communication, telemetering system, paging system, CVCF system, central monitoring system</p>	<p>4. Furniture and office fittings</p>
<p>5. Elevator work</p>	<p>5. Others</p> <p>Securing of building permit, boring and surveying</p>
<p>6. Site work</p> <p>Outdoor fire hydrant Exterior drainage</p>	
<p>7. Medical equipment work</p> <p>Medical equipment</p>	

6-4 Construction Schedule

The construction of the proposed Emergency Department Building is expected to take about 13 months to complete. The construction of a similar hospital of the same scale would normally take about 10 months in Japan. This difference in construction period is explained below.

- 1) The proposed site is located at the RSCM and buildings exist adjacent to it. Temporary work therefore has to be carried out in a very limited space.
- 2) Full consideration must be given to noise and working hours since there are nearby hospital buildings.
- 3) The soil of the site is soft and therefore pile work is necessary. This work will have to be done using a non-vibrating method. The legally obligatory pile-loading tests must also be performed.
- 4) Work will often be interrupted due to the heavy rain that will fall in the rainy season.
- 5) 'Wet' construction methods, such as bricklaying, plastering and tiling, will be widely used and thus sufficient time for drying and curing will be required.

The construction schedule for the Building is shown on the following page.

Construction Schedule

[Note: The number of month is counted from the signing of E/N.]

Month	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
Works undertaken by the Indonesian Side	<p>Petition for demolition</p> <p>Relocation of pharmacy, wards, etc.</p> <p>Demolition of existing buildings</p> <p>Change of piping Ground preparation</p> <p>Boring survey</p> <p>Petition for building permit</p> <p>Consulting contract</p> <p>Explanation of contract documents</p> <p>Construction contract</p> <p>* 420 million RP was secured for demolition and relocation expenses.</p> <p>* 400 million RP will be necessary for the Site Work and Furnishings.</p> <p>Site work</p> <p>Furnishings</p>																											
Indonesian Government	<p>E/N</p> <p>Tender Review</p> <p>* Buildings having a construction cost exceeding 500 million RP are subject to approval by the Secretariat of the President.</p>																											
Japanese Government	<p>Draft report</p> <p>Final report</p> <p>E/N</p> <p>Approval</p> <p>Verification of construction contract</p>																											
Consultant	<p>Basic design study</p> <p>Basic design</p> <p>Supervision</p> <p>Final inspection</p>																											
Contractor	<p>Bidding</p> <p>Preparation work</p> <p>13 months' construction work</p>																											

6-5 Procurement

(1) Materials

As a rule, construction materials produced locally will be obtained. Locally-produced concrete, reinforcing bars, steels, concrete blocks, bricks, timber and piping will be used as the basic construction materials provided that there are no problems with quality. Materials will be imported from either Japan or some third country if they are not available in Indonesia or if the required quality cannot be obtained.

(2) Medical Equipment

Most of the medical equipment required is not produced in Indonesia and will therefore have to be imported from Japan.

(3) Labour

There is a large labour force in the City of Jakarta and there is no labour shortage. However, skilled workers for special equipment and highly sophisticated work cannot be easily found in Indonesia and so technical experts may have to be dispatched from Japan.

7. ADMINISTRATION AND MANAGEMENT

7-1 Implementation System

7-2 Management Budget

CHAPTER 7 ADMINISTRATION AND MANAGEMENT

The Emergency Department Building will be attached to the RSCM and will therefore not be an independent hospital like tertiary emergency centres in Japan. This system is likely to be maintained as it is for the time being, since the overall organization of the RSCM is established by Decree of the Minister of Health.

The table shown below is a comparison between the present and future activities and number of staff of the Emergency Department.

Comparison between Present Situation and Future Plan

	Present situation	Future Plan
1. Emergency outpatients	120 persons/day (60% surgical, 40% medical emergencies)	200 persons/day (60% surgical, 40% medical emergencies)
2. Number of inpatients	20 persons/day (1 day stay in intermediate ward)	26 persons/day (1 day stay in intermediate ward) 10 persons/day (more than 2 days stay in HCU)
3. Emergency operations	10 cases/day (30% major, 60% medium, 10% minor surgery)	16 cases/day (30% major, 60% medium, 10% minor surgery)
4. Number of doctors	17 (on-duty doctors other than the Chief of the Emergency Department)	23 (on-duty doctors other than the director of the Emergency Department)
5. Number of nurses	90 (working regularly in 3 shifts)	145 (working regularly in 3 shifts)

As can be seen in the above table, the scale and content of this Project will not cause any great changes to the organization.

7-1 Implementation System

(1) Personnel Arrangements

Twenty-three doctors will be needed - 1 Director, 4 internists, 7 surgeons, 4 obstetricians/gynecologists, 3 pediatricians, 2 anesthetists and two others. Among this staff, the Director and a number of the others will work full time. The remainder will be made up of on-duty doctors from corresponding parts of the RSCM. Medical specialists other than the above, such as neurosurgeons and dentists, will be on call from other departments of the RSCM.

The total number of nurses will be 145 and will include 1 general chief nurse, 6 chief nurses and 138 others. There will be four groups that will work in three shifts to provide 24-hour care.

In addition, 16 medical technicians will be assigned to the new Emergency Department, including 9 X-ray technicians, 2 clinical laboratory technicians, 4 pharmacists and 1 M.E. technician, and about 25 clerical employees and about 30 other workers will be needed.

(2) Relationship to Existing Facilities of the RSCM

Emergency outpatients will be classified by triage into various medical divisions, and critical cases will be hospitalized after emergency operations and treatment. Patients will be hospitalized in either the intermediate ward or the HCU depending upon their condition. When his condition is at least temporarily stabilized, a patient will be transferred to another ward in the RSCM.

Inpatients will receive full nursing services, and food and laundry services will be provided by the central laundry and kitchen of the RSCM.

The pharmacy of the Department will function as a satellite of the RSCM's central pharmacy and will store, but not manufacture, emergency medicines. The Division of Pharmacy and Sterilization and Supply of the Emergency Department will function as a satellite of the RSCM's central sterilization and supply department and will only store and control instruments and supplies that have already been sterilized. Medicines, instruments and other supplies will be supplied periodically as required from the RSCM's central departments.

In the X-ray division of the Emergency Department, four groups of X-ray technicians will work in three shifts to take ordinary X-ray photographs for emergency care (including C/T); and other special X-ray diagnoses will be performed at the RSCM's central radiology department.

Clinical laboratory technicians will work at the clinical laboratory of the Emergency Department and perform routine clinical tests in two shifts. However, special clinical tests will be performed in the central clinical laboratory of the RSCM.

7-2 Management Budget

All management expenses, including those for medical treatment, equipment (budgeted together with the number of outpatients, number of beds, bed occupancy rate, average length of hospitalization, number of cases requiring surgery, etc), personnel and utilities are calculated as part of the overall budget for the RSCM. Because of this, it is difficult to determine the budget for the Emergency Department alone.

The revenue and expenditure figures for the RSCM for the Third Five-Year Plan reflected the economic situation of Indonesia as it suffered the after-effects of the second oil crisis, with no growth from 1981 to early 1983. The economy began to show signs of recovery from 1984.

In 1984, the revenue had risen from the 27% of three years previously to 45% of the expenditure, and efforts to increase this revenue are being made.

The proportion of the overall RSCM revenue/expenditure occupied by that for the Emergency Department is not clear, but data for the first quarter of Fiscal 1981 can be used as a basis for trial determination of the actual cost.

According to this, the cost of the Emergency Department is 5.5% of that of the entire RSCM. This implies a cost of approximately 93,000 rupiahs per emergency surgical operation.

There was no increase in the expenditure from 1981 to 1983 and so this value should have been valid up to 1983.

The cost increase (X) of this project expressed as a ratio is taken to be the same as that of the number of patients handled by the Emergency Department, i.e.

$$X = 200 \text{ persons} / 120 \text{ persons} = 1.67$$

The figures derived above imply that expenditure on the Emergency Department will increase by an amount equivalent to 3.6% of the total expenditure on the RSCM.

$$5.5\% \times (1.67 - 1.00) = 3.6(\%)$$

Taking the proportion of expenditure covered by revenue as being 45%, the same as last year, government compensation for the deficit will increase to 1.9%.

$$3.6\% \times (1.00 - 0.45) = 1.9(\%)$$

Furthermore, the previously assumed cost increase (X) presumes no change in the content of the medical treatment or in the facility itself. However, it can be expected that the improvements to both of these will affect the cost increase (X).

Management expenses can be broken down into those on personnel, utilities, drugs and equipment, and others.

Expenditure on drugs will increase relative to that on equipment owing to improvements in treatment. Expenditure on utilities will also rise as a result of the increased scope of the services offered by the facility.

The utility expenses for the Emergency Department Building have been calculated as follows, to total 50.4 million rupiahs/year.

$$\text{Water: } 70 \text{ m}^3/\text{day} \times 0.8 \times 365 \text{ days} \times 200 \text{ rupiahs/m}^3 = 4,088,000 \text{ rupiahs/year}$$

Electricity: 1) Usage rate

$$\begin{aligned} & (560 \text{ kW} \times 365 \text{ days} \times 24\text{h/day} \times 0.2) \times \\ & (35 \text{ rupiahs/kWh} + 1.25 \text{ rupiahs/kWh}) = 35,560,000 \\ & \text{rupiahs/year} \end{aligned}$$

2) Basic rate

$$560\text{kVA} \times 1,600 \text{ rupiahs/kVA} \times 12 \text{ months} = 10,752,000 \\ \text{rupiahs/year}$$

Taking the total costs of the RSCM for 1984 as 9,585 million rupiahs/year, the estimated management expenses of the Department after its completion are:

$$9,585 \text{ mil. rupiahs} \times (5.5\% + 3.6\%) = 872 \text{ million rupiahs}$$

... and the corresponding utility expenses are:

$$50.4 \text{ mil. rupiahs} / 872 \text{ mil. rupiahs} = 5.8\%$$

Considering that approximately 10% of the costs of the RSCM pay for maintenance, it is thought that the increase in the utility costs due to the upgrading of the facility may be included in the previously assumed ratio of increase of cost (X).

8. PROJECT EVALUATION

CHAPTER 8 PROJECT EVALUATION

According to recent Indonesian statistics, the number of cases of malnutrition and infectious diseases has decreased, whereas the number of traffic accidents and degenerative diseases has increased, gradually changing the disease structure from that of a developing country towards that of a developed, urban society. Urbanization is most developed in Jakarta, and traffic and industrial accidents have become more frequent. Emergency medical care is therefore most important in Jakarta, and its importance is expected to increase even more in the future.

In Jakarta, there are several hospitals and clinics with highly advanced equipment. Emergency medical care is offered by those hospitals, but it is expensive. The majority of people in Jakarta have low incomes and therefore must use national and public hospitals, such as the RSCM, since national and public hospitals dispense medical services inexpensively, sometimes free of charge.

Improvement of the emergency medical care system in Jakarta is now an urgent problem facing the nation.

This project was planned on the basis of the background given above.

It is a construction project for a new Emergency Department Building of RSCM, and the aim is to provide inexpensive but expert emergency medical service to low-income people who have never received such medical benefits.

The project also aims to provide a hospital that will be a model for the improvement of lower-level B and C Class hospitals, and also to create working and educational training opportunities for young doctors.

In other words, this is to be an advanced project that will affect all emergency hospital activity throughout Indonesia.

The Emergency Department is planned to handle a daily average of 200 emergency outpatients (73,000 cases annually), perform a daily average of 15 to 18 emergency operations (6,000 operations annually), and admit a daily average of 30 emergency inpatients (11,000 annually).

This capacity, however, will still not meet the total need. It has

been extrapolated from the present state of emergency medical services in Jakarta.

The facilities of the new Emergency Department have been planned to suit the emergency medical services to be provided. For example, the emergency ward will have an intermediate ward with 26 beds and an HCU with 10 beds. The former will be used to give standard treatment for a maximum of 24 hours until the patients are transferred to other departments of the RSCM. This method follows the RSCM's present system for emergency medical care.

HCU is a new concept in Indonesia and is the result of continuous discussions between Japanese and Indonesian doctors specializing in emergency treatment. HCUs are expected to become an important feature of emergency medical service. They will directly contribute to life-saving and be particularly effective in the treatment of critical cases. Treatment in HCUs will be continued until the condition of the patient is no longer critical, and be without time limit.

In addition to upgrading emergency medical care in Indonesia, special attention has also been paid to meeting the immediate demands for medical care. Because of this, plans for an obstetrics and gynecology division within the Emergency Department have been approved.

This is different from the Japanese system of emergency medical care. However, in Indonesia there is a higher proportion of high-risk deliveries, due to poor nutrition and infectious diseases, and also resulting from insufficient prenatal education. Many deliveries are therefore handled as emergency cases, with a high proportion of deliveries being performed in the emergency divisions of obstetrics and gynecology departments.

As for management and administration, this new Emergency Department can function without greatly changing the present organization or budget for the RSCM, as described in the previous chapters.

The expected benefits of this project can be summarized as follows.

(1) Low-income people will be able to receive high-quality emergency medical care after completion of the new Emergency Department.

The new Emergency Department will therefore, be able to respond to basic human needs.

(2) The new Emergency Department will also be able to respond to an expected increasing demand for emergency medical care, resulting from the estimated increase in traffic accidents.

(3) Indonesian doctors normally work for several years after graduation from university in Puskesmas (health centres) where medical facilities are poor.

After working in Puskesmas, they are then retrained in hospitals to become medical specialists. There is therefore, a considerable shortage of specialists in each area of the medical profession, and particularly in emergency medical care, since there is a lack of facilities where proper training can be provided.

Emergency medical care is an appropriate area for the training of interns. It is expected that young medical trainees will be trained to become fully-qualified specialists at this Emergency Department, once it is operational.

(4) The RSCM was founded in 1919, and various medical buildings have either been added or remodelled since then, to expand the site to its present size. This has resulted in an intermixing of hospital functions and the consequent inefficient layout. At present, instead of outpatient divisions, wards, operating rooms, and medical staff rooms for the whole of the RSCM, each medical division has its own facilities. In order to improve this situation, a master plan for the RSCM was formulated, and this plan is currently being implemented. One purpose of this plan is to increase efficiency by centralization.

The new Emergency Department will contribute to accomplishing the goals of this master plan.

One simple example of efficiency improvement is the combination of the present four reception desks into one.

(5) The Directorate General of Medical Care of the Ministry of Health is making efforts to improve the referral system as one of its key policies for Pelita IV, which began in fiscal year 1984. The new Emergency Department will be an important facility for the execution of key policies and will contribute greatly to Indonesian health administration.

9. CONCLUSION AND SUGGESTIONS

9--1 Conclusion

9--2 Suggestions

CHAPTER 9 CONCLUSION AND SUGGESTIONS

9-1 Conclusion

As a result of the review described above, the construction of the new Emergency Department Building as proposed and provision of medical equipment is judged to be highly valuable and significant for the people of Indonesia, and to fulfil the requirements of Japanese grant-aid cooperation policy.

The reasons are summarized as follows:

- (1) The Project will have a significant impact on the improvement and expansion of all medical care activities in Indonesia.
- (2) The Project will provide high quality and low cost emergency medical services for low income people who cannot afford present medical services, and will also contribute toward satisfying basic human needs.
- (3) Since emergency medical care needs in Jakarta are reaching crisis level, the early accomplishment of the Project would make a valuable contribution to improvement of the lifesaving rate and emergency medical treatment techniques in the country.
- (4) The Project will also directly contribute to promoting friendship between Japan and Indonesia by helping the people who will utilize the new Emergency Department Building. In addition, those associated with the project (government officials, hospital staff, construction workers, etc.) will also appreciate the Japanese grant-aid programme.
- (5) The Project suits the local medical service situation. An optimum programme has been developed of medical services to be provided and of equipment to help achieve this, and are based on detailed discussions and studies by Japanese and Indonesian experts.

In addition, efforts to minimize the cost of the project to Indonesia will be made in comparison with the Indonesian proposal. The proposed savings include a reduction in the running cost for

the air-conditioning system by introducing energy conservation planning, and reduction of the construction cost (to be borne by the Indonesian side) through elimination of the car access ramp to the 2nd floor.

9-2 Suggestions

During the field survey, the Indonesian side expressed a keen desire for technical cooperation by the Japanese Government to heighten the effect of the Project. Such technical cooperation should cover not only medical treatment technology but also other know-how necessary for the efficient running of an emergency hospital. To secure more effective operation, it is hoped that the Indonesian side will aid efforts towards improvements in the following related areas.

(1) Improvement of Class B and Class C Hospitals

The Ministry of Health currently operates a hierarchy of health care hospitals in which the scale of treatment becomes smaller and number becomes greater as one moves downwards. The order of classes is A, B, C, and D and Puskesmas (health centres), and patients who cannot be handled in lower-class hospitals are transferred upwards.

However, Class C hospitals, for example, have poor facilities for receiving patients who are transferred, and therefore many critical patients are soon transferred from Class C to Class A hospitals. Because of this, the emergency departments of B and C class hospitals are not particularly busy, while those of Class A hospitals are congested all the time.

In order to fulfill the original objective of the referral system, it therefore appears necessary to improve and strengthen Class B and Class C hospitals.

(2) Improved Emergency Transfer Communication System

From the regional viewpoint, emergency transfer and communications are important elements of the urban medical infrastructure of metropolitan Jakarta. There are currently several transportation and communication

systems, such as the "118" and "119" services, and their present mutual autonomy appears unsatisfactory. In all, the emergency medical care system for Jakarta has not yet been fully developed, and therefore the emergency transfer and communication systems should be improved.

(3) Improved RSCM Obstetrics and Gynecology Department

Education for child and maternal health in Indonesia is still at a low level and therefore obstetrics and gynecology cases constitute much of the work of emergency departments.

The original request by the Indonesian side included an obstetrics and gynecology department located on the upper floors of the proposed building. However, as a rule the obstetrics and gynecology department should not be located in the emergency department. This Emergency Department Building will now have only an emergency obstetrics and gynecology division, and improvements to the obstetrics and gynecology department of the RSCM will be made separately from this Emergency Department.

The master plan will have to be revised in order to make improvements to the obstetrics and gynecology department.

(4) Maintenance of a Sanitary Environment

The Emergency Department Building is expected to handle many critical cases, and thus very good sanitary conditions will have to be maintained throughout the building.

The new Emergency Department will have operating theatres, HCUs, delivery rooms and rooms for newborn infants, and all of these will require clean environments. Good sanitary conditions must also be maintained in other areas as well. In order to make the best and longest use of the new facility, the hospital staff and service personnel should be aware of the importance of cleanliness.

APPENDICES

APPENDICES

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1. Members of the Japanese Study Team

(1) Members of Basic Design Study Mission

Muneo OHTA M.D.	Team Leader President Osaka Prefectural Senri Critical Care Medical Center
Hisayuki TABUSE M.D.	Specialist in Emergency Medical Care Chief of Medical Affairs Osaka Prefectural Senri Critical Care Medical Center
Minami NAGAI	Project Coordinator Basic Design Div., Grant Aid Dept. Japan International Cooperation Agency
Hajime MURATE	Chief Architect Nihon Architects, Engineers & Consultants, Inc.
Masato OKANO	Architect Nihon Architects, Engineers & Consultants, Inc.
Tadaharu NAGAO	Structural Engineer Nihon Architects, Engineers & Consultants, Inc.
Yutaka SAITO	Mechanical Engineer Nihon Architects, Engineers & Consultants, Inc.
Genji SUGANUMA	Medical Equipment Specialist Nihon Architects, Engineers & Consultants, Inc.

(2) Members of Draft Report Explanation Mission

Muneo OHTA M.D.	Team Leader (detailed above)
Kazushige ARAGAKI	Project Coordinator Project Management Div., Grant Aid Dept. Japan International Cooperation Agency
Hajime MURATE	(detailed above)
Masato OKANO	(detailed above)
Genji SUGANUMA	(detailed above)

2. Survey Schedule

(1) Itinerary of Basic Design Study Mission

<u>Date</u>	<u>Itinerary</u>
30 Mar. (Fri.)	Survey team departs Narita. Narita JL 721 10:15 - Jakarta 18:25 20:15 Meeting at hotel re overall schedule of the survey.
31 Mar. (Sat.)	09:00 Visit to the Jakarta JICA office to discuss the survey schedule and to gain local information. 14:00 Visit to the proposed site at RSCM. 17:00 Visit to newly developed towns south of Jakarta 19:00 Team meeting at hotel to discuss details of schedule.
1 Apr. (Sun.)	09:00 Visit to the proposed site at RSCM. Visit to the Emergency Department of the RSCM. Afternoon: price survey in the city. 18:00 Team meeting at hotel to discuss inception report, content of questionnaire, and details of schedule.
2 Apr. (Mon.)	09:00 Visit to Dr Bambang (Director of Hospitals, Directorate General of Medical Care, Ministry of Health) for first meeting with the Indonesian Ministry of Health. Inception report and questionnaire presented and their content explained. Meeting before Apr. 10 decided to finalize details of schedule. Also, questioned Indonesian Ministry of Health concerning (1) inclusion of obstetrics and gynecology, (2) large space in the treatment section, (3) approach ramp, as included in the draft proposed by the Indonesian side. 11:30 Visit to existing buildings on the proposed site. Explanation of each section received. 20:30 Team meeting at hotel for analysis of present conditions at RSCM, review of the draft proposal of the Indonesian side, and review of the project concept.
3 Apr. (Tue.)	07:45 Visit to Jakarta Health Centre (Pukesmas Jl. Tarakan). 09:30 Visit to small health centre (small pukesmas). 10:00 Visit to R.S. Pertamina Hospital (oil company hospital) 12:00 Visit to Fatmawati Hospital (national hospital southwest of Jakarta). 14:15 Visit to R.S. Asih Hospital (private maternity hospital), exchanges with Indonesian counterparts and briefing about maternity conditions in Indonesia. 19:30 Team meeting at hotel concerning present conditions of Indonesian treatment facilities and review of items to be discussed with the Indonesian Ministry of Health.

<u>Date</u>	<u>Itinerary</u>
4 Apr. (Wed.)	<p>09:00 Second meeting with the Ministry of Health. Discussions with Dr Bambang and others of the Ministry of Health, and Dr Rohadi and others of the RSCM concerning (1) construction schedule and budget of the Indonesian side, (2) Indonesian side management expenses, (3) content of request by the Indonesian side, (4) handling of maternity emergencies by this project, (5) personnel distribution plan, (6) domestic budget allocations for the Indonesian side and (7) the ramp included in the draft proposal.</p> <p>18:30 Arrival in Jakarta of Team Leader Dr Ohta and 3 other team members.</p> <p>20:15 Team meeting at hotel for review of progress made and direction of project.</p>
5 Apr. (Thu.)	<p>09:00 Courtesy visit to Dr Isa (Director General of Medical Care, Ministry of Health).</p> <p>10:00 Third meeting with the Indonesian Ministry of Health, at the RSCM Meeting Room. Discussion concerning (1) re-confirmation of handling of maternity emergencies in this project, (2) the ramp included in the Indonesian draft proposal, (3) review of medical equipment.</p> <p>16:00 Survey of existing facilities at RSCM and receipt of individual explanations.</p> <p>20:00 Team meeting at hotel for discussion of (1) functions of the Emergency Department Building, (2) deletions to the project, suggested by the Japanese side.</p>
6 Apr. (Fri.)	<p>09:00 Fourth meeting with the Ministry of Health and confirmation of acknowledgement of the content of the previous meeting. Discussion and acknowledgement of omissions from the project as recommended by the Japanese side. Draft compilation of minutes presented by the Indonesian side.</p> <p>19:00 Dinner hosted by the JICA office.</p> <p>21:30 Team meeting at hotel for confirmation of the content of the remaining schedule.</p>
7 Apr. (Sat.)	<p>08:30 Analysis of materials by survey team.</p> <p>11:00 Fifth meeting at Ministry of Health. Discussion on content of minutes and agreement reached with the Indonesian side.</p> <p>19:00 Team meeting for compilation of drawing appended to the minutes.</p>
8 Apr. (Sun.)	<p>09:00 Exchanges with the Indonesian counterparts, confirmation of the (typed) minutes, and appended drawings.</p> <p>10:00 Visit to districts surrounding Jakarta, on suggestion by the Indonesian side.</p> <p>19:30 Team meeting.</p>

<u>Date</u>	<u>Itinerary</u>
9 Apr. (Mon.)	09:00 Exchanges with Indonesian side for final confirmation of the minutes. 11:00 Signing of minutes by Team Leader Dr Ohta and Dr Isa of the Ministry of Health 14:00 Progress report to Jakarta JICA office. 19:00 Dinner hosted by the Indonesian Ministry of Health
10 Apr. (Tue.)	08:15 Team Leader Dr Ohta, Dr Tabuse and JICA's Mr. Nagai depart Indonesia for Japan. 09:00 Sixth meeting with Ministry of Health for discussion concerning (1) adjustments to the latter half of the schedule, (2) adjustments to content of the questionnaire (destination, time limit for responding, etc.), 19:00 Team meeting at hotel to discuss work to be done in the latter half of the schedule.
11 Apr. (Wed.)	09:00 Seventh meeting at the RSCM, to discuss responses to the questions. 16:00 Visit to diagnosis, maternity and newly constructed ward at the RSCM. 21:00 Team meeting at hotel.
12 Apr. (Wed.)	08:00 Explanation of the project to the DKI (Jakarta Bureau of Urban Planning) and meeting about application procedures. 09:30 Visit to Central Military Hospital 12:30 Visit to R.S. St. Carolus Hospital (Catholic private hospital). 15:00 Visit to Red Cross Blood Bank (D.T.D.) 17:30 Briefing about local construction conditions from local construction workers. (Conducted at hotel.)
13 Apr. (Fri.)	08:00 Meeting at RSCM regarding surgery equipment. Visit to burns and emergency treatment wards. 09:00 Eighth Meeting at RSCM and receipt of responses to questions and statistical data. 11:30 Measurements of proposed site at RSCM and confirmation of existing infrastructure (water supply, electricity, gas, sewerage). 21:00 Team meeting at hotel to confirm and analyze the materials received.
14 Apr. (Sat.)	09:00 Visit to the R.S. Tangerang Hospital (private regional hospital) outside Jakarta. 09:00 Acquisition of materials from DKI, Housing Commission, and Bureau of Statistics in Jakarta. 16:00 Team meeting at hotel for confirmation of materials received.

<u>Date</u>	<u>Itinerary</u>
15 Apr. (Sun.)	10:00 Visit to actual construction site in the city, and survey of construction methods and temporary construction facilities. 19:00 Team meeting at hotel.
16 Apr. (Mon.)	09:00 Ninth meeting at RSCM to re-confirm the content of the discussions held to date. 09:00 Re-confirmation of the facilities of the area surrounding the proposed site, with persons of the Directorate of Health Facilities of the Ministry of Health. 14:00 Progress report for the latter half of the schedule made to the Jakarta JICA office. 17:00 Briefing about local conditions of material provision by local consultants
17 Apr. (Tue.)	08:00 Depart Indonesia for Japan (Flight CX 710) 21:15 Arrive Narita

(2) Itinerary of Draft Report Explanation Mission

<u>Date</u>	<u>Itinerary</u>
14 Jun. (Thu.)	11:15 Survey team departs Narita on Flight CX501. 21:05 Survey team arrives Jakarta.
15 Jun. (Sat.)	Visit the Jakarta JICA office to explain the draft report to Director Yamamura and Mr. Nishio. Meeting concerning the schedule for this survey. Supplementary survey concerning construction costs, etc.
16 Jun. (Sat.)	Meeting regarding the survey schedule with Dr. Hutapea of the Directorate of Hospitals, Ministry of Health, and other counterparts. Presentation of the draft report and explanation of its contents. (Attended by Mr. Fujii, Secretary of the Japanese Embassy in Jakarta, and by Mr. Nishio of the Jakarta JICA office.) Team meeting with Mr. Fujii and Mr. Nishio in the afternoon, regarding the details of the schedule.
17 Jun. (Sun.)	Briefing about construction matters with local constructors. Team Leader Dr. Ohta and Mr. Aragaki arrive in Jakarta on Flight CX711. Progress meeting of study team at hotel.
18 Jun. (Mon.)	Meeting with Dr. Hutapea and Dr. Rukumono of the RSCM, and persons of the Ministry of Health and related to the hospital, and explanation of the draft report. (Meeting attended by Mr. Fujii, Secretary of the Japanese Embassy in Jakarta, and by Mr. Nishio of the Jakarta JICA office.) Team meeting of survey team at hotel in afternoon.

<u>Date</u>	<u>Itinerary</u>
19 Jun. (Tue.)	Conference with persons of the Ministry of Health and those related to the hospital, at the RSCM. Confirmation of progress of work relating to the removal by the Indonesian side, of the existing buildings on the site, and discussion concerning the draft report.
20 Jun. (Wed.)	Discussion concerning the draft report, with persons concerned with the hospital, and members of the Directorate of Hospitals, Ministry of Health. Confirmation of the minutes. Dinner hosted by the survey team. (Restaurant: "ISUTANA NAGA")
21 Jun. (Thu.)	Supplementary survey of construction costs. Team meeting at hotel.
22 Jun. (Fri.)	Signing of the minutes by Dr. Isa, Director General of Medical Care, and Team Leader Dr. Ohta, at the Ministry of Health. Progress report to Director Yamamura, Jakarta JICA office. Progress report to Ambassador Yamazaki and Minister Nakamura of the Japanese Embassy in Jakarta. Team Leader Dr. Ohta returns to Japan. Construction site survey within the city.
23 Jun. (Sat.)	08:00 Survey team departs Jakarta, Flight CX710 to return to Japan, via Hong Kong. 21:15 Arrival at Narita.

3. Members of the Indonesian Authorities Concerned

Ministry of Health

Dr. H. Mohammad Isa.	Director General of Medical Care
Dr. Bambang Soebroto	Director of Hospitals Directorate General of Medical Care
Dr. P.H. Hutapea	Directorate of Hospitals Directorate General of Medical Care
Dr. Abdur Radjak	Directorate of Hospitals Directorate General of Medical Care
Dr. Rushdy Husein	Directorate of Hospitals Directorate General of Medical Care
Ir. Soeripto	Director of Health Facilities Directorate General of Medical Care
Ir. Sudiman S.	Directorate of Health Facilities Directorate of General of Medical Care
Ir. Hilman Hamid	Directorate of Health Facilities Directorate of General of Medical Care

R.S.C.M.

Prof. Dr. Rukumono	Director
Dr. Rohadi Santo	Vice Director
Dr. Budihartan	Vice Director
Dr. Soebaryo M. Widodo	Head of Emergency Department
Dr. Hermansyur	Head of Emergency Surgery

4. Minutes of Discussion

MINUTES DISCUSSION
ON
THE CONSTRUCTION PROJECT
OF
EMERGENCY DEPARTMENT BUILDING
OF
DR. CIPTO MANGUNKUSUMO HOSPITAL
IN
THE REPUBLIC OF INDONESIA

In response to the request made by the Government of the Republic of Indonesia for the construction project of Emergency Department Building of Dr. Cipto Mangunkusumo Hospital, (herein after referred to as "the Project"), the Government of Japan, through Japan International Cooperation Agency (JICA) has dispatched a Basic Design Study Team headed by Dr. Muneo OHTA President, Osaka Prefectural Senri Critical Care Medical Center, (hereinafter referred to as "the Team") to conduct the Basic Design Study on the Project from March 30th to April 17th, 1984.

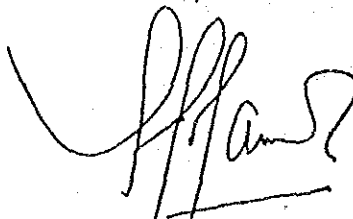
The Team has carried out a field survey, had series of discussions and exchanged views with Indonesian Government Authorities concerned with the Project.

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

Jakarta, April 9th, 1984



Dr. Muneo OHTA
Leader,
Japanese Basic Design
Study Team.

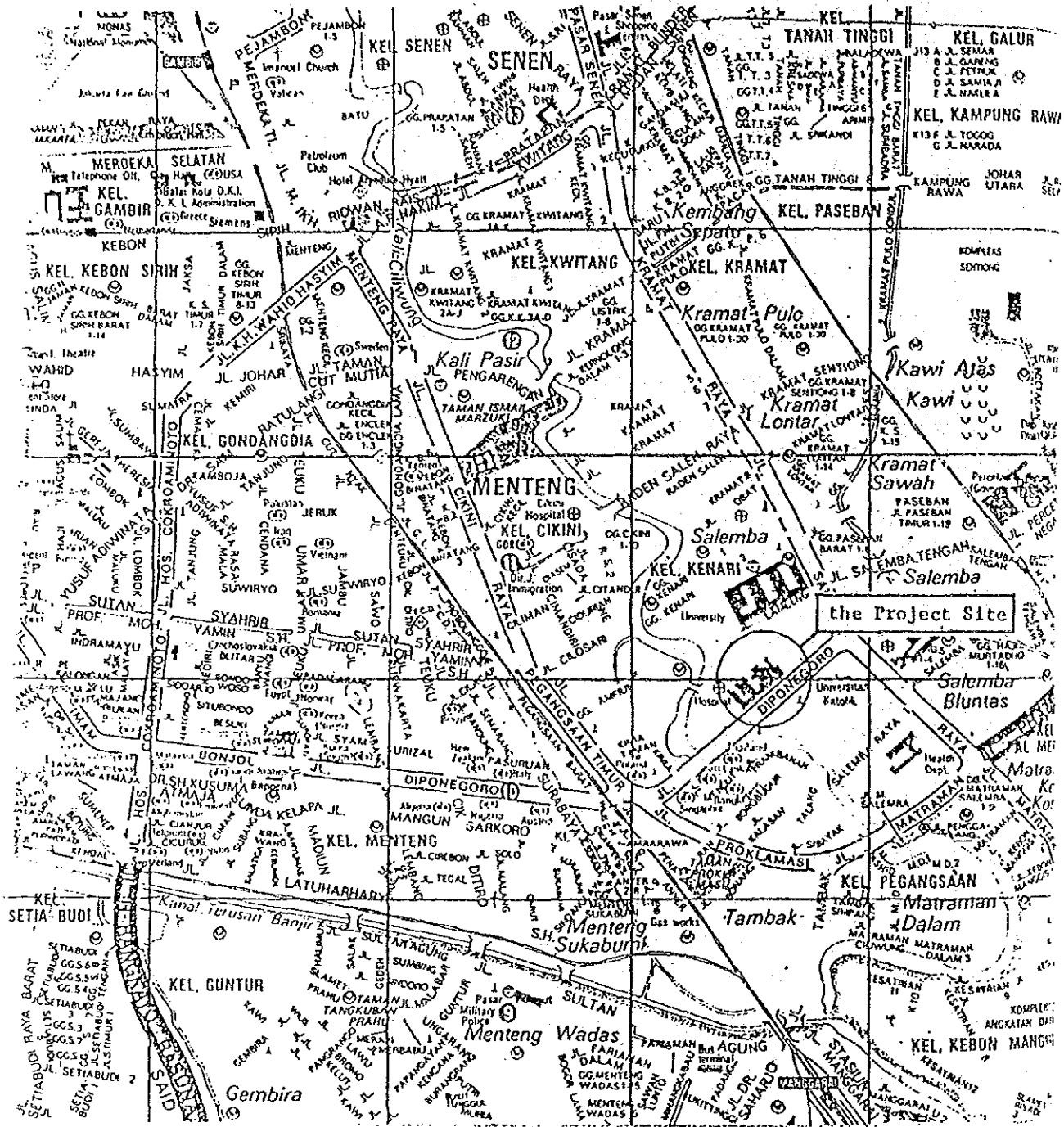


Dr. H. Mohammad Isa
Director General of
Medical Care
The Ministry of Health

ATTACHMENT

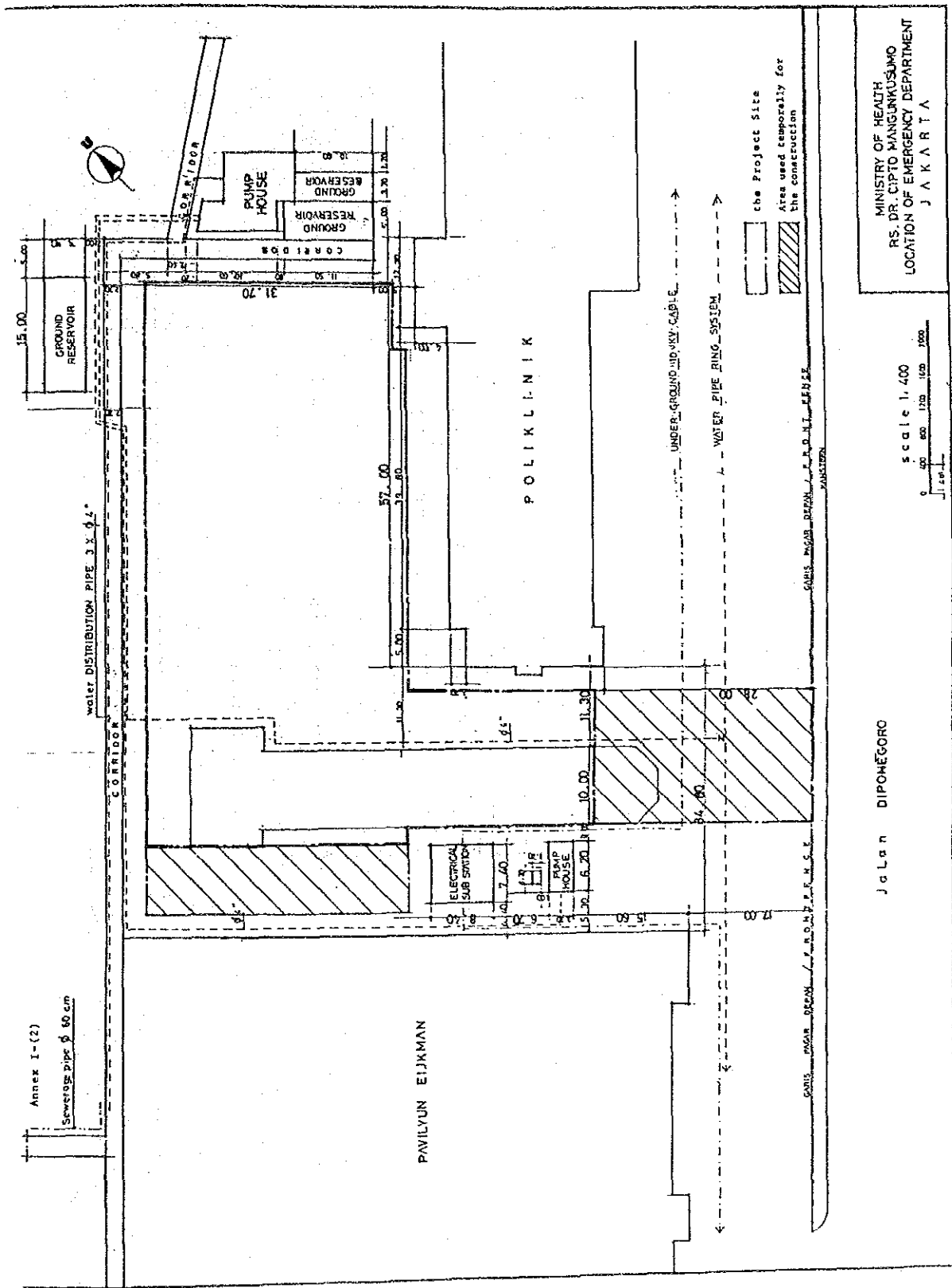
1. The objective of the Project is to provide necessary building, facilities and equipment of Emergency Department of Dr. Cipto Mangunkusumo Hospital.
2. The proposed site of the Project has been acquired by the Government of Indonesia (hereinafter referred to as "the Project Site") as attached in Annex I.
3. The Japanese Study Team will convey to the Government of Japan the desire of the Government of Indonesia that the former takes necessary measures to cooperate in implementation of the Project and provides necessary facilities and other items as listed in Annex II within the scope of Japanese economic cooperation in grant form.
4. The Government of Indonesia will take necessary measures as listed in Annex III on condition that Grant Aid by the Government of Japan is extended to the Project.

MO



Location Map

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Annex I - (3)

PREPARATION WORKS SCHEDULE FOR SITE CLEARANCE
 IN RS. DR. CIPTO MANGUNKUSUMO - JAKARTA.

YEAR	MONTH	1984												1985	1986
		4	5	6	7	8	9	10	11	12					
ACTIVITIES															
1. Process of demolition permit.		■	■	■											
2. Removing of the central telephone.		■	■	■	■	■	■								
3. Removing of Pharmacy.			■	■	■	■	■	■	■	■					
4. Removing of the Ward 'A'				■	■	■	■								
5. Demolition of the existing buildings.				■	■	■	■	■	■	■	■				
6. Replacement of the existing underground piping/cable in the site,				■	■	■	■								
7. Clearance of the site.									■	■	■				
8. Soil investigation.			■	■											
9. Process of the Building License.		■	■	■	■	■	■	■	■	■	■				

Annex II :

The basic function of the Emergency Department Building will cover the medical care in the - fields of 1) medical, 2) surgical, 3) paediatric and 4) obstetric and gynaecological, emergencies. Items required by the Government of Indonesia whose cost will be borne by the Government of Japan are as follows :

- (1) Construction of facilities
 - 1). Initial Emergency Treatment
 - 2). Emergency Examination
 - 3). Emergency Surgery and Delivery
 - 4). Emergency Hospital Care
 - 5). Management of Emergency Services
 - 6). Others

- (2) Medical Equipment
 - 1). Initial Emergency Treatment
 - 2). Emergency Examination
 - 3). Emergency Surgery and Delivery
 - 4). Emergency Hospital Care
 - 5). Others

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Annex III :

Following arrangements will be required to be taken by the Government of Indonesia.

1. To provide necessary data for basic design such as water quality analysis, land survey and condition of sub-soil.
2. To carry out site preparation such as clearing, filling, leveling and access road before commencement of construction works.
3. To provide facilities for distribution of electricity, water supply, drainage, telephone lines and other incidental facilities to the proposed site.
4. To ensure prompt unloading, tax exemption, customs clearance at ports of disembarkation in Indonesia and prompt internal transportation therein of the products purchased under the grant.
5. To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in Indonesia with respect to the supply of the products and services under the verified contracts.
6. To accord Japanese national whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into Indonesia and stay therein for the performance of their work.
7. To maintain and use properly and effectively the facilities constructed and equipment purchase under the grant
8. To under take incidental civil works such as gardening, fencing gates, guard house, parking, and exterior lighting.
9. To furnish general furniture for the Emergency Department Building

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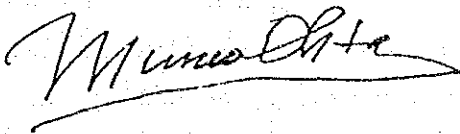
MINUTES OF DISCUSSIONS
ON
THE DRAFT REPORT OF THE BASIC DESIGN STUDY
ON
THE CONSTRUCTION PROJECT OF EMERGENCY DEPARTMENT BUILDING
OF
DR. CIPTO MANGUNKUSUMO HOSPITAL
IN
THE REPUBLIC OF INDONESIA

The Government of Japan has sent, through Japan International Cooperation Agency (JICA), a Basic Design Study Team headed by Dr. Muneo OHTA (President, Osaka Prefectural Senri Critical Care Medical Centre) from 14th June to 23rd June, 1984 for the purpose of submitting and explaining of the Basic Design Study Report (the Report) on the Construction Project of Emergency Department Building of Dr. Cipto Mangunkusumo Hospital (the Project).

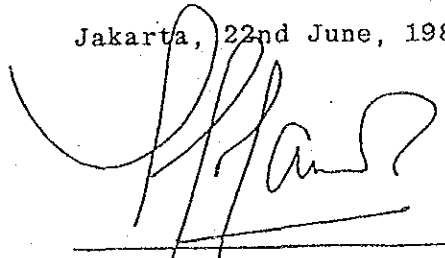
The Team held meetings with the authorities concerned of the project to explain and to discuss on the Report. As a result of the discussions both parties have agreed as follows :

1. The Report fully satisfied the Indonesian side after the series of discussion between both parties.
2. The Final Report (10 copies in English) on the Project will be submitted to the Government of Indonesia by the end of September, 1984.

Jakarta, 22nd June, 1984.



Dr. Muneo OHTA.
Team Leader,
Japanese Study Team
JICA



Dr. H. Mohammad Isa
Director General of
Medical Care
The ministry of Health.

5. Progress of Discussions

After the survey team arrived at Jakarta on March 30, 1984, they met Ministry of Health and other Government authorities as well as those of the RSCM. It was confirmed that the head of the Indonesian side overseeing this project would be Dr. H. Mohammad Isa, Director General of Medical Care of the Ministry of Health, and also that the coordinator in discussions would be Dr. Bambang Soebroto, of the Hospital Directorate of the Ministry of Health.

The survey team first explained the character and purpose of the survey before beginning discussions on the basic design. The following points were noted in the discussions.

(1) Subjects for the Project

The survey team explained that the project and the survey were for (1) the construction of the Emergency Department Building of the RSCM, and (2) giving medical supplies and equipment to the Emergency Department Building. It was also noted that the provision of an emergency ambulance and communication system for Jakarta was not included in the project. All the members of the Indonesian side indicated their understanding of this.

(2) Separation of Non-emergency Functions

The original Indonesian proposal included a delivery department, a surgery office and an obstetrics and gynecology office in addition to the Emergency Department. This was justified by the Indonesian side in terms of the master plan for the hospital, which indicates that these facilities are not scheduled to be constructed elsewhere in the hospital in the near future and would therefore be required as part of this project.

The survey team considered it fundamentally inappropriate to place the delivery department in the Emergency Department, in view of recent trends in medical services. However, it was eventually decided to include the emergency obstetrics and gynecology department, because a delivery department is urgently required as part of the system of medical administration in the region and in Indonesia as a whole.

The team understood the need for medical offices with respect to the master plan but indicated that they considered the annexation of these

offices to the Emergency Department Building possibly not in the best interests of the latter. Ultimately, both parties agreed that only the facilities directly related to emergency services should be provided in the Emergency Department Building, thus excluding the medical offices.

(3) Regarding the Emergency Ward

The Indonesian side was of the opinion that the emergency ward should be intermediate between a treatment ward and a transfer ward, and provide a maximum length of stay of 24 hours. However, the survey team proposed to improve the rate of lifesaving by increasing the period of stay and thereby benefit from recent improvements in medical techniques for critical care, and proposed the provision of a high care unit (HCU). All of these proposals were agreed to.

(4) Relocation of Existing Facilities

A pharmacy building and a women's ward building are presently located on the proposed site for the Emergency Department Building. The survey team asked the Indonesian side to explain how these buildings will be relocated. They were informed that these existing facilities will be moved to the newly-completed seven-storey building constructed as part of the RSCM master plan. It was stated that the budget for this work is already set, and the work scheduled to start in May 1984 and to be completed at the end of this year. (Refer to the minutes.)

(5) Medical Equipment and Supplies

The survey team thought the Indonesian requests for medical equipment and supplies very reasonable, and proposed that equipment for burn treatment and emergency dialysis should be provided in view of the nature of the Emergency Department Building. The Indonesian side agreed to this.

Confirmation was also obtained from the Indonesian side that the medical equipment and supplies will only be used within the proposed Emergency Department Building.

(6) Administrative and Operating System

The survey team asked the Indonesian side to explain the operating budget, personnel arrangements and the administration for the Emergency Department. The Indonesian side replied that it will be operated using part of the budget provided for the entire RSCM and that there will be no independent organization nor budget. Personnel will be arranged so that doctors, nurses and other RSCM staff will work in the Emergency Department in shifts, and so that there will be only one person regularly working in the Emergency Department. This person will be in overall charge. The Indonesian side reaffirmed that every possible effort will be made and that an administration capable of arranging the personnel and managing and operating the Emergency Department Building will be formed.

(7) Request for technical cooperation

The Ministry of Health of the Government of Indonesia and the staff of the RSCM strongly requested that the Japanese Government should offer technical cooperation to Indonesia so that personnel training can take place. The survey team replied that this grant-aid cooperation project does not include such technical cooperation, and also explained the Japanese system for requesting such cooperation.

The Indonesian side stressed the need for some form of technical cooperation in order to benefit fully from the functions of the Emergency Department Building and to train personnel in the use of the new facilities and medical equipment in the future.

(9) Others

The Indonesian side also requested the installation of a heliport on the roof of the building, since Indonesia has many small islands necessitating the use of helicopters for emergency transportation. However, it was also mentioned that an alternative site for the heliport might be found, and so the survey team did not comment upon the matter.

The Basic Design Survey Team discussed the basic concept of the project with the Ministry of Health and the Government of Indonesia, and basic agreement was reached with the Ministry. Minutes were signed in the

Ministry of Health on April 9, 1984 by Dr. Muneo Ohta, leader of the survey team, and by Dr. Mohammad Isa, the Director General of Medical Care, Ministry of Health.

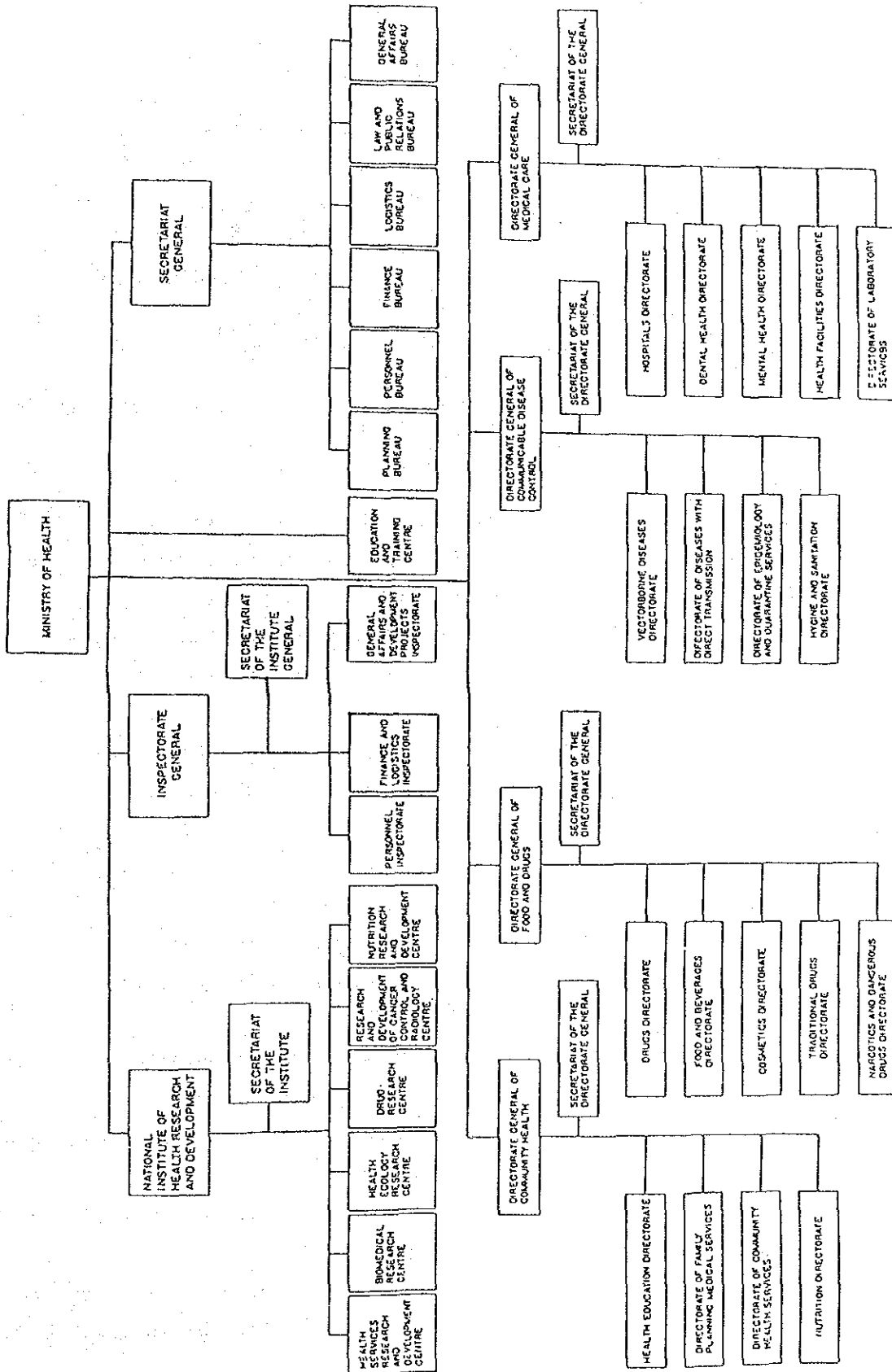
The authorities of the Government of Indonesia, the Ministry of Health and the RSCM cooperated with the process of this survey in an extremely positive manner and indicated their full enthusiasm for the project.

6. List of Hospitals Visited

- JL. TARAKAN PUSKESMAS
- PUSKESMAS
- R.S. PERTAMINA
- R.S. FATMAWATI
- R.S. ASIH
- R.S. CIPTO MANGUNKUSUMO
- R.S. PUSAT ANGKATAN DARAT GATTOY SOEBROTO
- R.S. ST. CAROLUS
- D.T.D.
- R.S. TANGERANG

7. Organization Chart of the Ministry of Health

THE ORGANIZATION OF THE MINISTRY OF HEALTH, REPUBLIC OF INDONESIA



8. Sub - Soil Survey Data, RSCM

EANGSAL PERAWATAN RSCM (7 Stories)

1. Ground Water Elevation : 3.30m from ground level

2. Boring Test : Total 6 points
S1 - S5 = Sondir 0 - 30m
Bl = Deep boring 0 - 60m

Hard layer with qc 200 kgf/cm²
Found at S5 = -12m
S3 = -23.6m
S4 = -26m

For S1 and S2, hard layer until 30m deep
is not found

3. Profile of Borehole

0.00 - 6.00	silt, MH/clay, brown-black
6.00 - 9.00	sand, SP, silty sand, brown, loose density
9.00 - 16.20	silt, MH-OH, clayey silt, black-grey + organic materials as wood and leaf (very soft)
16.20 - 18.80	clay, grey silty clay + organic materials as root, etc. consistency : very soft-medium
18.80 - 23.00	sand, SP, sand, black gravel + some organic materials, with loose-medium density
23.00 - 25.80	sand, white, with medium density
25.80 - 29.50	sand/silt with hard density
29.50 - 31.50	sand, black with hard density
31.50 - 37.50	silt, MH, clayey silt, grey/black, mix with sand consistency : hard and strongly cemented
37.50 - 38.20	black sandy gravel, very dense
38.20 - 42.50	silt, MH, clayey silt, brown grey, hard consistency
49.00 - 55.00	silt, MH, clayey silt, brown-yellow-grey, very stiff
55.00 - 57.00	clay, grey-brown, hard consistency
57.00 - 60.00	silt, MH, clayey silt, brown-grey, very stiff

9. Water Quality Test Data in RSCM

Dr. Cipto Mangunkusumo Hospital

<u>Sample No.</u>	<u>Location</u>	<u>Date</u>
160	City water (PAM), RSCM	Mar. 13, 1984
161	Deep well water, RSCM	Mar. 13, 1984
320	Water from Kitchen, RSCM	Aug. 8, 1983
321	Water from Laboratory, RSCM	Aug. 8, 1983
322	Water from Pump House, RSCM (combination of PAM and deep well)	Aug. 8, 1983

Water Quality Test Data, Dr. Cipto Mangunkusumo Hospital

	Unit	Standard	Sample No.				
			160	161	320	321	322
I. PHYSICAL.							
1. Temperature	°C	-	30/27	30/29	34/30	30/26	30/27
2. Color	Deg.	50	5	5	5	5	5
3. Odor	-	-	-	-	-	-	-
4. Taste	-	-	-	-	-	-	-
5. Turbidity	Deg.	25	6	7	6	10.5	15.5
II. CHEMICAL							
6. PH		6.5-9.2	6.7	6.9	6.5	6.5	6.5
7. Total Solid	mg/l	1,500	162	486	240	273	250
8. Organic Material	"	10	3.6	4.8	11.61	12.0	14.42
9. Aggressive	"	0.0	0.0	14.62	21.28	22.96	22.46
10. Total Hardness	°D	5 - 10	3.89	7.14	4.24	4.07	4.18
11. Calcium	mg/l	200	20.4	32.65	21.30	22.53	23.35
12. Magnesium	"	150	4.4	11.02	5.4	3.93	3.95
13. Iron	"	1.0	0.25	0.68	0.5	0.0	1.5
14. Manganese	"	0.5	0.02	0.01	0.33	0.11	0.0
15. Copper	"	1.5	0.05	0.04	0.1	0.07	0.26
16. Zinc	"	15	0.04	0.03	0.1	0.05	0.1
17. Chlorides	"	600	20.0	17.0	86.58	129.11	86.98
18. Sulphates	"	400	1.0	1.0	4.0	4.0	4.0
19. Sulphides	"	0.0	0.0	0.0	0.0	0.0	0.0
20. Fluorides	"	1.0-2.0	0.75	0.8	0.59	0.54	0.48
21. Ammonia	"	0.0	0.45	0.7	0.6	0.98	0.8
22. Nitrates	"	20	4.84	3.96	1.32	4.4	0.0
23. Nitrites	"	0.0	0.0	0.0	0.0	0.0	0.0
24. Phenolic	"	0.002	0.0	0.0	0.0	0.0	0.0
25. Arsen	"	0.05	0.0	0.0	0.0	0.0	0.0
26. Lead	"	0.1	0.0	0.0	0.0	0.0	0.0
27. Selenium	"	0.01	0.0	0.0	0.0	0.0	0.0
28. Chromium	"	0.05	0.0	0.0	0.0	0.0	0.0
29. Cyanide	"	0.05	0.0	0.0	0.0	0.0	0.0
30. Cadmium	"	0.01	0.0	0.0	0.0	0.0	0.0
31. Mercury	"	0.001	0.0	0.0	0.0	0.0	0.0

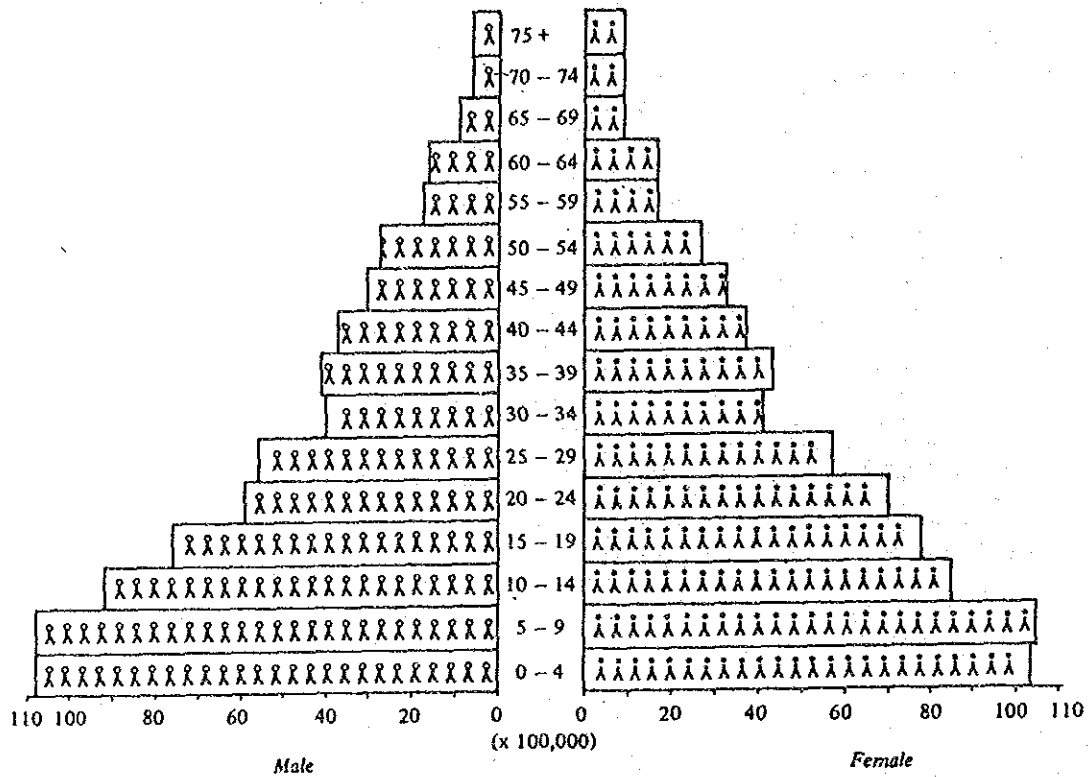
10. Population of Indonesia as of 1961, 1971 and 1980

Population Census by Province and Islands

Province/Island (1)	Population Census			Population Growth Rate	
	31 October 1961 (2)	24 September 1971 (3)	31 October 1980 (4)	1961- 1971 (5)	1971- 1980 (6)
1. Daerah Istimewa Aceh	1,628,983	2,008,595	2,611,271	2.14	2.93
2. Sumatera Utara	4,964,734	6,621,831	8,360,894	2.95	2.60
3. Sumatera Barat	2,319,057	2,793,196	3,406,816	1.90	2.21
4. Riau	1,234,984	1,641,545	2,168,535	2.92	3.11
5. Jambi	744,381	1,006,004	1,445,994	3.09	4.07
6. Sumatera Selatan	2,773,464	3,440,573	4,629,801	2.20	3.32
7. Bengkulu	406,249	519,316	768,064	2.51	4.39
8. Lampung	1,667,511	2,777,008	4,624,785	5.29	5.77
SUMATERA	15,739,363	20,808,148	28,016,160	2.86	3.32
9. D.K.I.	2,973,052	4,579,303	6,503,449	4.46	3.93
10. Jawa Barat	17,614,555	21,623,529	27,453,525	2.09	2.66
11. Jawa Tengah	18,407,471	21,877,136	25,372,889	1.76	1.64
12. D.I. Yogyakarta	2,241,477	2,489,360	2,750,813	1.07	1.10
13. Jawa Timur	21,823,020	25,516,999	29,188,852	1.59	1.49
JAWA	63,059,575	76,086,327	91,269,528	1.91	2.02
14. Bali	1,782,529	2,120,322	2,469,930	1.77	1.69
15. Nusa Tenggara Barat	1,807,830	2,203,465	2,724,664	2.02	2.36
16. Nusa Tenggara Timur	1,967,297	2,295,287	2,727,166	1.57	1.95
17. Timor Timur	-	-	55,350	-	-
NUSA TENGGARA	5,557,656	6,619,074	8,487,110	1.78	2.01
18. Kalimantan Barat	1,581,034	2,019,936	2,486,068	2.51	2.31
19. Kalimantan Tengah	496,522	701,936	954,353	3.56	3.43
20. Kalimantan Selatan	1,473,155	1,699,105	2,064,649	1.45	2.16
21. Kalimantan Timur	550,764	733,797	1,218,016	2.94	5.73
KALIMANTAN	4,101,475	5,154,774	6,723,086	2.34	2.96
22. Sulawesi Utara	1,310,054	1,718,543	2,115,384	2.78	2.31
23. Sulawesi Tengah	693,157	913,662	1,289,635	2.83	3.86
24. Sulawesi Selatan	4,516,544	5,180,578	6,062,212	1.40	1.74
25. Sulawesi Tenggara	559,594	714,120	942,302	2.49	3.09
SULAWESI	7,079,349	8,526,901	10,409,533	1.90	2.22
26. Maluku	789,534	1,089,565	1,411,006	3.31	2.88
27. Irian Jaya	758,396	923,440	1,173,875	2.01	2.67
MALUKU + IRIAN JAYA	1,547,930	2,013,005	2,584,881	2.69	2.79
INDONESIA	97,085,348	119,208,229	147,490,298	2.10	2.32*

* Excluding Timor Timur.

Population Pyramid - 1980



11. Medical Data

- 11 - 1. Age-Specific Mortality Rates, 1980
- 11 - 2. Age-Specific Morbidity Rates, 1972 & 1980
- 11 - 3. Principal Causes of Mortality (Hospitalized Patients), 1980
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- 11 - 17. Number of Staff, RSCM, 1984
- 11 - 18. Breakdown of Staff in Emergency Dept., RSCM, 1984

11 - 1. Age-Specific Mortality Rates, 1980

Age Group	No. of Deaths per year	Percentage	Estimated Death per year	Population	Mortality Rate per 1,000 population
Less than 1	253	31.1	409.3	3,904	104.8
1 - 4	160	19.6	258.8	13,201	19.6
5 - 14	49	6.0	79.3	33,522	2.4
15 - 24	35	4.3	56.6	22,342	2.5
25 - 34	28	3.4	45.3	16,619	2.7
35 - 44	57	7.0	92.2	13,519	6.8
45 and more	233	28.6	376.9	8,500	44.3
Total	815	100	1318	111,607	12.1

11 - 2. Age-Specific Morbidity Rates, 1972 & 1980

Age Group (Years)	1 9 7 2			1 9 8 0		
	Population	Morbidity	ASMR	Population	Morbidity	ASMR
Less than 1 year	2,840	265	9.3	3,904	616	15.8
1 - 4	14,177	1,132	8.0	13,201	2,566	19.4
5 - 14	31,769	886	2.8	33,522	2,414	7.2
15 - 24	18,932	472	2.5	22,362	1,221	5.5
25 - 34	15,252	585	3.8	16,619	1,492	9.0
35 - 44	13,287	657	4.9	13,519	1,779	13.2
45 - 54 *	4,214	317	7.5	9,639	1,693	17.6
+55 **	10,817	1,236	11.4	8,500	2,148	25.3
T O T A L	111,288	5,550	4.9	121,266	13,929	11.5

Note: * In 1972, 45 - 49 years old

** In 1972, 50 years old and over

Source: Ministry of Health - 1972 and 1980 Household Health Surveys

11 - 3. Principal Causes of Mortality, 1980

Rank	Cause of Death	I C D 9th	No. of Deaths		
			Total	Male	Female
1.	Diseases of the Circulatory System	(350 - 459)	270 (220)	139 (206)	131 (238)
2.	Intestinal Infectious Diseases	(001 - 009)	234 (191)	128 (189)	106 (193)
3.	Injury and Poisoning	(800 - 999)	194 (158)	134 (198)	60 (109)
4.	Pneumonia	(480 - 486)	156 (127)	76 (112)	80 (145)
5.	Tuberculosis	(010 - 018)	82 (67)	49 (72)	33 (60)
6.	Malignant Neoplasm	(140 - 208)	60 (49)	34 (50)	26 (47)
7.	Diseases of Urinary System	(580 - 599)	48 (39)	26 (38)	22 (40)
8.	Diabetes Mellitus	(250)	30 (24)	20 (29)	10 (18)
9.	Bronchitis Emphisema and Asthma	(490 - 493)	30 (24)	19 (28)	11 (20)
10.	Direct Obstetric Condition	(640 - 646) (651 - 676)	25 (20)	-	25 (45)
T O T A L			1,226	676	550

11 - 4. Principal Causes of Diseases, 1980

No.	Disease Cases	1972		1980	
		Patients	Patients per 100 population	Patients	Patients per 100 population
1.	Bronchitis at Upper Parts	980	0.9	3,796	3.1
2.	Cutaneous Disease	721	0.6	1,013	0.8
3.	Bronchitis At Lower Parts	422	0.4	1,041	0.9
4.	Diarrhoea	297	0.3	947	0.8
5.	Tuberculosis	577	0.5	732	0.6
6.	Cardiovascular Disease	120	0.1	717	0.6
7.	Ophthalmia	224	0.2	451	0.4
8.	Skeleton, Muscle System Disease and Other Connective Tissue Disease	26	0.0	442	0.4
9.	Malaria	279	0.2	219	0.2
10.	Nervous System Disease	74	0.1	254	0.2
11.	Anemia	182	0.2	250	0.2
12.	Arthropathy and Rheumatism	94	0.1	321	0.3
13.	Dental Disease and Supporting Tissue Disease	70	0.1	293	0.2
14.	Other Infectious Disease and Parasite	107	0.1	268	0.2
15.	Accident	55	0.1	248	0.2
16.	Others	1,319	1.2	2,937	2.4
Total		5,547		13,929	

Source : Min. of Health - 1972 and 1980 Household Health Survey

11 - 5. Mortality Rate During Childbirth

per 1,000 live infants

Year	No. of Mortalities
1975	15.4
1976	13.9
1977	12.2
1978	9.2
1979	14.8

11 - 6. Traffic Accidents in Indonesia, 1969 - 78

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Traffic Accidents	18,182	19,098	23,294	26,052	32,701	37,508	44,097	46,718	46,735	45,464
No. of Deaths	2,388	3,008	3,364	3,767	5,021	5,848	7,131	8,119	9,470	9,527
Seriously Injured	6,300	5,996	7,811	8,802	9,836	19,754	14,602	16,372	18,598	18,662
Slightly Injured	-	12,700	17,079	20,123	24,798	28,598	31,790	-	32,192	32,825
Damage (million rupiahs)	228	284	413	542	1,019	429	1,931	-	-	-

Source : Annual Report of the Traffic Section of the Police Department

11 - 7. Number of Hospitals and Beds in Indonesia, 1980

Province	Government		Private		Total		Beds per 10,000
	Hospitals	Beds	Hospitals	Beds	Hospitals	Beds	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. Daerah Istimewa Aceh	17	1,109	2	50	19	1,159	4
2. Sumatra Utara/North	51	8,273	77	3,027	128	11,300	14
3. Sumatra Barat/West	18	1,924	32	793	50	2,717	8
4. Riau	14	786	14	279	28	1,065	5
5. Jambi	10	392	2	106	12	498	3
6. Sumatra Selatan/South	31	3,443	4	420	35	3,863	8
7. Bengkulu	5	231	-	-	5	231	3
8. Lampung	6	827	17	632	23	1,459	3
9. DKI Jakarta	37	6,548	129	6,154	166	12,702	20
10. Jawa Barat/West	58	8,250	37	2,592	95	10,842	4
11. Jawa Tengah/Central	79	10,074	92	3,488	171	13,562	5
12. D.I. Yogyakarta	9	1,167	11	1,436	20	2,603	9
13. Jawa Timur/East	91	11,315	74	3,771	165	15,086	5
14. Bali	13	1,654	-	-	13	1,654	7
15. Nusa Tenggara Barat/West	11	654	2	67	13	721	3
16. Nusa Tenggara Timur/East	16	747	11	740	27	1,487	5
17. Timor Timur/East	3	216	-	-	3	216	4
18. Kalimantan Barat/West	16	1,370	4	322	20	1,692	7
19. Kalimantan Tengah/Central	11	422	-	-	11	422	4
20. Kalimantan Selatan/South	20	1,252	4	315	24	1,567	8
21. Kalimantan Timur/East	16	1,373	5	277	21	1,650	14
22. Sulawesi Utara/North	12	1,639	15	1,364	27	3,003	14
23. Sulawesi Tengah/Central	6	541	1	22	7	563	4
24. Sulawesi Selatan/South	49	3,818	26	1,378	75	5,196	9
25. Sulawesi Tenggara/South-East	10	400	2	80	12	480	5
26. Maluku	15	952	4	351	19	1,303	9
27. Irian Jaya	16	1,437	3	65	19	1,502	13
INDONESIA	640	70,814	568	27,729	1,208	98,543	7

Source : Ministry of Health

11 - 8. Number of Hospitals and Beds in Indonesia, 1980

Jurisdiction	Classification						Total
	General Hospital	Maternity Hospital	Mental Hospital	Lepra Hospital	T.B. Hospital	Others	
1. PUBLIC	507 (58,566)	62 (1,339)	30 (5,984)	26 (3,685)	12 (818)	3 (422)	640 (70,814)
a. Ministry of Health	11 (6,794)	-	26 (5,599)	2 (1,076)	6 (412)	3 (422)	48 (14,303)
b. Province	46 (11,456)	1 (117)	4 (385)	18 (2,311)	5 (367)	-	74 (14,636)
c. Region	242 (18,481)	11 (307)	-	6 (298)	-	-	259 (19,086)
d. Military	130 (12,525)	40 (694)	-	-	1 (39)	-	171 (13,258)
e. Others	78 (9,310)	10 (221)	-	-	-	-	88 (9,531)
2. PRIVATE	135 (17,200)	417 (9,620)	9 (414)	1 (60)	1 (115)	5 (320)	568 (27,729)
T O T A L	642 (75,766)	479 (10,959)	39 (6,398)	27 (3,745)	13 (933)	8 (742)	1,208 (98,543)

Source : Ministry of Health

11 - 9. Emergency Cases: Proportion by Speciality, RSCM, 1983

No.	Month	Surgery 4	Int. Medicine 5	Pediatrics 6	OB & GY 7	Others 8	Total
01	January	2,326	1,069	910	5	426	4,736
02	February	2,120	899	767	3	348	4,137
03	March	2,129	789	848	2	363	4,131
04	April	2,240	940	745	4	399	4,328
05	May	2,390	877	782	1	433	4,483
06	June	1,984	772	850	0	380	3,986
07	July	2,178	907	818	1	404	4,308
08	August	2,083	1,100	747	1	377	4,308
09	September	2,238	1,052	747	1	398	4,436
10	October	2,324	955	681	4	427	4,391
11	November	1,985	949	645	3	364	3,946
12	December	2,378	1,038	665	5	427	4,513
	Total	26,375	11,347	9,205	30	4,746	51,703
	Proportion	51.01%	21.93%	17.80%	0.06%	9.17%	

11 - 10. Outpatient Department Visits, RSCM, 1983

MONTH	TOTAL VISIT	WORKING DAYS
JANUARY	48,259	25
FEBRUARY	48,395	24
MARCH	50,609	27
APRIL	44,443	25
MAY	41,706	23
JUNE	42,674	26
T O T A L	276,086	150

Average visits per day : 1,841

Consultation hours : 08.00 - 13.00

11 - 11. Number of Patients, Emergency Dept., RSCM, 1979 - 83

11 - 11 (a). 1979

	V I S I T				A D M I S S I O N				
	Surgical		Non-		Surgical		Non-		Death
	Traffic Accident	Other	Total	Surgical	Total	Operation	Operation	Total	
January									
February									
March									
April	750	1,710	2,460	1,289	3,749	151	130	281	14
May	829	1,948	2,777	1,369	4,146	161	152	313	6
June	741	1,903	2,644	946	3,590	155	142	297	9
July	809	1,933	2,742	1,090	3,832	165	209	374	7
August	849	1,977	2,826	1,119	3,945	160	248	408	11
September	781	1,797	2,578	1,025	3,603	150	242	392	19
October	833	1,765	2,598	1,027	3,625	168	255	423	14
November	714	1,843	2,557	1,038	3,595	159	290	449	6
December	814	1,741	2,555	1,037	3,592	170	285	455	7
Total	7,120	16,617	23,737	9,940	33,677	1,439	1,953	3,392	93
Average per Day	25.8	60.4	86.3	36.1	122.4	5.2	7.1	12.3	0.3

	V I S I T				A D M I S S I O N				Death
	Surgical		Non-		Surgical		Non-		
	Traffic Accident	Other	Total	Surgical	Operation	Total	Operation	Total	
January	710	1,783	2,493	962	173	3,455	273	446	11
February	740	1,615	2,355	841	253	3,196	157	410	3
March	785	1,922	2,707	937	259	3,644	217	476	11
April	887	1,866	2,753	887	273	3,640	124	397	9
May	935	1,785	2,720	935	208	3,655	199	407	18
June	943	1,694	2,637	943	231	3,580	264	495	6
July	934	1,566	2,500	934	268	3,434	124	392	10
August	941	1,496	2,437	941	218	3,378	198	416	11
September	1,037	1,437	2,474	1,037	230	3,517	176	406	19
October	982	1,404	2,386	982	209	3,368	135	334	14
November	993	1,572	2,565	993	245	3,558	349	594	25
December	1,044	1,550	2,594	1,044	225	3,638	161	386	19
Total	10,931	19,690	30,621	11,436	2,792	42,057	2,377	5,169	156
Average per Day	29.9	53.9	83.8	31.3	7.6	115.2	6.5	14.1	0.4

	V I S I T				A D M I S S I O N				Death
	Surgical		Non-		Operation		Non-		
	Traffic Accident	Other	Total	Surgical	Total	Operation	Operation	Total	
January	1,144	1,167	2,311	1,144	3,455	230	423	653	27
February	1,027	1,375	2,402	1,027	3,429	248	397	645	17
March	1,212	1,454	2,666	1,218	3,884	299	452	751	44
April	744	1,797	2,541	1,294	3,835	362	349	711	26
May	825	1,868	2,693	1,372	4,065	271	354	625	30
June	863	1,913	2,776	1,362	4,138	209	335	544	37
July	905	1,786	2,691	1,132	3,823	286	359	645	39
August	1,006	1,871	2,877	1,245	4,122	291	392	683	19
September	878	1,603	2,481	1,198	3,679	285	332	617	22
October	780	2,240	3,020	1,313	4,333	297	469	766	61
November	923	1,733	2,656	1,171	3,827	295	384	679	27
December	805	1,865	2,670	1,126	3,796	312	353	665	28
Total	11,112	20,672	31,784	14,602	46,386	3,385	4,599	7,984	377
Average per Day	30.4	56.6	87.0	40.0	127.0	9.2	12.6	21.8	1.0

	V I S I T A D M I S S I O N										
	Surgical					Non-					Death
	Traffic Accident	Other	Total	Surgical	Total	Operation	Operation	Operation	Total		
January	790	1,730	2,520	1,280	3,800	266	350	616	26		
February	770	1,657	2,427	982	3,409	277	353	630	16		
March	947	1,775	2,722	1,152	3,874	307	401	708	31		
April	978	1,870	2,848	1,010	3,858	341	415	756	29		
May	825	2,064	2,889	1,281	4,170	311	409	720	37		
June	842	1,746	2,588	1,240	3,828	341	351	692	37		
July	844	1,961	2,805	1,205	4,010	335	421	756	33		
August	803	1,904	2,707	1,322	4,029	325	465	790	33		
September	776	1,776	2,552	1,266	3,818	326	409	735	32		
October	870	2,038	2,908	1,188	4,096	295	451	746	53		
November	797	1,976	2,773	1,063	3,836	330	390	720	41		
December	783	2,037	2,820	1,165	3,985	320	446	766	35		
Total	10,025	22,534	32,559	14,154	46,713	3,774	4,861	8,635	403		
Average per Day	27.4	61.7	89.2	38.7	127.9	10.3	13.3	23.6	1.1		

11 - 11 (e). 1983

	V I S I T				A D M I S S I O N				Death
	Surgical		Non-		Surgical		Non-		
	Traffic Accident	Other	Total	Surgical	Total	Operation	Operation	Total	
January	725	1,824	2,549	1,037	3,586	327	428	755	25
February	693	1,719	2,412	905	3,317	330	370	700	28
March	663	1,732	2,395	975	3,370	293	412	705	22
April	721	1,969	2,690	1,179	3,869	245	518	763	25
May	809	1,804	2,613	1,088	3,701	318	285	603	40
June	726	1,488	2,214	894	3,108	262	316	578	53
July	758	1,710	2,468	1,022	3,490	291	315	606	32
August	686	1,687	2,373	1,188	3,561	284	292	576	33
September	676	1,849	2,525	1,164	3,689	297	218	515	23
October	625	1,970	2,595	1,115	3,710	315	259	574	48
November	593	1,603	2,196	1,105	3,301	292	216	508	33
December	680	1,877	2,557	1,321	3,878	313	288	601	25
Total	8,355	21,232	29,587	12,993	42,580	3,567	3,917	7,484	387
Average per Day	22.8	58.1	81.0	35.5	116.6	9.7	10.7	20.5	1.0

11 - 12. Patients by Disease, Emergency Dept., RSCM, 1983

Serial No.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
1.	2	4	4	1	2	1	7	-	1	4	7	5	38
2.	4	5	5	2	2	1	3	8	7	3	2	3	45
3.	282	40	20	32	28	24	113	-	5	-	8	9	571
4.	54	48	48	40	61	72	36	54	61	57	55	75	661
5.	183	105	67	62	78	55	65	62	96	92	95	186	1,146
6.	3	-	3	1	-	2	3	1	1	-	1	4	19
7.	2	1	2	1	1	2	2	1	7	7	4	4	34
8.	8	5	4	11	3	1	8	13	7	9	3	11	83
9.	3	10	9	7	5	6	9	13	6	7	12	11	98
10.	12	8	5	7	7	8	8	13	4	13	16	11	112
11.	9	9	3	5	6	7	9	13	11	9	16	8	105
12.	19	32	23	17	25	18	29	34	28	71	51	18	365
13.	18	24	10	9	19	21	25	23	21	-	6	17	193
14.	8	1	5	1	2	6	4	5	1	1	-	2	36
15.	3	5	10	19	20	5	4	5	9	1	2	7	90
16.	14	12	14	21	10	15	21	5	4	2	2	11	131
17.	85	116	96	81	108	72	88	100	87	90	111	113	1,147
18.	38	21	8	15	28	14	27	23	18	29	32	41	294
19.	1	4	-	2	1	2	1	-	1	-	-	2	14
20.	12	5	11	9	7	1	7	10	15	18	9	13	122
21.	33	26	14	17	26	13	34	22	20	24	38	21	288
22.	31	28	23	19	33	24	53	53	48	60	31	31	434
23.	72	72	82	43	51	52	83	79	80	84	98	106	902
24.	2	1	-	2	3	2	3	-	2	6	-	3	24
25.	17	24	17	23	38	14	14	3	17	17	13	15	212
26.	77	58	51	63	61	61	119	95	74	76	69	106	910
27.	2	-	-	-	1	2	3	-	-	-	-	-	8
28.	2	3	2	1	1	4	1	9	3	6	7	2	41
29.	29	33	27	12	18	6	14	66	29	31	13	10	288

Patients by Disease (Cont'd.)

Serial No.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
30.	16	15	13	16	12	5	8	8	8	12	12	15	140
31.	37	27	38	44	25	37	36	36	34	42	25	45	426
32.	8	5	21	14	3	9	8	14	5	6	4	10	107
33.	152	68	120	108	183	132	179	195	226	210	152	182	1,907
34.	13	9	4	3	6	4	3	-	10	30	11	12	105
35.	26	49	42	28	42	37	41	40	51	40	29	15	440
36.	2	6	4	6	6	6	8	4	3	1	3	2	51
37.	7	5	14	13	15	12	25	12	10	4	10	15	142
38.	1	15	8	10	16	4	9	4	11	10	12	10	114
39.	3	-	2	1	-	1	2	-	-	-	-	3	12
40.	12	10	8	6	12	11	7	5	12	7	8	17	115
41.	14	22	20	19	16	26	26	11	39	52	26	22	293
42.	11	23	16	20	18	13	11	14	22	27	22	36	233
43.	6	2	6	2	2	3	3	8	14	12	7	6	71
44.	207	160	184	150	150	135	182	197	204	195	169	45	1,978
45.	136	99	111	107	115	82	93	100	235	82	74	114	1,348
46.	90	99	109	94	104	90	84	88	81	56	52	62	1,009
47.	2	3	2	4	1	1	5	7	11	4	8	1	49
48.	5	4	9	5	19	9	6	8	14	10	1	1	91
49.	9	11	8	11	8	6	8	9	15	10	14	9	118
50.	9	6	3	9	8	5	9	11	17	9	13	11	107
51.	2	3	8	10	3	1	3	1	35	14	12	9	101
52.	21	38	27	27	32	22	31	49	24	33	27	2	333
53.	1184	892	1127	964	1184	834	985	947	1062	863	793	1003	11,838
54.	12	20	18	33	21	42	13	39	52	46	29	47	372

Explanation of Serial Nos.

Serial No.	D I A G N O S I S	I C D No.
1.	Bacillary dysentery	004.9
2.	Amoebiasis, unspecified	006.9
3.	Respiratory tuberculosis NOS	011.9
4.	Rickettsioses and other arthropod-borne diseases	080-088
5.	Intestinal infections due to other organisms	008
6.	Other intestinal helminthiases	127
7.	Tetanus	037
8.	Other malignant neoplasms of lymphoid and histiocytic tissue	202
9.	Benign neoplasms	210-229
10.	Diabetes mellitus	250
11.	Other and unspecified anemias	285
12.	Other psychoses	295-299
13.	Neurotic disorders, personality disorders and other nonpsychotic mental disorders	300-316
14.	Meningitis of unspecified cause	322
15.	Disorders of the eye and adnexa	360-379
16.	Other disorders of middle ear and mastoid	385
17.	Other disorders of the central nervous system	340-349
18.	Hypertensive disease 401-405	
19.	Cerebrovascular disease 430-438	
20.	Ischemic heart disease	410-459
21.	Other forms of heart disease	420-429
22.	Diseases of veins and lymphatics, and other diseases of circulatory system	451-459
23.	Acute respiratory infections	460-466
24.	Influenza	487
25.	Pneumonia, organism unspecified	486
26.	Chronic obstructive pulmonary disease and allied conditions	490-496
27.	Other diseases of respiratory system	510-519
28.	Diseases of hard tissues of teeth	521

Explanation of Serial Nos. (Cont'd.)

Serial No.	D I A G N O S I S	I C D No.
29.	Gingival and periodontal diseases	523
30.	Peptic ulcer, site unspecified	533
31.	Appendicitis	540-543
32.	Hernia of abdominal cavity	550-553
33.	Other diseases of digestive system	570-579
34.	Nephritis, nephrotic syndrome and nephrosis	580-589
35.	Other appendicitis	542
36.	Hyperplasia of prostate	600
37.	Other disorders of urethra and urinary tract	599
38.	Diseases of male genital organs	600-608
39.	Disorders of breast	610-611
40.	Other disorders of female genital tract	617-629
41.	Other inflammatory conditions of skin and subcutaneous tissue	690-698
42.	Other of skin and subcutaneous tissue	700-709
43.	Diseases of the musculoskeletal system and connective tissue	710-739
44.	Symptoms, signs and ill-defined conditions	780-799
45.	Fracture	800-848
46.	Intracranial injury, excluding those with skull fracture	850-854
47.	Burn of face, head and neck	941
48.	Burn of trunk	942
49.	Burn of wrist(s) and hand(s)	944
50.	Burn of lower limb(s)	945
51.	Toxic effect of noxious substances eaten as food	988
52.	Toxic effect of other substances, chiefly nonmedicinal - as to source	989
53.	Other and unspecified affects of external causes	990-995
54.	No abnormalities	

11 - 13. Breakdown of Operation Cases, Emergency Dept., RSCM, 1983

Total	Breakdown by Speciality				Breakdown by Grade		
	Surgery	OB/GYN	Eye	ENT	Major	Medium	Minor
January	212	102	9	4	66	261	-
February	221	100	7	2	80	250	-
March	204	69	14	6	58	230	5
April	156	80	5	4	65	180	-
May	198	104	11	5	155	163	-
June	162	87	10	3	112	140	10
July	186	83	15	7	99	166	26
August	190	79	8	7	99	180	5
September	191	85	15	6	114	168	15
October	192	113	8	2	143	165	7
November	182	92	10	8	105	172	15
December	201	92	10	10	113	191	9
Total	2,295	1,086	122	64	1,209	2,266	92
Average per day	6.3	3.0	0.3	0.2	3.3	6.2	0.3

11 - 14. Breakdown of Operation Cases, Emergency Dept., RSCM, One Month, 1984

M : Morning 8:00 - 14:00
 A : Afternoon 14:00 - 21:00
 N : Night 21:00 - 8:00

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
M	-	1	1	1	-	1	1	1	-	1	1	1	2	-	1	1	2	1	1	-	1	1	1	1	2	-	1	-	-	2
Aseptic A	1	1	2	-	-	1	2	1	-	1	-	4	1	3	2	-	3	1	-	-	3	1	1	3	1	1	4	1	-	3
N	2	1	3	1	-	1	1	2	2	1	3	1	2	1	2	5	3	2	2	1	5	3	1	2	1	2	2	4	1	2
M	1	2	2	-	1	1	2	-	1	1	3	2	3	1	3	2	1	2	-	1	1	1	1	2	1	2	-	1	-	2
Septic A	3	2	1	-	1	3	1	-	2	1	2	2	2	5	2	1	3	3	2	1	1	1	1	1	1	5	4	1	3	2
N	2	4	4	3	2	4	3	1	4	3	2	4	3	6	3	5	4	3	2	2	2	2	3	3	4	5	2	2	1	1
Total	9	11	14	5	4	11	10	5	9	8	11	14	13	16	13	13	16	12	6	6	12	9	8	12	10	15	13	9	5	12

11 - 15. Number of Burn Cases and Poisoning / Intoxication Cases, RSCM, 1983

Month	Burn Cases			Poisoning / Intoxication Cases		
	Serious	Light	Total	Poisoning	Toxic	Total
January	12	25	37	2	21	23
February	2	24	26	3	38	41
March	4	22	26	8	27	35
April	18	29	47	10	27	37
May	11	36	47	3	32	35
June	8	21	29	1	22	23
July	9	28	37	3	31	34
August	8	35	43	1	49	50
September	5	58	63	35	24	59
October	2	33	35	14	33	47
November	0	36	36	12	27	39
December	11	22	33	9	2	11
T o t a l	90	369	459	101	333	434

11 - 16. Patients Transferred from/to Other Hospitals,

RSCM, 1984

No.	Hospital Name	Jan. '84		Mar. '84	
		From	To	From	To
1.	Fatmawati	44	2	39	7
2.	Husada	4	1	13	4
3.	Pertamina	31	0	32	1
4.	Koja	17	0	31	1
5.	R S A L	6	3	4	4
6.	Bekasi	8	0	8	0
7.	Atmajaya	9	0	8	1
8.	Cikini	2	3	0	0
9.	RS. Islam	17	5	22	6
10.	Karantiaa	1	0	0	0
11.	Persahabatah	55	55	65	56
12.	Pelni	17	1	31	4
13.	RS. Tangerang	17	1	14	0
14.	UKI Cawang	4	0	7	3
15.	St. Carolus	6	5	13	1
16.	RS. Lain	90	44	110	77
17.	Sumber Waras	39	4	36	4
18.	R S G S	1	3	2	13
T o t a l		368	127	427	217
Average per day		11.9	4.1	13.8	7.0

11 - 17. Number of Staff, RSCM, 1984

R S C M	Hospital	Emergency Dept.
Doctor	947	23*
Nurse, Nurse aide	1,407	89
Paramedical	228	13
Administrative and other	2,085	74

* on-duty doctors

11 - 18. Breakdown of Staff in Emergency Dept., RSCM, 1984

(a) Number of On-duty Doctors

Speciality	Number
Int. Medicine	4
Surgery	7
Pediatrics	3
OB/GY	4
ENT	1
Eye	1
Anesthesia	2
Other	1
T o t a l	23

(b) Number of Nurses

	Number	No. of Shift
Full-time Nurse (Female)	76	4
Full-time Nurse (Male)	10	4
Anesthesia	3	4
T o t a l	89	

(c) Number of Paramedicals

	Number	No. of Shift
X-ray technician	9	4
Pharmacist	4	2
T o t a l	13	

(d) Number of Non-medical Staff

	Number
Emergency Med. Adm.	1
Cashier	1
Secretary	1
Typist	4
Receptionist / Registration	21
Housekeeping, etc.	46
T o t a l	74

12. RSCM Financial Data

12 - 1. Expenditure and Revenue, RSCM, 1979 - 84

Expenditure

Year	Manpower	Goods	Maintenance	Transportation	Unit : Rp.	
					Total	Total
79/80	1,810,611,978.00	1,905,498,113.25	315,531,603.50	726,000.00	4,032,367,694.75	
80/81	2,471,053,700.00	2,927,693,600.00	589,259,000.00	1,433,000.00	5,989,439,300.00	
81/82	3,159,656,900.00	3,610,444,700.00	1,042,918,300.00	2,036,900.00	7,815,056,800.00	
82/83	3,230,903,700.00	3,523,105,700.00	1,079,424,000.00	2,037,000.00	7,835,470,400.00	
83/84	1,505,811,100.00	3,572,261,500.00	967,592,300.00	2,037,000.00	6,047,701,900.00	
84/85*	3,763,910,600.00	4,849,464,500.00	967,592,300.00	2,037,000.00	9,583,004,400.00	

* Budget

Revenue

Year	Unit : Rp.	
	Total	Total
79/80	1,268,502,040.00	
80/81	1,614,303,506.75	
81/82	1,579,336,974.00	
82/83	2,086,042,398.00	
83/84	2,753,198,104.75	

12 - 2. Expenditure on Productive Activities, RSCM, First Quarter, Fiscal 1981

Unit : 1,000 Rp.

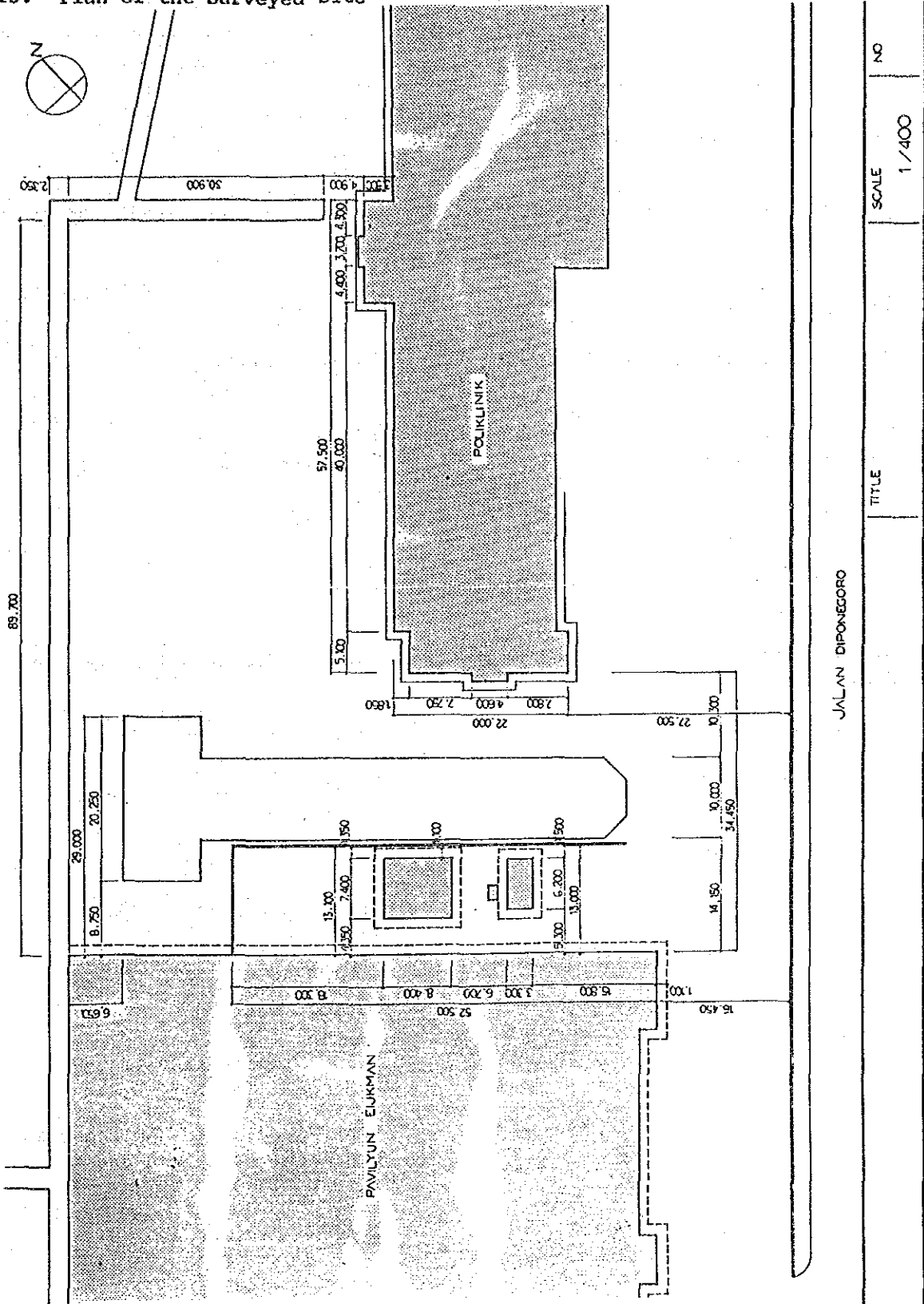
Activity	1 Total Expen- diture	2 Adminis- tration	3 Mainte- nance	4 Medical Record	5 Kitchen & Nutrition	6 Laundry	7 CSSD	House- Keeping	Total
Supporting Activity									
1. Administration	118,360	118,360.00							
2. Maintenance	85,454		85,454.00						
3. Medical Record	13,752			13,752.00					
4. Kitchen & Nutrition	172,640				172,640.00				
5. Laundry	12,096					12,096.00			
6. CSSD	15,418						15,418.00		
7. House Keeping	79,560							79,560.00	
Sub-Total	497,288	118,360.00	85,454.00	13,752.00	172,640.00	12,096.00	15,418.00	79,560.00	497,288
Medical Activity									
1. Radiology	101,319	4,753.98	11,770.50	570.78	-	124.14	637.56	10,974.00	130,150
2. Surgical Operation	58,847	2,565.64	289.94	308.04	588.12	190.62	344.08	270.32	63,404
3. Emergency Dept.	91,492	6,980.05	2,114.70	835.05	1,266.72	353.07	936.10	1,971.60	105,949
4. Clinical Lab.	21,145	2,792.02	1,432.41	335.22	-	60.96	374.44	1,335.48	27,476
5. OPD-Pediatrics	58,427	7,168.70	798.00	860.70	-	6.96	961.40	744.00	68,967
6. OPD-Adults	319,589	22,600.27	10,320.80	2,713.47	-	352.11	3,030.94	9,622.40	368,229
7. IPD-Pediatrics	65,914	8,489.25	4,576.53	1,019.25	40,380.60	4,554.78	1,138.50	4,266.84	130,339
8. IPD-Adults	598,934	50,256.36	42,222.18	6,033.96	108,196.92	3,940.35	6,739.92	39,365.04	855,689
9. I.C.U.	24,135	2,490.18	1,453.69	298.98	720.72	282.78	333.96	1,355.32	31,071
10. I.C.C.U.	19,135	2,829.75	1,721.02	339.75	1,460.16	129.27	379.50	1,604.56	27,599
11. Men's Ward	19,018	980.98	1,103.90	117.78	5,597.28	118.71	131.56	1,029.20	28,097
12. Women's Ward	14,410	1,094.17	1,197.00	131.37	6,591.00	253.23	146.74	1,116.00	24,940
13. Pediatric Surgery Ward	23,992	1,471.47	4,495.40	176.67	5,909.28	351.99	197.34	4,191.20	40,785
14. Morgue	2,949	415.03	598.50	-	-	8.22	55.66	588.00	4,584
15. Pharmacy	23,764	3,471.16	851.20	-	-	-	-	793.60	28,879
Sub-Total	1,443,070								
Total	1,940,358								

12 - 3. Expenditure, Dir. General of Medical Care, Min. of Health, 1978 - 83

Unit : 1,000 Rp.

Year	Manpower	Goods	Maintenance	Transportation	Total
79/80	7,330,909.0	10,245,237.3	1,644,876.4	55,000.0	19,276,992.7
80/81	11,265,837.0	14,253,781.0	2,722,984.0	74,250.0	28,316,852.0
81/82	15,160,437.0	21,341,477.7	4,804,686.0	119,234.7	41,425,835.4
82/83	15,681,204.3	22,290,519.0	4,947,543.0	120,000.0	43,039,266.3
83/84	16,247,783.5	23,753,206.1	4,081,242.9	123,103.0	44,205,335.5

13. Plan of the Surveyed Site



14. References

Title	Publisher, Year
(General Medical/Health Data)	
1 Repelita IV Kesehatan dan Tahun Pertama Repelita IV	Min. of Health, 14-18 Mar.'84
2 Program Peningkatan Upaya Kesehatan Rujukan Repelita IV	Dir. General of Medical Care, MOH, 1983
3 Hasil-hasil Pembangunan Selama Pelita III	Ditto, 10 Mar.'84
4 Surat Keputusan Mentei Kesehatan No.031/Birhup/1972	Minister of Health
5 Peraturan Menteri Kesehatan R.I. No.262/MEN,KES/Per/VII/1979	Ditto
6 Keputusan Menteri Kesehatan R.I. No.032/Birhup/1972	Ditto
7 Broad Programmes for the Long Term Health Development Plan	Min. of Health, 22-24 Nov.'84
8 The National Health System	Ditto, 22-24 Nov.'84
9 Struktur Organisasi Dep Kes	Ditto
(General Statistics)	
10 Statistical Yearbook of Indonesia	Bureau Statistics 1980/81
11 Statistical Pocketbook of Indonesia	Ditto, 1982
12 Monthly Statistical Bulletin	Ditto, Dec.'83
13 Bulletin of Indonesia Economic Studies	Australian Nat. Univ. Canberra, Dec.'83
14 Prisma, The Indonesian Indicator	Institute for Economic and Social Research, Education and Information
15 Industrial Statistics Vol.I, Vol.II	Bureau Statistics, 1981
16 Health Conditions of Children under 10 years old	Ditto, 1980

	Title	Publisher, Year
17	Statistical Profile of Children and Mothers in Indonesia (Construction)	Ditto, 1982
18	Material General Standard, PUBI-1982	DPU
19	Loading Code, 1983	DPU
20	Timber Code NI-5, PKKI, 1961	DPU
21	Reinforcement Concrete Code NI-2, 1971	DPU
22	Steel Construction Code, Apr. 1983	DPU
23	Construction Cost Book by DKI	DKI Jakarta, Sept.'83
24	Price List Book by DPU	DPU, 1984
25	Fire Regulation, DKI Jakarta, No.15	DKI Jakarta, 1976
26	Regulation of Min. of Health Environmental Water Quality Control	Min. of Health
27	Regulation on Electrical System for Hospital Building	Min. of Health
28	Water Quality Test Data - RSCM	Ditto
29	Sub-Soil Test Data - RSCM (Medical Data - RSCM) Refer to Para. 11	

